THE

BEAUTIES

OF

MODERN ARCHITECTURE.

ILLUSTRATED BY

FORTY-EIGHT ORIGINAL PLATES,

DESIGNED EXPRESSLY FOR THIS WORK.

BY MINARD LAFEVER, ARCHITECT.

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PREFACE.

NOTWITHSTANDING the many works which have heretofore been published on the subject of Architecture, there has none yet appeared, intended exclusively for the operative workman. It is therefore thought proper, to present to the industrious and ingenious, a book of original designs, with plans, elevations, sections, and technical terms associated therewith, which will enable him to become a complete master of his business, more systematically than by any other plan yet adopted, and more particularly so, when studied in connection with his practical pursuits.

It has, on all occasions, been admitted that experience enables the genius of man to advance and improve the subjects of his pursuits. And if such favour these efforts, the patrons of former late works may, with propriety, expect to be perfected by the perusal of this, which is the result of experience and study, in the various departments of the science, the practice of building, and Architecture in general.

At this era it would be an insurmountable task to enter into all the particulars necessary to gratify many who may have occasion to peruse this work. Yet it is due to the labour bestowed in designing a work which requires all the intellectual powers possible, not to prejudice the public mind previous to examining the whole matter "fairly and justly."

Believing those into whose hands this work may fall, to be that part of the community that will discreetly examine, and give credit where it is due, I with satisfaction submit to them the result of my labour, for their prudent and careful examination. And after which, if their approval be the result, it will follow that their patronage will be enlisted in behalf of *The Beauties of Modern Architecture.*

MINARD LAFEVER.

ARCHITECTURAL HISTORY.

EXTRACTS FROM ELME'S DICTIONARY.

At the commencement of this publication, historical matter was deemed unimportant; but, after a more mature consideration, it is estimated as being of utility to the practical workman, in giving him more magnified and pleasing ideas of his profession, as well as to discover that architecture is more than a mere mechanical art or profession, and to prove to him that the art of design requires an exclusive and thorough study. And for the use and benefit of the patrons, the following admirable historical account and description is selected:

"Architecture. [αρχιτεκτονία, Greek; *architectura*, Latin.] The art or science of devising or drawing designs for buildings. The name of this branch of the fine arts is derived from αρχος, chief, and τεκτονια, and is the art of building according to rules and proportions. Among all the arts, the progeny of pleasure and necessity, which men have invented to alleviate the pains of life, and to transmit their names to posterity, a very high and distinguished situation must be assigned to architecture, whether for its antiquity, utility, or beauty. It is both a fine art and a science, and will be considered as such in this dictionary; referring to distinct treatises for details of its mechanical and scientific parts of building and construction. The distinguishing characteristics of a good style are, *order, convenience of interior distribution, beauty of form, regularity, and a good taste in the intention, selection, or application of ornaments.* Architecture is again divisible into three branches, *civil, military, and naval;* the former of which only will be treated of in this work. The style of civil architecture differs among different people, and among the same people of a different era. Among the people who have given names to styles in architecture, are the *Egyptian, Babylonian, Persian, Indian, Phœnician, Hebraic or Jewish, Greek, Roman, Etruscan, Moorish, Arabian, Saxon, English, Gothic, Chinese, Saracenic, Turkish.* And among the charac-

teristics resulting from different eræ are the best ages of the antique, of the lower empire, and modern architecture.

"Architecture is both a science and an art, and has been cultivated in either way with great but doubtful success; the aimer at mere science often degenerating into a skilful artizan, and the boaster of picturesque skill into a pictorial theorist.

"Without science, architecture is an effeminate and useless pastime; and without the higher feelings of art, a mere constructor of huts and cabins.

"The scientific part of the art embraces and requires geometry, arithmetic, and every branch of the mathematics, mechanics, chemistry, mineralogy, practical philosophy in general; which are to be applied with judgment to composition, construction, design, and execution.

"The artist-like part of architecture soars to the sublimest heaven of human invention. To the skill of the practical mathematician, mechanic, chymist, philosopher, must be added the genius and feelings of the artist, to go towards the composition of a Palladio or a Wren.

"Architecture, as an art, stands entirely alone and distinctive from every other art, and is essentially the most original of them all. It is not imitative of originality, like painting and sculpture, nor imitative of imitations, like engraving; but if it resembles either in its mechanical part, it is in its theoretical resemblance to music. Architecture is fundamentally original, and shows the power of man's invention more than any art, and equally with any science. It calls in the aid of all the other arts, uses and rejects them by turns, and has been in every age the fosterer, protector, and promulgator of them all.

"Architecture will, therefore, be considered both as an art and as a science in this work, which is addressed more immediately to the amateur and student than to the professor, and also to the inquiring cognoscenti and persons of taste, whose prospects or situations in life may render them patrons of the arts.

"Architecture, being the first and earliest of the arts, embraces of necessity in itself a general knowledge of the critical or philosophical part of fine art in general, which, thus forming the taste on the purest models, is best fitted to enlarge the mind and prepare it for the reception of the laws and governing principles of the whole circle of the fine arts. It is an art which has 'undoubtedly a dignity that no other art possesses, whether we consider it in its rudest state, occupied in raising a hut, or as practised in a cultivated nation, in the erection of a magnificent and ornamented temple.'

"A recent critic* beautifully says, that 'nothing, certainly, can be more destructive to the hopes of an enlightened age of fame among remote posterity, than the decay of an art whose monuments are so lasting, and whose triumphs are so sure of continuance. Its venerable relics convey to us all we know of the mighty nations long sunk into oblivion. Among piles which seem only to have partaken of the decay and shared in the revolutions of nature, we feel transported through long vistas of the short-lived generations of man, into the glories of the earliest nations of the world; we catch the mysterious spirit of patriarchal times, and image to ourselves among these romantic solitudes shepherd-kings propounding their pure ordinances, simple tribes adoring the God of heaven, and untutored bards catching inspiration in all its wildness from the skies. 'We must leave such memorials of our glory behind us, as can be shaken only with the pyramids of Egypt and the pillars of the universe.' But what a contrast do the frail memorials of our times present to those immortal structures! and how is the art patronized now in comparison with those of our Charleses and Annes, which produced a Jones and a Wren, a Whitehall, a St. Paul's, and the solid churches of London after the fire!

"'All who feel interested by the substantial progress of the fine arts, all who have feelings to admire the sacred solemnity and the awful grandeur of those venerable piles which the genius of Egypt, of Greece, of Rome, and of the middle ages, have left us, must be deeply interested by a discussion of the means by which that spirit may be revived, which raised these works of unfading enchantment, and which now seems slumbering beneath them.' The season is most apt for a proper awakening; and we may indulge the hope that both our patrons and our architects may exert themselves with effect to give dignity and stability to our national structures.

"Architecture, considered as the art of building or construction, has three principal characters or primary divisions, namely: civil, military, and naval. The former, civil architecture, is the subject of the present article, and may be subdivided into three principal classes or orders, as *monumental, sacred, and domestic.*

"I. Monumental Architecture may be almost called the primitive branch of the art, for the rude stone erected in the simplest manner is a primitive monument.

"In making a sketch of the history of architecture among the most ancient nations of the world, we find them almost invariably alike. The primitive

* In Valpy's new Review.

town, or incipient city, was a number of low straggling huts, scattered about irregularly according to the caprice of each proprietor, built with turf and rude stones, and thatched with straw or reeds, without any light but what they received by a door so low that it could not be entered upright. The suburban architecture of the best towns in our unhappy sister country, Ireland, is a type of the origin of the art in the most ancient times.

"Monumental architecture, in its most ancient practice, is scarcely separated from sacred; the monumental stone became an altar, and it is easy to conceive the rapid progress from this rude and simple place of adoration to the deity to the more solemn temple. First we find the single monumental stone, reared on end, commemorative of some event, or testimonial of a treaty or boundary of property, used also as an altar of sacrifice or offering to the deity. This becomes surrounded by a pavement, to prevent the earth from being sodden by the blood of the animals and the moisture from the wet offerings trodden about by the feet of the primeval priests. The next step is to surround the sacred precinct with a row of rude upright stones, such as are seen at the present day in various parts of Ireland, which, being covered over to protect the sacrifices, priests, and offerings, from the sun and rain, becomes a primeval temple with its roof, its cell, and its altar.

"Such examples of monumental architecture have been found in all countries, have been consecrated to every religious creed, and are used to commemorate all sorts of actions; and to this day, in Ireland, the memory of a murder is always preserved by a rude heap of stones, every passer-by contributing one. These monuments, such as altar-stones, cromlechs, druidical circles, cairns, &c., bear the genuine characters of simplicity which infant societies and primitive religion impress at their origin on every thing connected with them. An able French antiquary, M. Mazois, says, 'a few stones, either naturally rising above the soil, or placed without art in solitary spots in the depth of forests or on the summits of hills, were the first altars.' Such are common in every part of our island, except where the demon innovation has swept them away. These primitive monuments soon became sanctified by the veneration of the people, and were received as emblems of the divinity. Such rustic monuments are found in every country in the world. The Arabs and other nations of the East represented their gods by rough unhewn stones. It was even considered as sacrilegious by the Persians to give them the human form.

"The Greeks themselves who were so well acquainted with the art of embellishing every thing, originally represented their divinities under the form of simple stones. In the time of Pausanias, there were still to be seen,

near Pheræ, thirty blocks of stone consecrated to the thirty gods who were the earliest objects of Grecian adoration. Even Love and the Graces had at first no other images. In the time of Titus, Venus was still at Paphos but a simple pyramidal stone.

"Thus Greece, the country of the fine arts, presents us, even in the epoch of her splendour, with a number of these primitive monuments. We find that they were equally venerated by almost every other people. The Romans, in the time of Numa, entertained the same notions as the Persians with regard to the manner of representing the deity. It was by them also deemed an impiety to impart to their gods a mortal shape; simple boundary stones were their images, and the name of Jupiter Terminus is a proof of the existence of that ancient usage. Egypt was formerly covered with those sacred stones, the original type of which is still manifest in the pyramids; those haughty and too silent depositories of Egyptian mythology are only—so to speak—the ennobled descendants of primitive monuments. In short, those symbolical stones are to be seen in the heart of Asia, as shall be hereafter shown. Kempfer declares that at Japan, they are even yet the objects of the veneration of the multitude.

"Among the most ancient people whose history has reached our times, are those inhabitants of the globe who lived before the flood, and whose deeds and occupations are recorded in the books of Moses. The history of architecture, considered philosophically and as connected with the other arts of design, with science, and with legislature, is a history of the human mind. It bears so strong an impression of the character of the people by whom it has been cultivated, that an attentive examination of its origin and progress is the most effectual way to discover the genius, and manners, and the mental characteristics of the various nations of the world. 'Art,' says Wieland, 'is the half of our nature; and without art man is the most miserable of animals.'

"Among the antediluvians, architecture could not have made much progress as a fine art. The principal objects of these ancient heroes were the chase and other modes of providing food and clothing without the labour of cultivating the soil. Sanconiatho says, (apud Euseb. Præp. Evang. l. i., c. 9, p. 35.) that 'fishing was one of the earliest inventions which the ancients attributed to their heroes.' The Bible and Homer are full of the manners of our earliest ancestors. Fishing, hunting, the care of their flocks, and, in later times, agriculture, were the employments of their monarchs and heroes, their shepherd-kings. Cookery, washing,

making garments, and other domestic business, were those of their women of rank, their princesses, and their queens.

"The history of architecture before the flood, although it forms a large portion in the history of the art by a French author, (Milan,) furnishes but few authentic facts. The great historian and legislator of the Jews, Moses, has only related those leading events which were necessary to his history, and omitted those details which are only requisite for the gratification of curiosity.

"Our great philosopher, Sir William Jones, in discoursing of this great event, the deluge, says, 'the sketch of antediluvian history, as given by most ancient historians of the race of Adam, in which we find many dark passages, is followed by the narrative of a deluge which destroyed the whole race of man except four pairs; an historical fact, admitted as true by every nation to whose literature we have access, and particularly by the ancient Hindus, who have allotted a whole *purana* to the detail of that event, which they relate as usual in symbols or allegories. I concur most heartily, says this learned philosopher, 'with those who insist that in proportion as any fact mentioned in history seems repugnant to the course of nature, or, in one word, *miraculous*, the stronger evidence is required to induce a rational belief of it; but we hear that cities have been overwhelmed by eruptions from burning mountains, territories laid waste by hurricanes, and whole islands depopulated by earthquakes: if then we look at the firmament sprinkled with innumerable stars, we conclude by a fair analogy that every star is a sun, attracting like ours a system of inhabited planets; and if our ardent fancy, soaring hand in hand with sound reason, waft us beyond our visible diurnal sphere into regions of immensity, disclosing other celestial expanses, and other systems of suns and worlds on all sides without number or end, we cannot but consider the submersion of our little spheroid as an infinitely less event in respect of the immeasurable universe, than the destruction of a city or an isle, in respect of this habitable globe. Let a general flood, however, be supposed improbable, in proportion to the magnitude of so ruinous an event, yet the concurrent evidences of it are completely adequate to the supposed improbability.'

"The state of mankind immediately after this general deluge, is shown in the Mosaic history. The families of Noah which emerged from the ark, after paying their grateful adoration to the Deity who had preserved them, in order to perpetuate their race, erected an altar of unhewn stones, and offered sacrifice thereon. This is one of the most ancient examples of post-diluvian monumental architecture on record.

"The descendants of Noah remained no longer united in one society than was necessary for their increase and security. As soon as they were sufficiently numerous, they dispersed themselves into the different regions of the earth, about a century and a half after the flood. It does not, however, appear that it was their intention at first to separate permanently, though they were often obliged to separate in search of subsistence. 'With this view they formed the design of building a city, and of raising a tower of a great height in the centre of it, as a signal and as a point of union.' It was for this purpose that the French antiquary, De Goguet, in his *Origine des Loix*, attributes the erection of that vast structure, called the tower of Babel; while the best translators of the Hebrew Bible render the fourth verse of the eleventh chapter of Genesis, 'let us build us a city and a tower whose top may reach unto heaven; and let us *make us a name*, lest we be scattered abroad;' giving the desire of perpetuating their fame by an indestructible monument, as their motive for this undertaking.

"We learn the simple manners and customs of the ancient Israelites and the nations in their immediate vicinity, from their ancient writers. And Homer, in describing the manners of the Cyclops, gives a corroborating idea of the uncultivated state of many of the ancient nations. 'The Cyclops,' says the poet,* 'know no laws; each governs his family, and rules over his wife and children. They trouble not themselves with the affairs of their neighbours, and think not themselves interested in them. Accordingly, they have no assemblies to deliberate on public affairs. They are governed by no general laws to regulate their manners and their actions. They neither plant nor sow. They are fed by the fruit which the earth produces spontaneously. Their abode is on the summits of mountains, and caverns serve them for retreats.

"This unsocial, uncultivated mode of living could not be of long continuance with regard to a great part of mankind. So many motives must have concurred to induce families to associate and mingle with each other, that several must have united early.

"The connexion of architecture and the rest of the arts and sciences, with the laws, government, and manners of a people, are curious and useful subjects of inquiry. Their relation with the history of the human mind is clear and indisputable.

"Architecture takes its style, its varieties, its colouring, if it may be so

* Odyssey, l. ix., v. 106. et seq.

called, from the people who successively invented or introduced it; and their moral characters as a people may be deduced from their national styles of architecture, as will be hereafter shown.

"Among the earliest specimens of monumental architecture of which we read, Josephus acquaints us that the children of Seth erected two pillars, one of brick and the other stone, on which they engraved the principles of astronomy. The making of bricks, the building with hewn stone, and the art of sculpture here shown, are proofs of a high degree of civilization and a knowledge of the arts and sciences by no means contemptible.

"In the second age of the world, which is calculated from the building of the tower of Babel by the posterity of Noah to the foundation of Athens by Cecrops in the year before Christ 1556, many large cities were founded. Early in this period, Nimrod laid the foundation of the Assyrian empire, and built Nineveh, the celebrated metropolis of Assyria. Nearly at the same time Troy was founded by Scamander; Mizraim, the son of Ham, led a colony into Egypt, and laid the foundation of a kingdom; and Cadmus, the reputed inventor of letters, with Moses, the Jewish legislator, and Aaron, his brother, flourished.

"In this early period of history, the Assyrians cultivated the arts, and excelled in that of architecture. This second epoch, or age, is distinguished by the building of the tower of Babel, and by the design formed by the posterity of Noah, and in part executed, of building a city in the plains of Shinai.* According to some historians, Belus, known in the Scriptures by the name of Nimrod, the first king of Assyria, was the reputed projector of this structure. He built, afterwards, in the same place, the celebrated city of Babylon, where he arrogated to himself the honours of divinity. Ninus, his son, erected to him the first known temple, consecrated a statue to his memory, and ordered it to be worshipped, which is the first recorded instance of idolatry.

"Babylon was a large and beautiful city. Pliny relates (lib. vi., c. 26.) that it was sixty miles in circumference, that its walls were two hundred feet high and fifty thick, and that the magnificent temple of Jupiter Belus was standing there in his time. Herodotus says it was four hundred and eighty furlongs in circumference; that it was full of magnificent structures, and celebrated for the temple of Belus; that it had a hundred gates of brass, which proves that the fusion and mixture of metals were known; and that other arts dependent on design were then practised.

* Genesis, xi. 4.

"In less than two centuries after the flood, architecture was cultivated in Chaldea, China, Egypt, and Phœnicia. Moses* has preserved the names of several cities which Nimrod built in Chaldea. The Chinese, say the Fohi, enclosed cities and towns with walls, (Martini, l. i., p. 28;) and Semiramis, the wife of Ninus, finished the stupendous walls of Babylon, which were reckoned among the seven wonders of the world, and her palace, which is celebrated by historians for the historical and emblematical sculptures with which the walls were covered, and for the colossal statues of bronze and gold of Jupiter Belus, Ninus, Semiramis, and of her principal warriors and officers of state.

"Architecture, having thus been successfully practised among the Assyrians, was carried by them into Egypt, the most ancient country of which we have any authentic monuments existing, and also into other countries, the people of which they subjugated. The Egyptian style of architecture is characterized by a solidity of construction, by an originality of conception, and by a boldness of form. The civilization of this people and the consequent cultivation of the arts, commenced in Upper Egypt. The architectural monuments of this portion of Egypt are more numerous, more characteristic, and more ancient, than those of Lower Egypt, whose inhabitants for a long period after the knowledge of architecture in Upper Egypt lived in natural caves and excavations in the mountains. The excavations now remaining and mentioned by travellers, are possibly of this period; but the hieroglyphics and other figures with which they are sculptured are of a later period than that of their first reputed inhabitants.

"Before entering on the details of the Egyptian monuments, I will first briefly analyze and describe the character of their architecture. The characteristics or elementary principles of Egyptian architecture are, walls of great thickness, roofs generally of a single block of stone which reached from wall to wall, a multitude of columns of various forms, proportions, and ornaments, seldom with bases, and when with that addition they are mostly simple plinths. The capitals vary considerably, as may be seen in the works of Denon, Dr. Pococke, Belzoni, and other travellers. In some instances they are ornamented with foliage, in others they resemble a vase, and again in others a bell reversed. In Egyptian architecture there is no frieze, nor, correctly speaking, any cornice or architrave, and their substitutes may be called by either name; for something resembling them may be traced in the epistylia, or beams of stone, which reach from column to column.

* Genesis, x. 10.

"Another characteristic of Egyptian architecture is a peculiar narrowness of intercolumniation, being often not more than three feet and a half in width. The absence of arches, which are supplied by epistylia, or stone beams, or lintels, is also another and peculiar characteristic of this original and singular style.

"Dr. Pococke thinks that the ancient Egyptians were not ignorant of the construction of the arch, but does not give satisfactory proofs of the cause of his conviction. And the president De Goguet, in his learned dissertation on the origin of laws, arts, and sciences, assumes from their not using it, that they did not understand it. The proofs which he gives of this ignorance might with as great propriety be adduced of their contempt of this mechanical means of covering apertures. The nearest approach to the principle is to be seen in the entrance of the great pyramid at Memphis, of which an engraving is given in that work.

"Belzoni agrees in opinion of their knowledge of the arch, and found specimens at Thebes and at Gournon, under the rocks which separate that place from the valley Babel el Malook.

"However conjectural the origin of the Egyptian style may be, thus far at least is certain, that it is the fountain whence all succeeding people have drawn their most copious draughts, and is deserving of minute investigation. This style bears all the marks of freshness of invention drawn from native materials and national symbols. It is in the country of its origin that those colossal wonders, those architectural monsters, the pyramids, are situated. It is needless to dwell upon a long description of these structures. They have been the theme of literati and travellers for centuries, and bear authentic testimony to the truth of history.

"The largest of the three pyramids said to have been built by Cheops, or Chemnis, forms a square whose base is six hundred feet and its height nearly five hundred feet, or an area the size of Lincoln's Inn Fields, which have been said to have been constructed of this specific size by Inigo Jones for the purpose of illustration, and its apex nearly a third higher than the summit of the cross of St. Paul's.

"This mountain of masonry is constructed with stones of an extraordinary size, many of them being thirty feet long, four in height, and three in thickness. Herodotus, Diodorus Siculus, and Pliny, say, that the stones employed in building the pyramids were brought from Ethiopia and Arabia. This fact De Goguet affects to doubt, for he says it is not likely that the kings of Egypt, having excellent materials at hand, would have unnecessarily expended immense sums to have fetched them from afar. And that the stones of the pyramids bear too great a resemblance to those which are

found in the neighbourhood, for him to imagine that they were not taken thence. Yet it is no less probable that the stones referred to by these ancient historians, may have been the marble with which they were coated, and may have been fetched from the neighbourhood of the Red Sea and from Upper Egypt.

"The origin of the pyramids, the causes of their erection, and by whom, are differently related; but Belzoni has in some measure set the question at rest by his recent discoveries, and proved that they were the tombs of their founders.

"Herodotus, the father of pagan history, records with an interesting accuracy the methods used in constructing the greater pyramid, that leaves nothing to doubt. He relates that a hundred thousand workmen were employed at the same time in the construction of this pyramid. They were relieved by an equal number every three months. Ten years, he reports, on the authority of the Egyptian priests, were employed in hewing and conveying the stones, and twenty more in finishing this enormous structure, which contained galleries, chambers, and a well.

"An eminent writer in the Asiatic Researches (Captain Wilford,) in a very curious dissertation on this subject, translated from the ancient books of the Hindus, says, the pyramids are there called three stupendous mountains, of gold, silver, and of precious stones. They might be so named in the hyperbolical style of the eastern nations, but he conjectured they were so used from the coating with which they were covered, and that the first was said to be of *gold*, because it was covered with yellow marble; the second of *silver*, being coated with white marble; and the third of *jewels and precious stones*, because it excelled the others in magnificence, being coated with beautiful variegated marbles of a fine grain and exquisite lustre.

"If these pyramids were entirely faced with marble and ornamented by sculpture, if these tremendous masses of eternal masonry were but cores to ornamental structures, such as have been described, they may, nay, they must have been, particularly, if their summits were surmounted by the sky-piercing obelisk, the grandest architectural monuments ever produced by the little builder, man.

"Near to these pyramids is the colossal head called the Sphinx of Ghiza, the face of which resembles a woman, and the body that of a lion. This extraordinary figure is said to have been the sepulchre of the Egyptian king Amasis, and is one entire stone, being sculptured out of a solid rock.

"Count Cabillia, who investigated this spot a short time previous to the

enterprizing Belzoni, succeeded, after much labour and difficulty, in uncovering the front of this colossus, and found a small temple between its front paws, and a large tablet of granite on its breast inscribed with figures and hieroglyphics.

"Among other celebrated examples of monumental architecture among the Egyptians, are their obelisks, which have been considered not only purely Egyptian in use, but also in origin. But if what Herodotus says be true, it must have been in Asia, and not in Egypt, that they had their origin.

"This ancient author speaks of a pyramidal spire erected by command of Semiramis on the road to Babylon, which was a single stone, one hundred and thirty feet in height, and twenty-five broad at its base. Pliny, however, insists on their Egyptian origin, and that a king of Heliopolis, called Mestres, was the first who caused one to be raised. Be this as it may, the monarchs and people of Egypt appear always to have had a great taste for obelisks, and the names of those who erected such may be found in the works of the elder Pliny.

"Two of the principal of these grand monuments of art were erected by Sesostris, with the design of informing posterity of the extent of his power and the number of the nations which he had conquered. They are each of a single piece of granite one hundred and eighty feet high.

"Augustus, according to Pliny, transported one of these obelisks to Rome, and raised it in the Campus Martius. Of the three now in Rome, doubts have been raised whether either of them are of those raised by Sesostris, on account of their want of height. That now by the fountain of the Piazzo del Popolo, is seventy-four feet without its modern pedestal; that of the Vatican, in front of St. Peter's, seventy-eight feet; and that on Trinita de Monte, forty-five feet without their pedestals; while those of Sesostris were of the enormous height of one hundred and eighty feet.

"The obelisk of the Piazza del Popolo is that which was brought to Rome by Augustus, after being spared from the ravages of Cambyses, from respect to its origin, when that furious conqueror put all to fire and sword in Egypt, sparing neither palaces nor temples, nor those superb monuments which, ruined as they are, are still the admiration of travellers.

"From the place where it was originally elevated by Augustus, it was removed to its present situation by Pope Sextus V., in 1589, under the direction of the Cavalier Fontana, who also designed its pedestal and the contiguous fountain. The one now so great an ornament in the front of St. Peter's, is also said to have been one of those erected by Sesostris at Heliopolis, the city of the sun, and was brought to Rome, by Caligula, in a vessel then the largest that had ever been seen at sea, and was afterwards sunk

to form the port of Ostia. Caligula erected it in his circus at the Vatican, which was destroyed by Constantine the Great, to build the first basilica of St. Peter; but he left the obelisk standing on the spot now occupied by the sacristy. It was removed at an expense of nearly £10,000 sterling, in 1586, by Sextus V. to its present situation, nearly a century before the construction of the fine colonnade which now surrounds it.

"Of the great and beautiful temple of Dendera, or Tentyra, it is difficult to say whether it be monumental or sacred, but it may class with the former. The inhabitants of this place were great worshippers of Isis and Venus. From the ruins, it appears that the temples of this city were more beautiful and splendid and in a better style of art and workmanship than any other now remaining in Egypt. Dr. Pococke, Captain Norden, Paul Lucas, Granger, Maillett, Cassas, and Denon, have been diffuse and enthusiastic in their descriptions of Tentyra. Denon was so enraptured when he stood beneath the portico of the great temple at Tentyra, that he exclaimed, 'I thought myself, nay, I really was, in the sanctuary of the arts and sciences. I was agitated by the multiplicity of objects, amazed by their novelty, and tormented by the fear that I should never behold them again.' The extent of this temple was such, that the Arabs had formerly a village on its roof, the ruins of which are still to be seen.

"Belzoni, in his travels in Egypt, speaking of this temple, says, 'on the 19th, early in the morning, my curiosity was at a high pitch, the noted temple of Tentyra being the only thought I had in my head. On arriving before it, I was for some time at a loss where I should begin my examination. The numerous objects before me, all equally attractive, left me for a while in a state of suspense and astonishment.' The enormous masses of stone employed in the edifice are so well disposed, that the eye discovers the most just proportion everywhere. The majestic appearance of its construction, the variety of its ornaments, and, above all, the singularity of its preservation, had such an effect on Belzoni, that he seated himself on the ground, and was for a considerable time lost in admiration. It is the first Egyptian temple the traveller sees on ascending the Nile, and is certainly the most magnificent. It has an advantage over most others, from the good state of preservation it is in. It is the cabinet of Egyptian art, the product of study for many centuries, and deserves all the praise that has been given to it. It was in this grand monument of the art that the celebrated Zodiac of Tentyra was found, which MM. Saulnier and Leloraine have recently carried away to Paris.

"There are few subjects on which men of learning and taste have differed more than upon the art of the Egyptians. Some raising it to the skies,

others scouting it as the barbarous of barbarism. De Goguet and his followers treated it with the utmost contempt. Denon and Belzoni overflow with praises of its beauties, and find no defects. Sonnini describes his sensations at the sight of their temples as difficult to define, so grand, so majestic did he find them. It was not a simple admiration merely, but an ecstasy which suspended the use of all his faculties. He remained for some time immovable with rapture, and felt himself more than once inclined to prostrate himself in token of veneration before monuments, the rearing which appeared to transcend the strength and genius of man.

"Yet after all, the Egyptian style is monotonous, sombre, heavy, and unfit for our use; and, if studied exclusively, till regard for antiquity engenders love for ugliness, is destructive of a pure taste. What made probably a delightful parlour in Egypt, would make an excellent coal cellar in England. Yet, from its antiquity and excellence of construction, there are few styles more interesting to the antiquary, more delightful to the traveller, or bearing greater testimony to the truth of ancient history.

"Although the lively Frenchman, Sonnini, says, that before it the so much boasted fabrics of Greece and Rome must come and bow down; yet, when it is calmly investigated and brought to the standard of judgment, it will not bear a momentary comparison with either for chasteness, real beauty, and true sublimity.

"Architecture among the ancient Jews, is a much darker and more inexplicable subject. The Hebrews, Israelites, or Jews, by a residence in Egypt of nearly four hundred years, had attained a considerable degree of civilization. After their deliverance from captivity in that country, they led a wandering life for forty years. The temples which they had seen in Egypt dedicated to Egyptian idols, led them to consecrate a temple where they might assemble in public worship of the true God. As it was necessary, from their mode of life during their sojournment in the wilderness, that it should be portable, they constructed it in the form of a spacious tent. In the plan and arrangement of this temporary erection, known by the name of the tabernacle, they took the form, it has been conjectured, of the Egyptian temples for their guide; they adopted in the details and ornaments a peculiar and national style. Conjecture and written description is all that is left us of the architecture of the Hebrews.

"The architectural ruins of the monuments of the old inhabitants of that great empire improperly called by Europeans Persia—the name of a single province being applied to the whole empire of *Iran*, as it is correctly denominated by the natives and by the learned Mussulmans who resided in British India—are conclusive proofs of the grandeur of this ancient people.

They differ in style both from the Egyptian and the Hindu, yet possess a general affinity. Sir William Jones, after due investigation,—and who was ever a more ardent and laborious investigator than he?—concludes, from the most unexceptionable evidence, that the Iranian or Persian monarchy must have been the most ancient in the world; but he was doubtful to which of the three stocks, Hindu, Arabian, or Tartarian, the first kings of Iran belonged. He also, after a most learned and interesting disquisition, holds this proposition firmly established: that Iran, or Persia, was the true centre of population, of knowledge, of languages, and of arts. Of such a people, an account of their architecture cannot but be of consequence; and it is therefore lamentable that so few faithful delineations of their monuments have been taken.

"The ruins of Persepolis are the principal existing remains of Persian architecture. This city was taken by Alexander, misnamed the Great, who was persuaded by Thais, a shameless courtesan, during a drunken revel, to set it on fire, at the place now called by the natives Kilmanac or Ischilmanar, the forty columns, from the circumstance of there having been that number standing when the Mahometans invaded that part of Iran; but at present there are not above nineteen left. The splendid edifice of which these ruins are the remains, is supposed to have been erected by their king Huished, or Schemscheddin.

"The style of the architecture and sculpture proves their antiquity. From the fact of every column being surmounted by a figure of some animal, and the well known circumstance of the ancient Persians performing their religious duties in the open air, proves, in opposition to Millin,—for the building could never have had architraves or a roof,—that it was a temple. These singular columnar ruins are formed of a beautiful white marble, which is found in the mountain Rachmed near the spot.

"Count Caylus thought he perceived, and endeavoured to draw, an analogy between the Persepolitan and the Egyptian styles; but we have not sufficient authority of the former to examine these claims.

"The Hindu style of architecture, as exemplified in their monuments, appears to have been drawn from their original dwellings, caves and excavations. Man is by nature a burrowing animal, and mostly carries his original propensities into states of refinement.

"The period of authentic history in India, as in other countries, is comparatively of recent date. It is scarcely more than three thousand years since the most ancient and only genuine historical records of the ancient world, ascribed to Musah, or, as we call him after the Greeks and Romans, Moses, were composed. Herodotus, the most ancient heathen historian whose

works have reached our times, flourished a thousand years later; and Homer, the third ancient author who speaks of our art, is of too doubtful a period to establish dates.

"The remains of architectural monuments in India, from style and construction, seem to prove an early connexion between that country and Egypt. The pyramids, the colossal statues, the obelisks, the sphinx, the mummy pits and subterranean temples with colossal figures, and the lion-headed sphinxes, recently discovered by Belzoni in Egypt, indicate the style and system of mythology to be akin to those of the indefatigable workmen who formed the vast excavations of Canarah, Elephanta, and Ellora, as well as the various immense pagodas, pillars, and colossal images of Buddha and other Indian idols. These subjects will be farther discussed in the article Sacred Architecture.

"Another proof of a similarity of style between the ancient Egyptians and Hindus, is their mutually using lofty spires, or obelisks, like the pillar of Allahabad; a striking resemblance to which is seen in the ancient round towers of Ireland; and also between the pyramids of Egypt and the colossal brick building in the Hadjipore district, near the Gunduc river. This immense pile of brick is about two days journey up the Gunduc, one of the tributary streams of the Ganges near Kessereah.

"Mr. Burrows, who visited it about the year 1785, and took its dimensions, conceives it to be evidently intended for the well known image of the god Maha Deo; having originally been a cylinder placed upon the frustrum of a cone, for the purpose of being seen at a distance. It is at present very much decayed, and it is not very easy to tell whether the upper part of the cylinder has been circular or conical. A considerable quantity of the outside has fallen down, but it is still seen at a great distance up and down the river.

"The dimensions of this colossal edifice, as given by Mr. Burrows, in the Asiatic Researches, are the diameter of the column at the base, three hundred and sixty-three feet; height of the conic frustrum on which the cylinder is placed, ninety-three feet; diameter of the cylinder, sixty-four feet, which is nearly two-thirds of the size of the diameter of the base of the cupola of St. Paul's cathedral; height of the present remains of the cylinder or round tower, sixty-five feet; entire height, one hundred and fifty-eight feet, or nearly the height of the monument near London Bridge without its pedestal. Both the cylinder and the cone are constructed of well burnt bricks, many of them two spans long and one broad, and others of the common size but thinner.

"The pillar of Allahabad, as described by the late Captain Hoare, is a

lofty conical structure, covered with inscriptions, which are given in the second volume of the Transactions of the Asiatic Society, with an engraving of its elevation; but neither Captain Hoare, Mr. Colebrooke, nor Moonshee Mohammed Morad, who accompanied the Captain to Allahabad, could obtain any information respecting it.

"Architecture is of too much importance in the affairs of nations to be neglected or despised by the political economist; being the art by which we can best distinguish man in a civilized state from that of simple barbarity, and forms a scale of comparative cultivation and of the progress of intellect between nation and nation.

"Plato acknowledges that the science of politics and legislation began with the building of cities, (Plat. de Leg., l. 3. et 6.): thus has architecture its political use, public buildings being the most distinguished and most durable ornaments of a country. It establishes a nation, draws people, creates commerce, makes the people love and respect their native country, which passion is the origin of all great actions in a commonwealth. 'The emulation of the cities of Greece,' says Wren, 'was the true cause of their greatness; the obstinate valour of the Jews, occasioned by the love of their magnificent temple, was a cement that held together that people for many ages, through infinite changes.'

"The care of public decency and convenience, was a great cause of the establishment of the Low Countries, and of many cities in the world. Modern Rome subsists still by the ruins and imitation of its glorious ancestor; as does Jerusalem by the temple of the sepulchre and other remains of Helena's zeal.

"Architecture aims at eternity; and is, therefore, the only art incapable of modes and fashions in its principles, the orders. It is also the most faithful recorder of the great and noble deeds of nations long since past away; and its works are speaking witnesses of the truth of history.

"By the gigantic pyramids, by the lofty obelisks, by the stupendous temples, and other architectural monuments of Egypt, we have authentic documents and ocular demonstration of the veracity of the historic pen which records the numbers and the power of the mighty people that once inhabited the extensive shores of the prolific Nile.

"The Parthenon, the Erectheum, and the other brilliant gems of Attic taste which embellish the solitary wastes of ancient Athens, bear similar testimony to that refined taste which the ancient historians and critics of antiquity attribute to the people of Greece. The Acropolis and its lovely structures vouch for Pausanias; the Pyramids and obelisks of Egypt, for the

venerable father of pagan history, Herodotus; and Rome, the eternal city, owes its most lasting celebrity to architecture.

"By architecture, too, we are informed how painting and how sculpture flourished among the ancients. For it has not only preserved upon its walls, as in the temple of Tentyra, in the magnificent baths of the Roman emperors, and on the walls of Herculaneum and Pompeii, positive vestiges of their pencils; but by ratifying, as it were, the truth of the historians' account of their architecture, gives us a point whereon we may fix our belief in their descriptions of the powers of their ancient painters. Thus the existing works of Phidias, Ictinus, Callicrates, and Mnesicles, prove the reality and the power of the highly and justly lauded productions of Zeuxis, Parrhasius, and Apelles, of which we have only *written* testimony.

"Much may be said of the political utility and moral advantages of a cultivation of architecture; but a few words on an enlightened patronage of it may not be deemed extraneous from the subject.

"This proper and judicious mode of administering patronage, or in other words, justice, to a national art, of necessity includes a patronage of all the arts, and embellishes the names of monarchs and princes with unfading lustre, equal to any and superior to most. A great and good prince is rendered yet more illustrious by such encouragement; and the infamy of a bad one is even gilded over to his contemporaries, and overpowered to posterity, by the brilliancy of its lustre. The bloody and drunken insanities of Alexander, by some called the Great, are shaded by his patronage and love of art; and the nameless atrocities of Hadrian are softened by his deeds in art almost to a name of repute; while the mild lustre of a Titus receives a brilliant accession from the same causes. So is the tyranny of Pericles adorned and neutralized by his enlightened patronage of Phidias. The Parthenon has remitted *his* sins; and Hadrianopolis, with its tasteful structures, sheds rays of glory round the head of the otherwise contemptible and infamous patron and associate of Antinous.

"This art was held in such esteem by the Greeks that none but the well born were allowed to study it, and princes gloried in its practice. If, as Sir Joshua Reynolds asserts, the value and rank of every art be in proportion to the mental labour employed in it, then should architecture rank very high. As this principle is observed or neglected, architecture becomes either a liberal art or a mechanical trade. In the hands of one man it makes the highest pretensions, as it is addressed to the noblest faculties, and becomes a matter of philosophy; while in those of another it is reduced to a mere matter of ornament, and the architect has but the humble province of building elegant trifles.

"In a preceding section an assertion was made that architecture was a less imitative art than either painting, sculpture or engraving; that its elements are more purely original than those of the other arts; yet it is in a certain degree imitative of its own original types or prefigurations, which are first the *cavern*, as exemplified in the Egyptian and the Indian styles, which has been imitated also in our ancient British architecture, as may be seen in many examples, such as the ancient crypt of St. Peter's, Oxford, at Lastingham Priory, &c., where the resemblance is abundantly striking; the *tent*, as in the Chinese, and its species; and the *cabin*, or wooden hut, as displayed in the Greek and its imitators: that is to say, that the Egyptians, the Indians, and their like, imitated in their buildings their ancient excavations, their primeval dwellings; that the Chinese, in their pagodas and other public buildings, imitated their tent; that the Greeks imitated and refined carpentry in their marble temples; that the Romans followed the Greeks; that the early architects of Britain followed the Romans; that many architects of the present day follow the Greeks to a servile pedantry; and that the architects erroneously called Gothic imitated their primitive places of worship, their sacred groves.

"Our great architect, Sir Christopher Wren, whose merits as a writer are scarcely sufficiently acknowledged, carries this hypothesis still farther, and in a most beautiful manner. He says, 'Vitruvius hath led us the true way to find out the originals of the orders. When men first cohabited in civil commerce, there was a necessity of forums and public places of meeting. In cold countries, people were obliged to shut out the air, the cold, and the rain; but in the hot countries, where civility first began, they desired to exclude the sun only, and admit all possible air for coolness and health. This brought in naturally the use of porticoes, or roofs for shade, set upon columns. A walk of trees is more beautiful than the most artificial portico; but these not being easily preserved in market-places, they made the more durable shades of porticoes, in which we see they imitated nature. Most trees that are in their prime, that are not saplings or dotards, observe near the proportion of Doric columns in the length of their boll before they part into branches. This I think a more natural comparison than that to the body of a man, in which there is little resemblance of a cylindrical body. The first columns were the very bolls of trees turned or cut in prisms of many sides. A little curiosity would induce to lay the torus at the top: and the conjecture is not amiss, to say it was first a band of iron to keep the clefts occasioned by the sun from opening with the weight above; and to keep the weather from piercing these clefts, it was necessary to cover it with the plinth, or square board; and the

architrave conjoined all the columns in length,' as may be seen in the drawing of the flank of the Grecian temple.

"Of these primitive styles, that of the Egyptian, or *cavern* style, is dark, heavy and monotonous; the Chinese, or *tent* style, light, feeble, and fragile; and the Greek, or *cabin* style, is at once solid and light, is susceptible of being made more or less solid or light, according to necessity or required character, is the highest in its combinations, and that which unites in itself in the highest degree the advantages of solidity and an infinite agreeableness of variety. Of the elements of the *cabin*, or Greek style, the elegant critic Algarotti says, in his *Saggis sopra l' Architettura*, that it is the material the most capable of furnishing the art with the greatest number of profiles, modifications, and varied ornaments, which said profiles, modifications, and varied ornaments, so highly prized by the Italian critic, the Greeks have indurated, sublimed, and immortalized; while the Romans have debased them, and, in many instances, lowered them below even their original types.

"While upon the subject of that imitation which is essential to a pure style in architecture, an imitation by no means destructive of legitimate invention, a few words may be allowed by way of elucidation.

"By *imitation* is not meant that servile counterfeiting of an original which is so much the practice of some of our modern Greeks, who copy the very fractions, of lines and profiles, instead of composing in the same spirit, but that bold pursuit of a sublime original by parallel images and examples, sometimes more refined, but never below their type, which distinguishes true genius, cultivated and improved by practice and study, from the common herd of lineal copyists' modules of minutes and of lines. Such a free imitation as the Æneid is of the Iliad; such a bold and original imitation as Milton is of Homer and of Virgil; such imitations in short as bear the marks of real genius—'that quality without which judgment is cold, and knowledge is inert—that energy which collects, combines, amplifies, and animates.'

"There are two ways by which a people can imitate the style of architecture of another country; the one true, and the other false. The true mode is less an imitation than an adoption, and consists in receiving as an alphabet in their entire shape the system, the rules, and the taste of a style of architecture. It was thus that the Romans adopted the architecture of the Greeks, or perhaps I should say of the Etrusians, which was incontestably the same. It was thus also with the nations of modern Europe, who, abandoning the Gothic and the incongruities of the middle ages, have appropriated the Greek and Roman styles by legitimate adoption.

"It was after this true mode that Palladio, in his imitations and inventive

restorations of Roman magnificence, has founded a legitimate school. It was thus that Michel Angiolo fairly imitated the Pantheon of Agrippa in his tremendous cupola of the Vatican. And it was thus that our illustrious countryman Wren, whose transcendent talents I have recently endeavoured to display to the public, rivalled in design, and surpassed in purity of taste and scientific construction, the Basilica of St. Peter's at Rome, the work of more than twenty architects, supported by the treasure of the Christian world, and by the protection and under the reigns of twenty successive popes; in his unrivalled and splendid work of St. Paul's, London, that glorious, though unfinished monument of the piety and magnificence of our ancestors.

"Such imitations are far from plagiarisms, being, on the contrary, skilful adoptions or adaptations, bearing proofs of legitimate and inventive talents. 'Genius,' says Reynolds, 'at least what is generally so called, is the child of imitation; it is in vain to endeavour to invent without materials on which the mind may work, and from which invention must originate. Nothing can come of nothing.' (Disc. i.)

"The other or false mode of imitation is plain plagiarism, and nothing better than downright theft, without even that ingenuity to conceal the theft, which, among the Lacedæmonians, always procured pardon for the thief. This mode consists, as it were, in importing by wholesale such portions of a foreign or ancient style as appears suited to the purposes of its importers, and converting them to their own use, not as their original inventors would have done in their time and place, but forcibly torturing ancient art to modern uses; like as the gipsies are said to do when they steal children, to disfigure them that they may not be known. These are mean copiers and importers of architecture, common borrowers; the others, liberal adopters of the great works of the great masters of our art, from whom 'the modern arts were revived, and by whose means they must be restored a second time.' 'However it may mortify our vanity,' said Reynolds, 'we must be forced to allow them to be our masters; and we may venture to prophesy, that when they cease to be studied, arts will no longer flourish, and we shall again relapse into barbarism.' (Disc. vi.)

"It was not in this way that the Greeks borrowed the idea of the Corinthian capital from the Egyptians. They boldly adapted and naturalized it, as well as other types of their orders, which may be seen by comparing them; and concealed it with Spartan skill, gratifying their national vanity in giving currency to the poetical hypothesis of Callimachus and the votive vase. The primitive types of the two capitals are the same, as may be seen by comparison; the original of each is a vase surrounded by foliage and covered by an abacus, and a verbal description of the two would very nearly

assimilate. The other orders, namely, the Doric and the Ionic, are as evidently drawn from the same sources: yet in the essentials of a national style they widely differ. The Egyptians properly used the plants and flowers of Egypt, and the Greeks those of Greece.

"If, however, the architecture of Greece be, as is often and perhaps truly asserted, borrowed, adopted, or stolen from that of the Egyptians, the Greeks have certainly most gorgeously embellished their robbery; and if from their own primeval huts and cabins, the metamorphosis of the cabin into the temple is as rapid and complete as that of the cottage of Baucis and Philemon, in the Metamorphoses of Ovid:

> 'Illa vetus, dominis etiam casa parva duobus,
> Vertitur in templum: furcas subiere columnæ.'—Ovid. lib. viii.

"The principal remains of the most ancient examples of the Indian or Hindu style which have been recently discovered, are of a singular and extraordinary kind, being mostly excavations in the solid rock. They are supposed by some antiquaries to have been subterranean temples; but many portions of them are undoubtedly monumental or commemorative. Immense sculptured caverns of this description have been discovered in various parts of the Indies, which are wonderful monuments of the skill and industry of the people who achieved them. These subterraneous caverns are apparently as ancient as the oldest Egyptian temples; and M. D'Ancarville, in his Recherches sur l'Origine, l'Esprit, et les Progrès des Arts de la Grèce, thinks them anterior to the time of about two thousand years before Christ.

"Some archaiologists have supposed these wonderful sculptured caverns to be no older than the first ages of Christianity, after the natives of India had received the knowledge of the liberal arts and sciences from the Greeks. The improbability of this hypothesis is apparent at the first glance; for, in the first place, the Greeks did not practise excavations; and secondly, the style, character, and execution, are as different as light and darkness from the style, character, and execution of the architecture of the Greeks.

"Dr. Robertson, on the contrary, thinks them monuments of very remote antiquity, as the natives cannot, either from history or tradition, give any information concerning the time in which they were excavated, but universally ascribe them to the power of a superior race of beings. Thus Stonehenge has been attributed to the magical power of Merlin the enchanter; and the devil is often celebrated as an architect of first-rate skill, and has given his name to many a monument of human power.

"The columns found in these caverns are rudely formed; and although much inferior to Grecian beauty, are, in many instances, more agreeable to the eye of taste than those of Egypt. Their capitals represent round cush-

ions pressed down by the superincumbent weight. The elegance of some of these columns is confirmed by Col. Call, formerly chief-engineer at Madras, who urges this circumstance as a proof of the early and high civilization of the Hindus. 'It may safely be remarked,' says he, 'that no part of the world has more marks of antiquity for arts, sciences, and civilization, than the peninsula of India, from the Ganges to Cape Comorin. I think the carvings on some of the Pagodas and choultries, as well as the grandeur of the work, exceed any thing of the present day, not only for the delicacy of the chisel, but the expense of construction; considering, in many instances, to what distances the component parts were carried, and to what heights raised.'

"The column from a building near Muddumpore, as engraved in Daniels' Views, although of great antiquity, has the elements of a beautiful style. The gradation from the octangular base to the multangular shaft, setting off to the circular upper shaft, is at once elegant, and possessed of the greatest constructive strength. The masculine style of the recking, under the quadrifrontal capital, is bold and characteristic.

"Another fine example of a monumental column worthy of notice is from an ancient Indian temple near to Benares, a splendid, rich, and populous city, on the north side of the Ganges, which is here very broad and the banks very high. The appearance of Benares from the water is represented by travellers as being very beautiful. Several Hindu temples embellish the banks of the river, and many other buildings, public and private, ancient and modern, of a style and execution truly magnificent.

"This singular and most beautiful column, which to the variety of India adds many of the ornamental graces of the Grecian style, is thought by Mr. Hodges, who made the drawing whence the plate in his work was engraven, to have been of the age of Alexander. This eminent artist and indefatigable traveller conceived, from the striking resemblance which many of its parts bear to the Greek style, that it must have been executed by Grecian artists shortly after Alexander's expedition into India; which, according to Dr. Robertson, was about one hundred and sixty years after the reign of Darius Hystaspes. The biographer of Apollonius Tyraneus (*ibid.*) relates, that when he visited India, three hundred and seventy-three years after Alexander's expedition, twelve stupendous altars or monumental stones, which he erected in commemoration of his exploits, were still remaining with legible inscriptions. Be this as it may, the elements and style of this beautiful monument of antiquity completely bear out the hypothesis of Mr. Hodges. Its elements, perhaps from compliment to the country, are in every respect Indian; its ornaments are purely Greek; its base, its shaft, its capital, are all,

in shape, situation, and distribution, completely Hindu; with its multangular and mixed circular shaft, its quadrifrontal capital, and tress-shaped abacus. Its decorative sculptures, are essentially and finely Greek. In its pedestal is found the Grecian honeysuckle in its greatest purity; the angles of the shaft are embellished with the sacred water-leaves of the Hindu mythology; above these are Doric flutes; and in the capital are found the leaves of the Greek acanthus.

"For beauty of outline, graceful setting off from a square to an octagon, and thence to a circle, for richness and purity of style, the column of Benares stands unrivalled in Eastern art.

"A few more specimens of Indian monumental art are the series of examples from the early periods of the Mogul empire, which exhibit their modes of construction both square and circular, and prove their early knowledge of the arch, the cupola, and other difficult and scientific modes of construction; and to which the preceding observations are equally applicable.

"Another proof of a similarity of style between the architecture of the ancient Egyptians and Hindus, is their mutually using lofty spires like the obelisks of the former, and the monumental towers of the latter, as in the tower of Allahabad, and the lofty conical obelisk on the Shikargah, or hunting-place of Feeroz Shah, the Pyramids of Egypt, and the conical brick monument in the Hadjepore district, referred to and described in the last section.

"*The monumental style of architecture among the Greeks* comes into a smaller compass than most other nations. The observations on their pure and fine style will, therefore, be reserved to another section, when descanting on their sacred buildings. Their principal monuments are the tower of the winds, which was also a clepsydra, or water clock, and the beautiful little choragic monument of Lysicrates, so celebrated for its elegant variation upon the theme of the Doric order. Another no less beautiful is the choragic monument of Thrasyllus, sometimes called the Lantern of Demosthenes, so well known to every student of Athenian antiquities.

"The triumphal arches of the Romans are among the grandest architectural monuments or luxuries of this magnificent people. Nothing which could tend to perpetuate the fame of the conquerors was omitted in the design. Some were constructed with two and others with three openings, and the most magnificent were erected on the public road called the Triumphal way.

"On a triumph being decreed, the Roman senate received the conqueror at the Porta Capena, near the Tiber, which was the entrance to the city

from the Appian way. A brief description of them, for they very nearly resemble each other, is all that the limits of this work will allow.

"The arch of Augustus at Rimini has but a single opening, about thirty feet in width, crowned with a pediment, contrary to the usual practice, which was to leave them flat for a triumphal car. It is a beautiful specimen of construction, but much mutilated.

"The arches of Titus at Rome and of Trajan at Beneventi, bear a great resemblance to each other. The former is composed of that beautiful composite order, which is said to have been the earliest use of this order.

"The arch called the Arch of the Goldsmiths at Rome is a curious example. It is small in size, has but a single opening, is covered by a flat lintel, and is much embellished by sculpture.

"The arches of Septimus Severus and of Constantine, are of three openings. The latter is embellished with ornaments shamelessly stripped from the arch of Trajan; and from their absurd application, we are the more disgusted with the barbarism of the despoilers. The arch of Severus, the ruins of which are represented in Piranesi, is in fine preservation, and serves as a portico to the church of St. George, in Vellario.

"The Roman style of architecture possesses more variety of style and buildings than that of Greece. The Roman people had also a more extended dominion, more personal and natural pride, and were more partial to show and magnificence, than the graver and more philosophical Greeks. Hence arose the greater number and more splendid embellishments of their architectural achievements.

"They also erected edifices to commemorate every great event; and much of their architecture may be classed under the monumental style. 'When the Romans wished to commemorate and perpetuate,' says Tacitus, 'the remembrance of any remarkable event, they raised an altar-stone, and engraved thereon the particulars of the transaction.'

"This great historian relates, in his account of the public discussions which ensued in Rome on the death of Augustus, that the objectors to the honours paid to that emperor complained that the honours due to the gods were no longer sacred. Temples were built and edifices erected to *him*. A mortal man was adored, and priests and pontiffs were appointed to pay him impious homage. This species of homage Augustus was wise enough to decline when alive; and Suetonius says, 'although Augustus knew that temples were often raised in the provinces in honour of the proconsuls, he allowed none to be raised to himself, unless they were at the same time dedicated to the Roman people. In the city he absolutely refused all hon-

ours of the kind.' These facts prove that the raising and dedicating a temple was a common, nay, almost an every-day, transaction.

"Tacitus is perpetually adverting to the numerous architectural monuments of his public-spirited countrymen. But unfortunately their character in taste was inferior both to their wealth and their vanity. They cultivated few things supremely but eloquence and the art of war; and oratory and the sword were the only steps to power and greatness in Rome. Greece was fallen into a state of degeneracy. Point, antithesis, and conceit, were the delight of vain preceptors who filled the streets of Rome, and held schools of declamation,—which Cicero properly called *ludus impudentiæ;* —and novelty, ornament, and bad taste, crowded their public monuments.

"With such a people architecture could not but flourish; and had they, like the Greeks, ennobled the profession of architecture as they did that of the orator, as fine a taste would doubtlessly have prevailed in the one country as in the other. Their very wars encouraged the arts. Statues and triumphal arches followed victory like a shadow; and the spoils of the conquered, prisoners of war, with various pictures of battles, mountains, and rivers, were displayed with great pomp.

"Another instance of the architectural grandeur of the Romans, on the authority of Suetonius, is worth reciting. Augustus, to perpetuate the memory of his glorious victory at Actium, built the city of Nicopolis, near the bay where he obtained his victory, establishing quinquennial games; and, having enlarged an ancient temple of Apollo, adorned it with naval spoils, and dedicated it to Neptune and to Mars.

"On the death of Germanicus, triumphal arches were ordered to be erected at Rome, on the Rhine, and Mount Amanus in Syria, with inscriptions setting forth the splendour of his actions, and in direct terms declaring that he died in the service of his country. At Antioch, where his remains were burned, a mausoleum was erected; and at Epidaphne, where he died, a cenotaph was constructed to his memory. Of the several statues and the places where they were to be worshipped, 'it would be difficult,' says Tacitus, 'to give a regular catalogue. It was farther proposed that a shield of pure gold, exceeding the ordinary size, should be dedicated to him in the place allotted to orators of distinguished eloquence.'

"These marks of respect are of less value to the dead than to the living; and those who witness such grateful remembrances acquire thereby an additional stimulus towards rivalling them.

"'Victory and Westminster Abbey,' was a sentiment uppermost in the mind of Nelson; and they who are benefited by the services of statesmen and by the victories of warriors, should not be sparing of durable monuments

of gratitude, even if it be only with the view of exciting the aspiration of contemporaries.

"Of Roman architecture, the concealed author of Guy Mannering says, 'their fortifications, their aqueducts, their theatres, their fountains, all their public works, bear the grave, solid, and majestic character of their language; and our modern labours, like our modern tongues, seem but constructed out of their fragments.' Yet, with all this grandeur of conception and solidity of execution, their works surprise more from their immensity of size than the beauty of their detail. This produced an unnatural exaggeration of style in all their arts. Their architecture has given us the swollen composite order; their sculpture, the exaggerated style of the gladiator; and their latter poetry, the hyperboles of Lucan and of Statius. The Colosseum alone consumed more materials, and cost more money, than perhaps all the temples of Athens put together; and the Roman forum would possibly have contained them all. Imperial Rome vied with the republic in architectural splendour, and Julius Cæsar commenced a career of magnificence in the provinces, and his nephew Augustus led the way among the emperors, justly boasting that he found Rome of birch and left it of marble. It would be well if a British Minerva could arise in imitation of the Athenian goddess, and by her magic lance convert the half burnt bricks and compo and mastic of modern London into even decent stone!

"One more species of monumental structures used by the ancient Romans alone remains to be mentioned, their commemorative columns.

"They have several still remaining; one, dedicated to the Emperor Phocas, stands near the temple of Concord. It is of Greek marble, fluted, and of the Corinthian order, four feet diameter, and fifty-four high including the pedestal. Another worthy of notice is that of Marcus Aurelius, erected by the Roman senate and people in honour of that emperor for his victories over the Marcomanni. Aurelius afterwards dedicated it to his father-in-law, Antoninus Pius, as is expressed on the pedestal; hence it is mostly called the column of Antoninus. It is of the Doric order, eleven feet six inches in diameter, and one hundred and forty-eight feet high.

"The loftiest, however, in Rome, is

> 'Trajan's column tall,
> From whose low base the sculptures wind aloft,
> And lead, through various toils, up the rough steep,
> Its hero to the skies.'
>
> DYER.

"This column is one of the most celebrated monuments of antiquity, and has endured the stormy waste of time upwards of seventeen hundred years.

The column of Alexandria, commonly called Pompey's pillar, is about ninety-five feet in height; Trajan's, including the pedestal and statue, one hundred and thirty-two feet; and Wren's fine monumental column near London Bridge, commemorative of the destruction and rebuilding of the British metropolis, including the pedestal and vase of flames, two hundred and two feet. The latter is quoted to show its superiority in point of height and size over those of ancient Rome.

"*British monumental architecture.* The next section of my subject leads us to the obscure days of the ancient British monumental style; and I confess the more I search, the more I am bewildered in fiction, fable, and hypothesis.

"The commencement of the art in England was similar to its commencement in every other country. The caverns and huts of the aborigines of these islands were gradually improved from mere necessaries of life to comforts and luxuries.

"There exist in this country the most indisputable proofs of a primitive or aboriginal style of architecture and successive introductions of foreign styles at various periods of our history; and here again, it may be observed, does architecture prove the truth of history.

"Egypt may boast of its pyramids, India of its excavated temples, Italy of its Pæstum, and Greece of its Cyclopean works, alike defying history and conjecture: yet England and Ireland possess antiquities as primitive, as aboriginal, and as remote from accurate date, in the Avebury, the cromlechs, the Stonehenge of England; the round towers, the excavations, the ruins of the seven churches, and the bed of St. Kieven in Ireland.

"The origin of the architecture of a nation is so intimately connected with that of the nation itself, that an inquiry into the one necessarily involves the other; therefore, rejecting the fables of our earlier chroniclers, we must search for the truth in the monuments themselves.

"Sir William Jones, in his luminous discourse on the origin and families of nations, says, with our great Newton, 'We must not admit more causes of natural things than those which are true, and sufficiently account for natural phenomena;' and that one pair at least of every living species must at first have been created, and that one human pair was sufficient for the population of our globe, in a period of no considerable length—on the very moderate supposition of lawyers and political arithmeticians, that one pair of individuals left on an average two children, and each of them two more —is evident from the rapid increase of numbers in geometrical progression, so well known to those who have ever taken the trouble to sum a series of as many terms as they suppose generations of men in two or three thousand years.

"This profound philosopher then proceeds, with all the learning and scepticism of a genuine searcher after truth, to compare the Mosaic account of the peopling of our globe with probability and with history; and comes, after a series of incontrovertible arguments, to the supposition that the children of Japhet seem from the traces of Sclavonian names, and the mention of their having been *enlarged*, to have spread themselves far and wide, and to have produced the race which for want of a correct appellation we call *Tartarian:* the colonies formed by the sons of Ham and Shem appear to have been nearly simultaneous; and among those of the latter branch he found so many names preserved to this day in Arabia, that he hesitated not to pronounce them to be the same people, whom hitherto we have denominated Arabs; while the former branch, the most powerful and adventurous, of whom were the progeny of Cush, Misr, and Rama, names remaining unchanged to this hour in Sanscrit, and highly revered by the Hindus, were in all probability, the race denominated Indian.

"From several tours recently made in the most interesting parts of Ireland for architectural antiquities, and from considerable investigation into its history, the author is of opinion that that country was originally peopled from the East. The ancient architecture, the ancient religion, the ancient language of Ireland and those of the inhabitants of Hindostan and other oriental countries, coinciding in a wonderful manner.

"Equal coincidences in their architecture occasionally recur; the pyramids of Egypt have narrow passages leading to dark chambers or temples under ground. At Benares, the most ancient seat of Braminical learning, there are also pyramids on a small scale with subterraneous passages, which are said to extend many miles. These narrow passages leading to the cell or adytum of the temple appear to render the only apartment less accessible, and to inspire the votaries with more awe. There we find a perfect resemblance between the worship of the ancient Egyptians and the ancient inhabitants of Hindustan. The caves of the oracle at Delphos, of Trophonius, and of New Grange in Ireland, had narrow passages answering the purposes of those in Egypt and India; 'nor is it unreasonable to suppose,' says Captain Wilford in his learned dissertations on Egypt from the ancient books of the Hindus, 'that the fabulous relations of the Grot in Italy, and of the purgatory of St. Patrick in Ireland, were derived from a similar practice and motive which seem to have prevailed over the whole pagan world, and are often alluded to in Scripture.'

"New Grange is one among many caverns in Ireland, which the author of this work has visited. It is a large mound or pyramid, surrounded by a circle of stones, near the county town of Drogheda, about twenty-five

miles north of Dublin. The gallery is sixty-two feet long, and the arms of the cross or transepts twenty feet each. The cupola over the centre of the temple at the intersection of the cross is formed of long flat stones projecting one over the other, till they meet in the centre like one of the openings in the great Egyptian pyramid.

"The cavern is, he doubts not, of as great antiquity as any in Europe, and was a burying-place of the ancient Irish, although its cross-like form has induced some to think of the time of Christianity; on its first opening, a gold coin of the Emperor Valentinian was found in it, which Dr. Llhwyd observes might bespeak it Roman, but that a rude carving at the entry of the cave seems to denote it to be of a barbarous origin.

"Nothing is here said of the similarity between the names of Erin (Ireland,) and Iran, (Persia,) conjectural etymologies being too vague for historical research.

"The round towers of Ireland, (of which he has a list of nearly seventy now remaining in various parts of the island, from Cork to the Causeway, and from Wexford to Limerick, the greater part of which he visited and investigated,) their large and singular cromlechs, and innumerable other antiquities, deserve a course of investigation to themselves.

"II. Sacred Architecture. To trace fully the origin and progress of sacred architecture among the antediluvians, after what has been said of the monumental architecture of that ancient period, would be to go over almost the same ground, which was reviewed in the early part of the first section; therefore a brief survey of these ancient and problematical times, with an account of the principal works in this class of architecture and an analysis of principles, will be all that is necessary for this portion of our work.

"Among uncultivated nations, such as modern refinement is pleased to term savage, architecture as a fine art is scarcely known, and their painting and sculpture are as rude as their manners. We find those arts, with music, dancing, eloquence, and poetry, in every country and among every people which have arrived at the first degree of civilization; and mankind was certainly in this state in the earliest antediluvian times, after the families of Adam's immediate progeny settled themselves.

"The connexion between architecture, and the rest of the arts and sciences, with the laws, government, and manners of the people, are curious and useful subjects of inquiry. Their relations with the history of the human mind are clear and indisputable; although some shallow reasoners have affected to think them beneath the notice of statesmen and

philosophers, and that the fine arts are to be considered only as mere amusements and relaxations to superior minds.

"Sacred architecture commenced with the first adoration of man to his Creator. The first altar of a single stone surrounded by our grateful forefathers offering the first fruits of their flock, and corn, and fruit, was the first temple. Such were the cromlechs of Ireland and Britain, which soon increased from the circle of stones to the beauty of the rotunda, and from the wood-covered temple of ancient Attica to the full blown perfection and splendor of the Parthenon.

"Idolatry added to the splendor of ancient temples; and Ninus, the first recorded idolater, the son of Belus or Nimrod, erected the earliest temple to the human gods of antiquity, in commemoration of his father, whom he ordered to be worshipped, and dedicated a temple to him as Jupiter Belus. This temple, which Herodotus describes as of splendid dimensions and design, contained the celebrated brazen statue of Jupiter Belus, which was cast about two hundred years after the flood, and is the same idol mentioned in the Scriptures, under the name of Baal and Baal Phegor.

"In less than two hundred years after the flood, architecture was cultivated in Chaldea, China, Egypt, and Phœnicia. Sacred edifices were among the most splendid and costly of their productions. Among the sovereigns recorded in these ancient days is Semiramis, the wife of Ninus, who finished in this age the stupendous walls of Babylon, which were reckoned among the seven wonders of the world. This illustrious princess, to whom the administration of the government was left by her husband, ascended the throne about one thousand seven hundred years before the Christian era, and is one of the earliest examples in history of a throne being filled by a female.

"Diodorus and other ancient writers relate, that among the splendid works of this princess were the statues of Jupiter Belus, Ninus herself, her son Nimas, and the chief men of her kingdom, both warriors and statesmen. She also erected a magnificent temple to Jupiter Belus, on the summit of which she erected three statues of gold, representing Jupiter, Juno, and Rhea.

"Many other similar works of grandeur and idolatry are mentioned in history as having been erected by this princess, of which the necessary limits of this work will not find room even for enumeration. But it is well known that there were several queens of Assyria of this name; and these authors may have attributed to the great Semiramis, the spouse of Ninus, the works that were probably of another age, and by another princess of the same name.

"From these ancient examples, founded on the authority of the most an-

cient historians, we find that sacred architecture flourished in a splendid manner even in these remote ages. None of these relations, magnificent and splendid as they now are, (not even the walls of Babylon, the tower of Babel, nor the extent of ancient Ninevah, which is said to have included a circuit of nearly sixty miles,) should surprise us into an unbelief of their authority from their stupendous dimensions alone; for if we reflect upon the existing pyramids of Egypt, and know that the great wall of China, also a work of high antiquity, is fifteen hundred miles in length, forty-five feet in height, and eighteen feet in thickness, with towers of corresponding proportions and reasonable distances, we need not doubt on these grounds. Here again we find architecture bearing testimony to the truth of history.

"Architecture, having been thus successfully cultivated among the Assyrians, was carried by them into Egypt and other countries which they conquered.

"'The first temples,' says Wren, 'were, in all probability, in the ruder times, only little cellæ (cells) to inclose the idol within, with no other light than a large door to discover it to the people when the priest saw proper; and when he went in alone to offer incense, the people paying adoration without doors; for all sacrifices were performed in the open air, before the front of the temple: but in the southern climates a grove was necessary, not only to shade the devout, but, from the darkness of the place, to strike some terror and recollection in their approaches; therefore, trees being always an adjunct to the cellæ, the Israelites were commanded to destroy not only the idols, but also to cut down the groves which surrounded them: but—trees decaying with time, or not equally growing, though planted at first in good order, or possibly not having room—when the temples were brought into cities, the like walks were represented with stone columns, supporting the more durable shade of a roof instead of the arbor of spreading boughs; and still in the ornaments of stone work was imitated, as well as the materials would admit, both in the capitals, friezes, and mouldings, a foliage, or sort of work composed of leaves, which remains to this age.'

"This was, in our ingenious countryman Sir Christopher Wren's opinion, the true origin of colonnades environing the temples in double and single aisles; and there is no doubt but it was equally the origin of the orders, instead of being derived from the proportions of the human body, as have been assigned to them by imaginations more fanciful than correct, and to which they bear no reasonable analogy. What resemblance is there between a Doric column and a man of Herculean proportions, an Ionic column and a matron, or a Corinthian column and a beauteous virgin? who, by the

way, is more overloaded with entablature and has more to sustain than either of the other orders.

"In looking at a Grecian Doric column, it is asked, referring at the same time to the historical origin of the order, does it more resemble a trunk of a tree cut off immediately above the root and at the beginning of the spreading of the branches, or the proportion of a man? or at the Ionic, which the Vitruvians called a decent matron with her locks parted over the forehead, does it not more resemble a slimmer trunk oramented with an abacus, and the spirals formed of the ornamented back? The Corinthian certainly more resembles, in sober practice, the foliage of a tree than the braided locks of a youthful female.

"Few nations of antiquity cultivated sacred architecture with greater devotion or with more splendour than did the ancient Egyptians, particularly in that part of their country called Thebais, or Upper Egypt. The chief pride of this country was its principal city, Thebes. The Thebais is the most southerly part of Egypt, nearest to Ethiopia, and was nearly as large as the other two parts of Egypt together, including in its boundaries all the country on both sides of the Nile down to Heptanomis.

"At the time of the Trojan war, Thebes was reckoned the most opulent and the best peopled city in the world. Among the principal edifices of the Thebais was the magnificent palace and temple of Memnon, which, according to Strabo, stood in the city of Abydus, the second city to Thebes, about seven miles and a half to the west of the Nile; that a celebrated temple of Osiris was near to it, that it was also famed for a deep well or pool of water, with winding steps all round it; that the stones used in it were of an astonishing magnitude, and the sculpture on them excellent.

"Among other principal structures which embellished this portion of Egypt was the palace of Ptolemy, at Ptolemais, a city which he decorated with many costly sacred buildings. Under the Ptolemies the style of architecture in Egypt sustained a complete revolution, and their buildings approached the style which was afterwards so beautifully refined by the Greeks, who brought it to complete perfection; yet they never reached that pure and noble style which distinguished the tasteful inhabitants of Attica.

"These works were probably executed by Greek architects, called into Egypt by the Ptolemies and their successors. This conjecture appears the better founded since a modern traveller, Granger, describes a temple which he had seen of the Corinthian order; and farther observes, in speaking of a palace which he believes made part of ancient Thebes, that the capitals of the columns were of the composite order, highly finished.

"The Thebes just alluded to was distinguished from Thebes in Bœotia

by the epithet Hecatonpylos, the hundred-gated Thebes. It was not only the most beautiful city in all Egypt, but is supposed by Diodorus and other ancient writers to have surpassed all others of its time in the known world, as well for the splendor of its buildings as for extent and the number of its inhabitants.

"Homer says that Thebes was able to furnish twenty thousand chariots of war. By this we may judge of the number of inhabitants which it contained. Tacitus relates, that when Germanicus visited its magnificent ruins, there were still to be seen, on ancient obelisks, a pompous description, in Egyptian characters, of the wealth and grandeur of the place. From the account of an elderly priest, who interpreted to him the meaning of the hieroglyphics, it appeared that Thebes at one time contained within her walls no less than seven hundred thousand men capable of bearing arms. The objects, however, which most concern the present work, are its sacred edifices. Its four principal temples were of an immense size and of a singular beauty of workmanship. The gold, ivory, precious stones, and other costly and valuable ornaments with which they were decorated, were stripped off and carried away by the Persians when Cambyses conquered and ravaged Egypt.

"At Cnuphis, a city of the Thebais, so called from the god of that name, was a magnificent temple dedicated to that idol. At Carnack, another large city near Thebes, there are still the remains of a superb temple of Jupiter, now the most perfect in that part of Egypt. The magnificent temple of Apollo, at Apollonopolis, was one hundred and seventy feet long, one hundred and eighty feet broad, and seventy feet high, as appears by the ruins which still remain. The characters of all these buildings bear a close resemblance to each other, and are standard characteristics of Egyptian architecture. The inhabitants of Tentyra, or Dandera, were great worshippers of Iris and of Venus. From the splendid ruins of this city it appears that their temples were more beautiful and splendid, and in a better style of art, than any others in Egypt.

"The resemblance between many ancient and distant nations, in their language, manners, customs, architecture, and sculpture, are very great, but, when first causes are investigated, by no means surprising. Sir William Jones, in his invaluable discourses which are the concrete of many volumes, observing on the language, manners, and antiquities of the ancient inhabitants of India, comes to the indisputable result that they had an immemorial affinity with the ancient Persians, Ethiopians, and Egyptians; the Phœnicians, Greeks, and Tuscans; the Scythians, or Goths, and Celts; the Chinese, Japanese, and Peruvians: and it will be our endeavor to show

in the course of this article, in which the architecture of these various countries are respectively discussed, that their ancient buildings all corroborate and prove this important fact in the history of mankind.

" The singular and extraordinary subterraneous temples at Elephante, Ellora, and other parts of India, are curious objects of investigation, and are alluded to in the first section of this article. Mr. Goldingham, one of the honorable the East India Company's astronomers at Fort St. George, who had applied himself with great assiduity to the study of the antiquities of Hindustan, visited the Elephanta Cave in 1795, and published an interesting and faithful account of this wonderful effort of human skill in the fourth volume of the Asiatic Researches. This gentleman argues with great ability in favour of its having been a Hindu temple; but General Carnac of Calcutta, who introduced and prefaced Mr. Goldingham's paper, and understood the antiquities of India in no common way, does not assent to this opinion. These immense excavations, cut out of the solid rock, appeared to the general to be operations of too great labor to have been executed by the hands of so feeble and effeminate a race of beings as the aborigines of India have generally been held, and still continue to this day; and that the few figures which remain entire, represent persons totally distinct in exterior from the present Hindus, being of a gigantic size, having large prominent faces, and bearing much resemblance to the Abyssinians, who inhabit the country on the west side of the Red Sea opposite to Arabia.

" There is no tradition, says the general, of these caverns having ever been frequented by the Hindus as places of worship; and at this period, he adds, on his own authority, that no *poojah*, or sacred adoration, is ever performed in any of them, and that they are scarcely ever visited by the natives. He says that he recollects particularly the Ragonath Row, a Bramin versed in the archaiology of the East, when at Bombay, did not hold them in any degree of veneration; and yet an intelligent writer in the Archaiologia (vol. vii. p. 286, &c.,) who visited the Cave of Elephanta in 1782, states that he was accompanied by a sagacious Bramin, a native of Benares, who, though he had never been in it before that time, recognized at once all the figures, was well acquainted with the parentage, education, and life of every deity or human personage there represented, and explained with fluency the meaning of the various symbols by which the images were distinguished. This is undoubtedly a clear proof that their mythology of the present day is not materially different from that delineated on the walls of these excavations; the most remarkable of which is at Elephanta, a small island in the harbor of Bombay. An elephant of black stone, large as the life, is seen near the landing place, and probably gave its name to the island. The cavern is

about three quarters of a mile from the beach; the path leading to it passes through a valley; the hills on either side are beautifully clothed, and, except when interrupted by the tuneful notes of the birds which dwell upon the island, a solemn stillness prevails, which admirably prepares the mind for contemplating the approaching scene.

"The cave is formed in a hill of stone, is about one hundred and thirty-five feet square, and nearly fifteen feet high. Its massy roof is supported by rows of columns, which are disposed with great regularity. Gigantic figures, in relief, are sculptured on the walls; which, as well as the columns, are shaped out of the solid rock by artists of some ability, and of unquestionable and astonishing perseverance.

"The excavations of Salsette, which is about ten miles north of Bombay, are other astonishing specimens of the sacred architecture of ancient India. The artist employed by Governor Boon to make drawings of them, asserted that it would require the labor of forty thousand men for forty years to excavate and carve them. They are situate near to Ambola, a village about seven English miles distant from Tanna.

"This excavation resembles that of Elephanta both in style, design, and execution; but being wrought in a softer rock, the sculptures are not so perfect as that, nor of another at Canara, which is situate about ten English leagues from Tanna on the north of the excavations at Ambola, a similar example of subterraneous sacred architecture. There are others in the country, but none equal in beauty to those just mentioned. Some of them are very lofty, and appear from apertures in the sides, as if for floors, that they have been used for dwellings, which surmise is strengthened by the entire absence of sculpture in them.

"The excavated pagoda of Indur Subha, or Sabha, is also a fine specimen of the sacred architecture of this ancient people. It is situated near Dowlatabad; in which neighborhood is also another, called the pagoda of Raraswa Rama Saba. Dowlatabad is a fortified town in the Deccan of Hindustan, fifteen miles from Aurungabad, the capital of Dowlatabad or Amednagure. They are also cut out of the natural rock; and for the space of nearly two leagues there is little else to be seen than a succession of these subterraneous pagodas, in which there are thousands of figures, appearing from the style of their sculpture to have been of ancient Hindu origin.

"The height of the excavated pagoda of Indur Subha is forty feet, its depth fifty-four feet, and its breadth forty-four. The height of the obelisk by the side of the pagoda is twenty-nine feet, including its pedestal and a group of human figures which is on the top. The obelisk is fluted and ornamented with some taste, and has a light appearance. On the other side is

the representation of an elephant, whose back just rises above the front wall, but is without rider or howda. The plans of these excavated temples are as regular as if they were built; and the piers, pilasters, or square columns, are equidistant and sculptured in a bold and original style. Compare the excavated temples of India with the constructed ones of Egypt, and their resemblance will be found most striking. Both these styles are evidently derived from excavations, and in both are found close intercolumniations, low and short architraves, and columns of short stature rudely sculptured. Nor is there any very apparent difference to show whether the construction be not an excavation, or the excavation a construction.

"Before leaving the sacred architecture of Hindustan, the beautiful and picturesque ruins of the ancient mosque of Dacca should not be omitted. This metropolis is a city of Bengal lying on the banks of the Ganges, is the third city in the province for extent and population, and has large manufactories of the finest muslins and silks. This interesting part of India was not visited by the Messrs. Daniells, nor till recently by any European artist. The striking peculiarities of this fine specimen of sacred architecture, to which my attention was first called by the beautiful engravings of the antiquities of Dacca, by Mr. Landseer, are their lightness and elegance, their square rectangular panellings, which are peculiar to these structures, their arched perforations somewhat resembling the Gothic, their lofty light octangular minarets, the beautiful play of light and shade over the elevation, and the elegantly proportioned cupola which crowns and finishes the whole, renders it a valuable study for the young architect, and equally interesting to the amateur and antiquary.

"During the early period of the chronology of this section, that is, about one thousand five hundred and eighty-two years before the Christian era, Cecrops left Egypt, to colonize ancient Greece, where some authors assert that he built twelve cities. He taught the Greeks the art of building, and founded a city, which he named after himself, Cecropia; and to put his new colony into a state of perfect security, erected a fortress on rising ground, where they afterwards built the temple; and to about the same period is attributed the founding of Troy by Scamander.

"Athens, Sparta, Cranaus, and Grecian Thebes, also owe their origin to this period. Egypt was overcome by the Æthiopians, but its indestructible edifices bade defiance to the flames.

"Tyre was built about the year 1060 before Christ, and a curious example of their sacred architecture is in the temple of Dagon, which the Bible represents to have been destroyed by Samson, who pulled it down, and destroyed himself and all the people who were assembled to worship the

idol and to make sport with their captive. The temple is described to have had two main pillars or columns on which it stood, and that Samson standing between the two pulled them down, and hurled the temple into inevitable destruction.

"The structure of such a building has puzzled many a commentator and critic, but Sir Christopher Wren, whose learning and reading were equal to his skill in architecture and mathematics, has given so clear an elucidation as to render its mode of construction perfectly intelligible. In considering what this fabric must be, that could at one pull be demolished, he conceived it to be an oval amphitheatre, the scene in the middle, where a vast roof of cedar beams resting round upon the walls, centered all upon one short architrave, that united two cedar pillars in the middle; one pillar would not be sufficient to unite the ends of at least one hundred beams that tended to the centre; therefore he says there must be a short architrave resting upon two pillars, upon which all the beams tending to the centre of the amphitheatre might be supported. Now if Samson, by his miraculous strength pressing upon one of these pillars, moved it from its basis, the whole roof must of necessity fall.

"Before leaving this portion of the work a few lines must be devoted to the mausoleum or temple of Teshoo Lama at Thibit and the temple or pagoda of Shoomadoo at Pegu, both sacred buildings of high antiquity.

"The mausoleum requires no particular description: its characteristics are the most ancient and simplest Chinese, its proportions in good taste, and its mode of execution excellent.

"The other, which is a large and splendid conical structure, is the great temple or pagoda, called Shoomadoo Praw, situated between India and China, but partaking more of the style of the latter people than of the Hindus. Its pyramidal shape is graceful, its apex approaches even to the elegant, and, except a tendency to the florid style, its accessories are rich and beautiful.

"This singular building is called the temple of Shoomadoo, or the Golden Supreme; compounded of the Birman word *shoo*, golden, and *madoo*, a corruption of the Hindu word, *maha deo*. Its addition Praw signifies in the Birman language Lord, and is always annexed to the name of every sacred edifice. As a farther proof of this hypothesis of the Indian derivation from Egypt may be added, that *phra* is the proper name under which the Egyptians first adored the sun, before it received the allegorical appellation of Osiris, or author of time.

"This extraordinary sacred edifice, according to Col. Symes, who delineated and described it a few years since, is bulit upon a double terrace,

one raised above the other. The lower and greater terrace is quadrangular, and raised about ten feet above the natural level of the ground. The upper terrace is smaller, of a like shape, and raised about twenty feet above the lower.

"The length of one side of the lower terrace is about one thousand three hundred and ninety feet, and of the upper six hundred and eighty-four. These terraces are ascended by flights of stone steps, and on each side are dwellings of the Rahans, or priests. The temple itself is an octangular pyramid, built of brick and fine shell-mortar, without any excavation or cavity of any sort. Each side of the octagon, at the base, measures one hundred and sixty-two feet. This immense breadth diminishes abruptly to a spiral top, and may not be inaptly compared in shape to a speaking trumpet.

"In defining the styles which prevailed at this period of history, we should consider that the orders are not only Greek and Roman, but Phœnician, Hebrew, Egyptian, and Assyrian; therefore are founded upon the experience of all ages, promoted by the vast treasures of all the great monarchs, and skill of the greatest artists and geomometricians, every one emulating each other: experiments in this kind being very expensive and errors incorrigible, is the reason that the principles of architecture should be founded more on the study of antiquity than a dependence on fancy. Beauty, firmness, and convenience, are the principles; the first two depend upon geometrical reasons of optics and statics, the third only makes variety.

"Wren well observes, that there are natural causes of beauty. Beauty is a harmony of objects begetting pleasure by the eye. There are two causes of beauty, natural and customary. Natural beauty arises 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.

"'Geometrical figures,' he continues, 'are naturally more beautiful than other irregulars; in this all consent as to a law of nature. Of geometrical figures, the square and the circle are most beautiful; next the parallelogram and the oval. Straight lines are more beautiful than curved; next to straight lines equal and geometrical flexures; an object elevated in the middle is more beautiful than if depressed.' (See Parentalia, p. 352, and Elme's Life of Wren.)

"The Egyptian, Hindu, Chinese, and other styles, having no immediate relation to the present section, the next step will be to the wisdom of the orders as practised by the Greeks. The Greek style of architecture is divided into three modes or orders; namely, the *Doric*, the *Ionic*, and the *Corinthian;* named from the countries which gave them birth, or are said to have been the first to use them. The sacred edifices of the Greeks are the most ancient as well as the most beautiful of all the buildings of that tasteful people that have reached our times. The great superiority of the Greeks in architecture, is to be traced to causes similar to those which occasioned their pre-eminence in every thing else; namely, *a deep investigation into first principles, and an accurate perception of the elements of all that they attempted to execute.*

"A similar investigation, and a similar perception or knowledge, and nothing else, will produce the like effects in our country and in our times. In Greece, no painter proceeded without acquiring a knowledge of anatomy and drawing. Their sculptors carved their own marble, and their architects understood design, construction, perspective, and composition, and had a clear preconception of effect.

"It has been said that the Greeks did not understand anatomy, and did not dissect; that we are uncertain as to their knowledge of geometry, because Euclid, the earliest author in that science with whom we are at present acquainted, lived considerably after the construction of their best edifices; and that our certainty as to their knowledge of perspective is still less. It has also been asserted in corroboration that the Greeks had laws prohibiting dissection; therefore they did not dissect. 'The exception,' says the great Lord Coke, 'proves the rule,' therefore even did not those sculptural wonders which now grace our national museum, and the anatomical details which are so abundant in the poems of Homer, prove the depth of their anatomical knowledge, this very exception proves that they did dissect, and that it was necessary to enact laws against the practice. Among the most remarkable proofs of the deep knowledge of the Greeks in anatomy, the Theseus and the Ilyssus of the Elgin collection, exhibit the perfection of art, and show the most scientific research into anatomy and the natural history of man.

"The divisions and subdivisions of the orders will come more appropriately in another section: therefore we proceed to the history of sacred architecture among the Greeks.

"The religion and laws of the Greeks are acknowledged to have been derived from the creeds and institutions of Egypt, and their styles of architecture, in spite of the hypotheses and splendid fables of Vitruvius, were no less

adopted and improved from the same source. Herodotus assures us that the worship of the greatest part of the first gods that were adored in Greece, came from Egypt, and that all antiquity regarded the Egyptians as the first who paid a solemn and public worship to the Deity, and therefore were the first inventors of sacred architecture. In this derivation he excepts only Neptune, and says farther, that the worship of this deity was derived from Libya. Saturn, Jupiter, Ceres, &c. were the first gods of Greece; hence it is probable that the Titans introduced these deities, and consequently, that those princes came from Egypt: for the worship of Saturn, Jupiter, and Ceres was established, according to Diodorus, from time immemorial. The Titans also taught the Greeks the first elements of the arts and sciences, and their earliest sacred edifices were first borrowed from them.

" Cadmus, who lived about 1500 years before the Christian era, and was the grandson of Agenor, king of Tyre, brought the arts and sciences into Greece, five hundred and sixty-two years after the building of the walls of Babylon. In the part of Greece where he settled, he built a city, which he named after the celebrated Thebes in Egypt, and doubtlessly imitated the Egyptian style of architecture in his earliest structures. In corroboration of this, Pliny expressly states that Dædalus, the architect of the Grecian labyrinth, imitated that of Egypt in every respect. This same Thebes afterwards became so celebrated, that Germanicus made a journey purposely to survey its magnificent ruins.

" Ogyges, Inachus the first king of Argos, Cecrops, Cadmus, Lelex, and Danaus, founded successively the kingdoms of Athens, Argos, Sparta, and Thebes; but it was in the colonies of Asia Minor that sacred architecture began to exhibit its greatest splendor. The invention of the first two Grecian orders is attributed solely to the inhabitants of these countries, as their names *Doric* and *Ionic* evidently import. The *Corinthian* did not appear in its full perfection till long after these two orders.

" It seems to have been invented in Greece, properly so called, and is the richest, the most magnificent, and the most elegant of all the Grecian orders, and perhaps of any that architecture has ever invented.

" The first materials used by the Greeks in their sacred buildings was timber; next brick, which they learned the art of making from the Egyptians. Stone next succeeded, as in the temple of Apollo at Delphon, built by Amphyction; and afterwards, when they had accomplished the complete glories of their style, they immortalized it in marble.

" The character of the genuine architecture of the Greeks, in their brightest days, the days of Pericles, Alexander, Plato, Aristotle, Apelles, Phidias, Sophocles, and Euripides, is that of an imposing grandeur united to pleasing

simplicity, elegance of ornament, and harmony of proportion in an eminent degree, together with a certain relation or coincidence of parts, as necessary in works of art as in those of literature.

"Sacred architecture was carried to the highest perfection by the Greeks. Indeed, the greater part of their fine and pure style which has reached our times may be arranged under this class or department of civil architecture.

"Besides the beautiful simplicity and elegance of style which distinguished the Greeks above all other nations, their able and sufficient style of construction is worthy of study for its simplicity and for effecting its purposes by legitimate means, although they did not aim at the arch, or vault, by which their successors, the Romans, so signalized themselves. And as their works surpassed all others, so did the beauty and excellence of their materials.

"In the time of Pericles the Athenians used Pentelican marble, and a species from Mount Hymettus, in their buildings. The sort called Parian was the most admired, but it was almost exclusively appropriated to sculpture. Bronze was also occasionally used for building in some of their early structures; and Pausanius mentions several buildings of this costly material, particularly a small temple of Minerva, called on this account Chalcœcus, which was standing in his days at Lacedæmon. Stones of an almost incredible size, after the manner of the Egyptians, were also amongst their earliest modes of construction, whence originated the tradition that they were the works of the Cyclops. In later periods they used stones of a smaller size, of irregular polygon figures of four, five, and six sides, joined with the utmost care and nicety.

"The walls of the ancient city of Pæstum, are thus built of huge polyhædric masses. Chandeler, the Grecian traveller, discovered walls of this method of construction near to Troëzene, Epidaurus, and Ephesus; and Dr. Pococke also in the island of Mytelene.

"As architecture and mechanical skill advanced, they used cubical and oblong stones, with which they constructed their walls after two methods: one called Isodomon, which, as the word implies, was with courses of equal thicknesses and of equal lengths; and the other Pseudisodomon, where the heights, or thicknesses, and lengths of the courses differed. The first, or true manner, was always used in their grandest buildings, as being the most beautiful; and the latter, or false method, where beauty of appearance was of less consequence.

"Another and still inferior mode was also used by them for works of less consequence, and was called Emplecton. The front stones only, in this manner of construction, were wrought; and the interior was left rough, and filled in with stones of various sizes or with rubble. It was principally used

in walls of great thicknesses, such as those wherewith they surrounded their cities. In some instances they built their walls of brick or common stone, and faced them with marble. Cement was seldom used by the Greeks in their best works; as the size and ponderosity of the blocks, and the great exactness with which they were squared, were sufficient for solidity, and made more perfect and complete joints.

"The ancient Greek architects, were, moreover, very careful that every ornament or decoration which they used should always accord in character and situation with the order and the building to which they applied it; and both the order and the ornament were characteristic of the destination of the edifice: never building a prison of the Corinthian order, nor a theatre of the Doric. The external ornaments were bold, simple, and distributed with a judiciously sparing hand. The pediment of the temple and the metopes of the frieze, as in the temples of Minerva, and of Theseus at Athens, and of Jupiter Panhellenius at Egina, were decorated with bassi relievi, and the angles of the walls with pilasters or antæ. The porticoes which surrounded their public squares in which they often exhibited pictures, statues, and other works of art, appear to have been more elaborately decorated than their temples, their theatres of declamation, and gymnasia; and, with regard to interior ornaments, little can be known, from the general destruction of those parts.

"The Greek style of architecture may be classed under *five* different epochs, according to the historical periods which gave rise to *five* corresponding styles or modes. The *first* embraces the works of Trophonius, who built the temple at Delphos, and those of Agamedes, and Dædalus.

"This early period of Grecian history, which may be termed the heroic age, does not furnish any remains of architecture of positive certainty. Yet those lights which are wanting from the deficiency of existing ancient ruins, are supplied in some degree by ancient writers, who, however, are not sufficiently explicit or circumstantial in those details which alone could give us the information we require.

"Homer, for instance, in speaking of the palace of Priam, says that it had at the entrance fifty apartments, well built, in which the princes, his sons, lodged with their wives, and that it was surrounded by porticoes, wrought with the greatest care. At the bottom of the court there were twelve other apartments for the sons-in-law of that monarch, and a magnificent dwelling for Paris, who is reported to have been a skilful architect. These all tend to prove that the architecture was cultivated as an art in Asia Minor, although it affords us no information as to style or taste.

"The *second* epoch includes from the time of Rhæcus of Samos, and Theodorus, who lived about seven hundred years before the Christian era,

down to the time of Pericles; in which period flourished Ctesiphon, Metagenes, Andronicus, Eupolemus, Callimachus, Libon, and other eminent and celebrated architects.

"The *third* epoch is the period from Pericles to that of Alexander the Great; under the former, architecture reached the summit of its perfection—a perfection of which Sir William Jones, with his accustomed truth and perspicuity, says, 'in those elegant arts, which are called fine and liberal, it is really wonderful how much a single nation, has excelled the whole world: I mean the ancient Greeks, whose sculpture, of which we have excellent remains both on gems and in marble, no modern tool can equal; whose architecture we can only imitate at a servile distance, but are unable to make one addition to it without destroying its graceful simplicity; whose poetry still delights us in youth, and amuses us at a maturer age; and of whose painting and music we have the concurrent relations of so many grave authors, that it would be strange incredulity to doubt their excellence.' In this brilliant period flourished Hippodamus of Miletus, Phidias, Ictinus, and Callicrates, who were conjointly employed in the building of the great temple of Minerva at Athens called the Parthenon.

"The *fourth* great epoch is that which extends from the decease of Alexander the Great to that of Augustus. Alexandria, under the dominion of the Grecian monarchs, was the principal school of the great architects of this period, among whom Dinocrates—whose proposal of forming Mount Athos into a statue of Alexander the Great, and subsequent founding of Alexandria, is celebrated by Vitruvius—and Sostrates were the most eminent.

"'I cannot conceive,' says Spence, in his entertaining anecdotes of the great men of his time, 'how Dinocrates could ever have carried his proposal of forming Mount Athos into a statue of Alexander the Great into execution. 'For my part,' replied Pope, 'I have long since had an idea how that might be done; and if any body would make me a present of a Welsh mountain, and pay the workmen, I would undertake to see it executed. I have quite formed it,' he continued, 'in my imagination. The figure must be in a reclining posture, because of the hollowing that would otherwise be necessary, and for the city's being in one hand. It should be a rude unequal hill, and might be helped with groves of trees for the eye-brows, and a wood for the hair. The natural green turf should be left wherever it would be necessary to represent the ground he reclines on. It should be so contrived that the true point of view should be at a considerable distance. When you were near it, it should still have the appearance of a rough mountain; but, at the proper distance, such a rising should be the legs, and such another an arm. It would be best if a river, or rather a lake, were at the bottom of it, for a rivu-

let that came through his other hand to tumble down the hill and discharge itself into it.'

"It is somewhat singular that Mr. Pope should have thought this mad project practicable; but it appears that there are still persons who dream of such extravagant and fruitless undertakings. Some modern Dinocrates had suggested to Buonaparte to have cut from the mountain called the Simplon an immense colossal figure, as a sort of genius of the Alps. This was to have been of such an enormous size that all the passengers should have passed between its legs in a zigzag direction.

"During this fourth epoch are found the names of Saurus and Batrachus, who executed several works in Rome; not being allowed to inscribe on them their names, used the expedient of carving a lizard and a frog upon the pedestals, as anagrams of their names, σαυρος signifying in Greek a lizard and βατραχος a frog.

"The *fifth* and last great epoch of Grecian architecture comprehends from the time of Augustus, in whose days Vitruvius is supposed to have flourished, until the removal of the seat of empire to Constantinople.

"The pure architecture of Greece is superior to all that preceded it, and all that has been designed and executed since. Its architects and sculptors never violated the inherent properties of any object for an artificial effect; while those of Rome perpetually committed such violations, deteriorating all that they laid their hands upon. The irregular and fantastic variety of their orders proves the truth of this accusation, and powerfully opposes itself to the beautiful simplicity of the Greeks. The Romans executed works containing gross infringements of the sounder laws of architectural taste, which have, however, obtained a general and lasting reputation.

"Such is the Colosseum, such is the theatre of Marcellus, such are their amphitheatres, such is the Pantheon; structures that excite wonder, and seize upon our admiration, certainly not for the faults with which they abound, but in spite of them.

"The architecture of the Romans undoubtedly possesses splendor, vastness of conception, a noble carelessness of expense, and a profuse redundancy of decoration in all their public buildings; which, as Quintilian observes, is more easily cured than barrenness: and if they are to be praised for their great knowledge of scientific construction, and bold command of the arch, the vault, and the cupola, they most amply deserve it; but certainly they were never eminent for that purity of taste, elegance, and simplicity of invention and construction, which characterize the Greeks above all others. Hence are to be found so many more models of a fine style

among the Greeks than among the Romans. Give me simplicity and good design, and keep your ornaments for children

"The Romans are indebted for all the excellencies of their style of architecture to the Greeks, and its deficiencies and redundancies are all their own. Their earliest architects were all Greeks, and it was not till late in their history that they made any figure in the arts of design. Thus all the Roman architects, with Vitruvius at their head, follow the plans that were laid down for them by the great master-spirits of Greece. They every where imitate the Greeks, and every where misrepresent them, as may be seen in comparing the Doric of the temple of Minerva Parthenon with that of the theatre of Marcellus, the very best of the Roman specimens, and the Ionic capitals selected from Greek and Roman specimens. Compare them together, and they will be found comments upon each other; the one showing the commanding excellence of purity of style, the other the glitter and frivolity of false decoration.

"That which Cicero says so truly of the qualities requisite to a fine oration may as correctly be applied to the qualities necessary to a fine piece of architecture: 'Let ornament,' he says, 'be manly and chaste, without effeminate gaiety or artificial coloring; let it shine with the glow of health and strength.'

"Had the taste of Vitruvius been as refined and as unsophisticated as that of Cicero, the Roman purity in architecture would have been upon an equality with that of their fine and majestic language. But on the contrary we find very many of their buildings frivolously and effeminately rich in ornament, and miserably deficient in invention and good taste. For with fillets upon fillets,—with bands over beads, and beads over bands, cavettos and cimas both right and reversed,—with ornamented plain faces (excuse the bull) carvings dentals and denticals, drop flowers and festoons, and other tawdry misplaced and misapplied ornaments,—they disfigured their spoliations from the Greeks. As examples, look at any Roman specimens, particularly that of the temple of Concord at Rome, and compare it with any of its lovely originals from Greece. Of these expensive barbarisms may be truly said, that they are

> 'Of such a frightful mien,
> As to be hated need but to be seen.'—POPE.

Yet such things find their admirers even in our days, and we need not travel out of the metropolis to witness them. Little however, was it to have been expected, after the many introductions to this country of the pure forms and fine proportions of Greece, by Stuart, Wilkins, Cockerell, and other eminent architectural travellers, that Batty, Langley, and Barromini, would

in our days have driven the Athenian antiquities from our shelves, and the purity of Grecian art from our streets, and substituted imitations of the altogether inferior productions of Rome and modern Italy.

" To the sacred architecture of Greece, as exhibited in their various temples, we are indebted for the purest and best canons of architecture that the world has ever seen.

" The elements of this pure style are three classes or modes called orders, while those of the Roman style, its despoiling imitator, are five.

" Nature dictates but three essential modes of building, which are clearly and distinctly visible in every style of their art; namely, the *robust*, the *chaste*, and the *elegant*. Those three essentials in the art the Greeks have embodied in their Doric, their Ionic, and their Corinthian. But the Romans, restless after innovation, sighing for more worlds of art to conquer, and pining after more than all, would have one *more* robust than the robust, and one *more* elegant than the elegant. Hence their Tuscan, which is but, as a musician would say, a variation upon the theme of the Doric; and the Composite, which is any thing but an improvement upon the Corinthian.

" Architecture, that is to say, classical architecture, is generally divided into certain modes or systems called orders, which are named from the country whence they are supposed to have been derived or invented; as the Tuscan from Tuscany, the Doric from Doria, the Ionic from Ionia, the Corinthian from Corinth, and the Composite or Roman from Rome. Now, although the preceding orders form five in number, yet three only are to be received as such, in the pure or Grecian style of architecture. The Tuscan, as I have already said, and will hereafter prove when I arrive at the Roman system, is merely a variation of the Doric; and the Composite a corruption of the Corinthian, and too much like it, both in essence and in character, to be distinguished by an untutored eye, or to be acknowledged a distinct genus or order by the critic.

" Thomson, who may be called the poet of the fine arts, and whose taste was formed by a long residence at the seats of ancient arts, with the son of the Lord Chancellor Talbot, beautifully and characteristically depicts the three orders in his ' Liberty.' In the second part of that poem he personifies public virtue in Greece as a goddess, and the sister arts of painting, sculpture, and architecture, as

> ' The Graces they
> To dress this sacred Venus.'

And farther on he states that architecture was

> ' By Greece refined,
> And smiling high to bright perfection brought;

Such thy sure rules, that Goths of every age,
Who scorned their aid, have only loaded earth
With labored heavy monuments of shame,
Not these gay domes that o'er thy splendid shore
Shot, all proportion, up.

First, unadorned
And nobly plain, the manly Doric rose;
Th' Ionic then, with decent matron grace,
Her airy pillar heaved; luxuriant last,
The rich Corinthian spread her wanton wreath.
The whole so measured true, so lessened off
By fine proportion, that the marble pile,
Formed to repel the still or stormy waste
Of rolling ages, light as fabrics looked
That from the magic wand acrial rise.
These were the wonders that illumined Greece
From end to end.'

"These orders undoubtedly derived their origin from the chance-built huts and cabins of the first inhabitants of the world, and which as doubtlessly contained in themselves the constituent elements of architecture, till drawn forth by the hand and eye of taste, as the marble block contained the statue whence Canova drew forth his shining Hebe ever young. As we cannot derive our knowledge of the origin of these elements of style from a better source than from Vitruvius, he must be our guide through this obscure path. In my description of the orders I must confine myself briefly and generally to the three classical orders of antiquity.

"Vitruvius our best authority, indifferent as he is for historical truth, informs us that when Dorus, the son of Helenus and the nymph Optice, reigned over Achaia and all Peloponnesus, he built in the ancient city of Argos a temple to Juno, which was formed by chance of the order since called Doric. Afterwards the Athenians, according to the responses of the Delphian Apollo, by the common consent of all Greece, sent out thirteen colonies at one time into Asia, and appointed a leader to each colony, they gave the command to Ion the son of Xanthus and Creusa, whom Apollo of Delphos also acknowledged to be his son. These colonies were led into Asia by Ion, who seized upon the country of Caira, where he built the large cities of Ephesus, Miletus, Myunta, Priene, Samos, Teos, &c.

"These states were called from their leader Ionia; and here they began to erect and dedicate temples to their deities: and first they built one to Apollo Panionios in this manner in Achaia, and which they named *Doric*, because they had first observed it in the Dorian states. In this temple they intended to use columns, but not knowing their symmetries, and while considering

how they should proportion them so that they might support the weight, and at the same time have a graceful appearance, they measured the length of the human foot, which as they found to be nearly the sixth part of the height of a man, they used this proportion for their columns, making the thickness of the shaft at the bottom one-sixth part of the height including the capital. Thus the Doric column, having the proportions of the human body, began to be used in building with solidity and beauty.

"Afterwards being desirous of building a temple to Diana, they invented a new order on similar principles, using the proportions of a female. They made the bottom diameter the eighth part of its height; and that it might appear the more graceful, they added mouldings round its base to represent the shoe, and volutes to the capitals to imitate the twisted braids of hair falling on each side, and the cymatium and encarpæ, the locks of hair braided and arranged on each side over the forehead. They also fluted the shaft from bottom to top like the folds in the garments. Thus were the two species or orders of columns invented; one representing the strength and simplicity of man, the other the elegance and fine proportions of woman. This latter order was called *Ionic*, says Vitruvius, because it was invented by the Ionians. But subsequent architects, who wished for lighter proportions, have often made the heights of the Doric column seven diameters, and that of the Ionic eight and a half, destroying the character and beauty of each.

"The third Grecian order, which is called the *Corinthian*, is imitative of the delicacy of shape and slenderness of proportion of a young virgin. 'For the limbs,' says Vitruvius, 'at that early age, are formed more slightly, and admit of more graceful decoration.' The invention of its capital is thus related by Vitruvius:

"A Corinthian virgin just marriageable, being attacked by a fatal disorder, died. After her interment, her nurse collected some vases and toys, which pleased her when living, put them in a basket, and placed it on the top of her tomb, covering it, that it might endure the longer in the open air, with a tile. The basket being placed on a root of acanthus, depressed it in the middle, occasioning the leaves and stalks which grew up in the spring to encircle and twine round the basket; but being resisted by the angles of the tile, they convolved at the extremities in the form of volutes. This was seen by Callimachus, called on account of his taste and skill in sculpture Catatechnos, who, delighted with the novelty of its figure and its delicate and appropriate form, encircled by the beautiful foliage, formed from its model a new capital to some columns he had sculptured for Corinth, thus composing this most elegant and beautiful of the orders.

"The above hypothesis is nothing but a splendid fable: notwithstanding Mr. Wilkins says, that of all the opinions entertained by Vitruvius on the origin of the orders of architecture, that relating to the invention of the Corinthian capital *seems* alone entitled to any attention; both because the reputed age of Callimachus, its supposed inventor, approaches within certain limits to the first recorded instances of the introduction of the order into Greece; and *because* the recital is less open to the charge of absurdity and fiction. Notwithstanding this, the account just quoted of the origin of the Doric and the Ionic is not only less open to the charge of absurdity and fiction, but may be considered as nearly historically true; while the Vitruvian hypothesis of the vase of toys, the projecting tile, and the accommodating acanthus, appears more worthy the reveries of a poet, and a fine poetical episode it certainly is, than of the historian of such an art as architecture.

"The Corinthian order is clearly derived from the architecture of Egypt adapted, refined, and naturalized. First, Cecrops, the founder of Athens, was an Egyptian; next Dædalus, the earliest Athenian artist, visited Egypt to investigate and study the principles of the fine arts. Added to these facts, it is also well known that the Greeks borrowed their laws, their manners, and their customs from the Egyptians, purifying them in the alembics of their own brighter genius.

"A colony at first always imitates its mother country; and afterwards as surely does all in its power to render its origin forgotten. When we refer to examples of both styles, surely the Egyptian origin of the Corinthian capital cannot be denied. Their elements are incontestably the same, namely, a vase surrounded by flowers and covered with an abacus. The story of the Corinthian girl was probably invented by a Grecian poet, and related as authentic by Vitruvius.

"Mons. Quatremère de Quincy, secretary to the French academy of arts, corroborates this opinion, and supposes even the Ionic capital also to have been borrowed from Egypt. He metamorphoses the ears of the head of Isis, in an Egyptian capital, into the Ionic volutes; the braids of hair on the forehead into the helices, or threads of the capital; the throat into the alarino, or necking; and so on.

"Following this ingenious hypothesis, the Doric may also be said to have been drawn from the rude types or prefigurations of the Egyptians, which contain all the primitive elements of the beautiful examples of the Greeks. Belzoni farther corroborates it by saying, that the Isis of the Egyptians is the same personage with the Io of the Greeks; therefore capitals designed after the head of this goddess are Isislike, Iolike, or Ionic.

"Referring to any of the ancient Grecian temples, it will be seen that the

metopes, or spaces between the trylyphs in the entablature, are filled, and sometimes with sculpture, as in the Parthenon, which were occupied by those wonderful efforts of the chisel, now in the British Museum, representing battles of the Centaurs and Lapithæ. These metopes in the earliest Greek buildings were open, and the trylyphs justly represented the ends of the beams of which they are the types; as the following quotations from the Iphigenia in Tauris proves. Pylades is counselling Orestes to scale the Doric temple of Diana, and says to his friend,

'But when the eye
Of night comes darkening on, then must we dare,
And take the polished image from the shrine,
Attempting all things; and the *vacant space*
Between the trylyphs, mark it well, enough
Is open to admit us; by that way
Attempt we to descend.'

Iph. in Tau. Potter's Vers.

"The first general division of architecture being its orders, the next division in sacred architecture is the several orders of temples or sacred edifices. The orders of sacred buildings or temples of the Greeks are seven: first, the Antis; second, the Prostyle; third, the Amphiprostyle; fourth, the Periptoral; fifth, the Dipteral; sixth, Pseudo Dipteral; and seventh, the Hypæthral.

"The first order of sacred buildings, called antis, is that wherein the ends of the flank walls finish in pilasters or antæ. Of this order is Inigo Jones's fine Tuscan portico of St. Paul's Church, Covent Garden.

"The second or prostyle differs from the antes by having columns in front of the pilasters or antæ; both these orders of temples have only a portico at one end.

"The third or amphiprostyle order of temples is nearly the same as prostyle; but, as its name imports, has a posticum or portico at the rear the same as the principal front.

"The fourth order, the periptoral, has also porticoes at both ends of six columns each, and eleven, counting the angle columns at each side. It has, as its name imports, columns all round about the cell, as in the temple of Theseus, which by the way has two columns in flank more than the rules of Vitruvius prescribe.

"The fifth or dipteral order, which Vitruvius places after the pseudo dipteral, is octastyle, or eight columned, like the portico of the Parthenon, but has a double row of columns all round the cell.

"In the sixth, that is, the pseudo dipteral, or false dipteral, the porticoes are octastyle, or eight columned, in front, and on each side fifteen columns,

including those of the angles. The Parthenon is of this order of sacred buildings, but has seventeen columns on the sides; for the ancient architects of Greece did not servilely follow every dogmatical rule of the critics, yet in their variations they never lost the true spirit of the original.

"The hypæthral is the seventh order of sacred buildings, and is decastyle, or ten columned, both in front and rear; the other parts are distributed the same as in the dipteral, but it has a double row of columns in its interior, one higher than the other, continued on all sides, and resembling an interior portico. The middle part has no roof. A fine specimen of this order of temples is to be found in that of Jupiter Olympus at Athens, and in one of the three at Pæstum. In Rome there is not a single example of the hypæthral order.

"Before leaving the pure sacred architecture of Greece, a short space must be devoted to that of its colonies and other distant parts.

"The ancient temple at Corinth is an architectural structure of unknown antiquity; it is of the Doric order, and the proportion of its columns, from actual measurement, is shown in Aikin's Essay on the Doric Order. Its character is simple, pure, and bold, inferior to the three principal examples found at Athens, but still partaking of the purest characteristics of the order.

"Among other curious and interesting ruins are the three ancient temples of Pæstum. One of them differs from every other temple in the world, having nine columns in the front, with a central range down the middle of the cell, the use of which appears to have been to support the roof.

"The central or hypæthral temple is generally supposed to have been dedicated to Neptune, the tutelar divinity of Pæstum or Possidonia. Mr. Wilkins thinks it to have been a temple of Jupiter, from its being of the hypæthral order, which is a class of building generally confined to the temples of Jupiter. Its columns possess, in common with all its other parts, the Greek character in the highest degree; and there is no doubt of its being coeval with the earliest migration of the Greeks to the south of Italy. These examples, with that of Corinth, possess the characteristic energy of the early style of the Greeks, which may be distinguished from their later and more finished style by the following definitions; namely, a shaft diminishing rapidly and of low stature, a large and massy capital with a very bold projection of the abacus, a necking composed of three grooves, and an extremely massive entablature of nearly one-half the height of the column.

"The author of the Pleasures of Memory, in some lines of characteristic energy, written at Pæstum, in March, 1815, says of these temples:

" ' They stand between the mountains and the sea,
Awful memorials! but of whom we know not.

Time was they stood along the crowded street,
Temples of gods! and, on their ample steps,
What various habits, various tongues beset
The brazen gates for prayer and sacrifice!
Time was, perhaps, the third was set for justice,
And here the accuser stood, and there the accused;
And here the judges sat, and heard and judged;
All silent now! as in the ages past,
Trodden under foot, and mingled dust with dust.'

They are indeed silent yet speaking memorials of time and eternity. Of Pæstum and its twice-blowing roses, what lover of poetry has not heard of those lovely flowers which

" ' Now a Virgil now an Ovid sang,
Pæstum's twice-blowing roses?'

" The next division of this section is the analysis of the Etruscan school of architecture, which is, however, so lost in the lapse of ages, that it leaves but little room for architectural research.

" The Etruscans are generally reported to have been equally distinguished in architecture as in the other arts of design. The Romans employed Etruscan architects in the building of the capitol, the temple of Jupiter, and many other large and splendid edifices. The walls of Etruscan cities were lofty and constructed of huge polyhædric masses of masonry; remains of which have been discovered at Volaterra, Cortona, Fæsula, and other parts of ancient Etruria.

" The earliest temples of Etruria were small in size, being, in many instances, not able to contain more than a statue of the divinity to whom it was dedicated, and sometimes an altar.

" The sacred architecture of the ancient Romans, under their kings, is undoubtedly derived from the Etruscans. This people, a colony from Greece, were antecedent to all the rest of the Italian peninsula in cultivating the arts, which they had practised even before the reputed time of Cadmus.

" The natural tendency of the ancient Romans was to the grand and wonderful, the colossal, the showy, and even the prodigality of expense; hence their amphitheatres, their circuses, their temples. Of all the antique temples now remaining in Rome, the Pantheon is at once the most celebrated and the most beautiful; and may be considered the master-piece of Roman architecture, whether we estimate it as when entire, or, as at present, stripped of all its statues and other ornaments. It is supposed to have been built by

Marcus Agrippa, son-in-law of Octavius Augustus, in his third consulship, before the Christian era, and was dedicated to Mars and Jupiter the Avenger, in memory of the victory obtained by Augustus over Mare Anthony and Cleopatra; but it is more probable, as Palladio thinks, that the body of the temple was built in the time of the Republic, and that Agrippa added the portico, and perhaps some other decorations, as the double pediments seem to prove. It was repaired by Septimius Severus and Caracalla. The interior was decorated with bronze ornaments in the panelling of the cupola, and contained, in niches, statues of all the gods. The interior is no less fine and striking than the outside; and from its circular form is called by the Italians Rotondo; as from its containing statues of all the gods, it was named by the ancients Pantheon, from παν and θεος. The diameter, exclusive of the large niches is one hundred and thirty-two feet, being nearly thirty feet more than the cupola of St. Paul's, and the height from the pavement to the summit the same as the diameter; the thickness of the walls is nineteen feet, which is relieved by the beautiful Corinthian niches now used as chapels and altars.

"Among other specimens of the sacred architecture of the Romans is the temple of Concord, whose ugly capital has been before discussed, the temple of Janus and of Romulus, of the Sun and Moon, of Fortuna Virilis, Vesta, Minerva Medica, Neptune, Antoninus and Faustina, Jupiter Stator,—whose beautiful entablature is so well copied in the portico of Carlton House,—and the temple of Peace. The three magnificent arches now standing of this latter edifice have been finely adopted by Sir Christopher Wren in the choir of St. Paul's Cathedral.

"The declension of style from the days of Roman splendour may be witnessed in the modern Italian churches, particularly in the churches of St. John the Lateran, and St. Paul without the walls; the most of their buildings were executed from the ruins of the antique temples which they barbarously despoiled for this purpose; and when they had no longer skill to place the connecting architrave, they substituted ugly and uncharacteristic arches, as may be seen in the fine plates of it by Piranesi.

"The fine, original, and striking style of sacred architecture, called Gothic, is of too much importance for a portion of so small a share of a brief work like the present; but a short view will serve better than a total omission.

"The earliest British style is called Saxon; and its elements are heavy round columns and semicircular arches, bad resemblances of the worst Tuscan covered with the round arch of the middle ages.

"As a proof that the decline of the Roman style produced the Saxon, which was called by the monks Opus Romanum, we have only to conceive a country mason, ignorant of art, but skilful with his chisel, to have observed a

Composite capital of the depraved style of those of the temple of Bacchus on the Mount Viminalis at Rome, or the Ionic capitals of the temple of Concord, or even a respectable Corinthian, and to be desired, at some considerable interval of time, to carve some capitals as nearly resembling them as possible from memory. Imagine this, and it may be asked whether it be not more than probable that they would resemble the Saxon capitals of St. Bartholomew the Great in Smithfield, or those of the crypt of Lastingham Priory. Hence we may fairly conclude that the origin of the Saxon style may be traced to the decadence of the Roman; and that the introduction of the Saracenic, Arabesque, and Grotesque styles; aided by the practical and scientific improvement of the workmen, and by the knowledge of the society of travelling architects, the early freemasons, produced that singularly romantic and beautiful style called the Gothic.

"'A Doric temple differs from a Gothic cathedral, says Mr. Hazlitt, 'as Sophocles does from Shakspeare. The principle of the one is simplicity and harmony, that of the other richness and power. The one relies on form and proportion, the other on quantity, and variety, and prominence of parts. The one owes its charm to a certain union and regularity of feeling, the other adds to it effects from complexity and the combination of the greatest extremes. The classical appeals to sense and habit, the Gothic or romantic strikes, from novelty, strangeness, and contrast. Both are founded in essential and indestructible principles of human nature.

"The style now before us has been sweepingly designated, as being any thing that is not Grecian; but whether this affected antithesis proceed from humor or contempt is not certain.

"Our illustrious countryman, Wren, whose mechanical and mathematical skill elevates him above all modern architects, called this fine style a gross concameration of heavy, melancholy, and monkish piles. Now, it certainly is the very reverse of this definition, and is not quite so much opposed to Grecian art as was thought by the professor before quoted; but on the contrary, is a style of architecture pure, grand, impressive, and characteristic. The elements of it are spires, pinnacles, lofty pointed or lancet-shaped windows, and *elevation* as opposed to the *horizontal* line of the Greeks. Its character somewhat resembles that of the old German school of painting; and a fine Gothic building, with its elaborate and carefully marked details, its gaudy colors, its vermillion, and its leaf gold, reminds one of Albert Durer and his hard but correct school.

"England is the classic soil for this style of architecture, as ancient Greece is for that of the orders; and here the student must come to measure and to study it. York Minster is the Parthenon of Gothic

architecture, Westminster Abbey the Theseum, and the Chapel or Mausoleum of Henry VII. the choragic monument of Lysicrates. Among the finest specimens is the venerable Abbey Church at St. Alban, in Hertfordshire, which is also one of the most valuable documents in the archaiologieal history of the country.

"Gothic architecture disdains the trammels and the systems of the schools; nevertheless, it has its own laws, its genera, and its species, although they have not yet been arranged in a grammatical form. Batty Langley endeavoured, it is true, to reduce it to a system, and to engraft on it the five orders of the Palladian school, instead of a more natural and philosophical arrangement; but his efforts were altogether vain and nugatory.

"III. Domestic Architecture, perhaps the most interesting department of the art, indigenous to every country where human reason has in any degree manifested or developed itself. Like all the productions of nature, architecture assumes different forms, according to the properties of the climate, the wants it may superinduce, the quality of the soil, the building materials, and the personal character of the human beings composing the various nations who practice it.

"The first dwellings of the most ancient inhabitants of the earth were doubtless moveable huts or tents, in the manner of the modern Arabs and Tartars. Uninstructed nature first demands personal clothing; next, a shelter from the perturbed elements; then, a store for housed provisions, clothing, and other necessaries against winter and inclement seasons. The first demand will introduce mere drapery; the second, a hut or cabin, at first moveable, next stationary, then secure, and afterwards improved and embellished as security increased.

"Domestic architecture is a portion of the art which comes home to every man's business and bosom. 'Every man's proper mansion-house and home,' says Sir Henry Wotton, 'being the theatre of his hospitality, the seat of self-fruition, the comfortablest part of his own life, the noblest of his son's inheritance, a kind of private princedom,—nay, to the possessors thereof, an epitome of the whole world,—may well deserve by these attributes, according to the degree of the master, to be decently and delightfully adorned.' It is, therefore, no mean part of the art, although it has been seldom so much studied and cultivated as it deserves.

"The first buildings recorded both in the Bible and in the earliest historians are of the simplest forms, materials, and design, and only fitted to keep the humble-minded inhabitants from the severity of the weather. The primeval

dwelling was either a natural cavern, or the simplest contrivance against the asperity of the weather.

"The Egyptians are among the first who built solidly and well; and their domestic architecture, as displayed in the palatial style, is described by ancient writers as being magnificent, costly, and splendid.

"The earliest dwellings were originally simple huts or cabins to protect the inhabitants from the weather; who then began to coalesce into cities, hamlets, and other congregations, for safety and association. The wall and gates next succeeded; and security giving birth to luxury, added to the single living or sleeping-room a second and a third, as the wants and the refinements of the inhabitants required. The separation of the elder from the younger, the males from the females, the married from the single, and other necessary consequences of an increase of civilization and refinement, all added to the increase in size and improved convenience of the primeval dwelling. These are the origins of the parlour, the eating-room, the kitchen, the chamber, and the hall.

"More solid materials, more elegance, more convenience, were soon added to the original cabin, as men advanced in refinement and civilization, and became more convinced of security, and felt the desire of possessing their own, their private home.

"Egypt is undoubtedly the first country where stone was used in domestic architecture, unless, perhaps, Babylon may be considered its rival, either chronologically or in splendour. Egypt abounded more in stone than in timber, and its inhabitants have proved themselves to be among the ablest workers in that material which the world has ever produced.

"Of the early and private domestic architecture of the Egyptians, we have not many or sure grounds; but their immense palaces or congeries of palaces, called the Labyrinth, which the Greeks imitated in their no less celebrated Labyrinth at Crete, by Dædalus, proves them to have advanced in the palatial style of domestic architecture to as great a perfection of splendour as they had in the sacred styles.

"It has been doubted whether any ruins of this wonderful structure have ever been discovered; but Captain Wilford, an enterprising searcher into antiquities, asserts, in a very able paper in the Asiatic Researches, that its ruins are still to be seen near the Lake Mœris, at a place which the Arabs have named the Kasi, or Palace of Karan, whom they suppose to have been the richest of mortals. We must, however, rely upon the credit of ancient authors for an account of it; and the authority of Herodotus is undoubtedly the best we can refer to on this head. There is great diversity of opinion upon the exact period to which this much boasted edifice should be assigned.

Herodotus (lib. ii., n. 148) attributes its construction to the twelve kings who reigned in Egypt at the same time, about six hundred and eighty years before the Christian era. Pomponius Méla agrees in most points with Herodotus; and from these two authors we may gather a tolerably clear idea of this great example of the palatial domestic architecture of Egypt.

"Herodotus, who had visited and examined this edifice with great attention, affirms that it surpassed every thing that he had conceived of it. Within one and the same circuit of walls, it contained twelve magnificent palaces, regularly disposed, and communicating with each other. Each of these palaces contained three thousand halls, twelve of which were of a particular form and beauty. Half of these halls or chambers were interspersed with terraces, and were arranged round the twelve principal halls, communicating with each other, but by so many turns and windings, that, without an experienced guide, it was impossible to escape wandering; the other half were underground, cut out of the rock, and were said to have been used for the sepulchre of their kings. Herodotus assures us, that he visited all the apartments above ground; but those which were subterraneous, they would not, from motives of superstition, permit him to enter. Captain Wilford thinks that the various apartments under ground had been used for depositing the chests or coffins of the sacred crocodiles, called Sukhus or Sukkis in old Egyptian, and Soukh to this day in the Coptic or vernacular language of Egypt. The halls had an equal number of doors, six opening to the north, and six to the south; and at each angle of the external walls of this labyrinth was erected an immense pyramid for the sepulchres of its founders. The whole of the labyrinth, walls, floors, and ceilings, were of white marble, and exhibited a profusion of sculpture. Each of the before mentioned twelve halls, or galleries, were supported on columns of the same sort of marble. This splendid palace, or rather city of palaces, is also mentioned by Diodorus Siculus, who thinks it was a magnificent cemetry for the Egyptian monarchs and their families; and it is also described by Strabo and Pliny, who confirm the accounts and descriptions of Herodotus.

"Among other splendid examples of the palatial style of domestic architecture of this wonder-working people, are the magnificent palace of Memnon, in the Thebais, or Upper Egypt, which, according to Strabo, stood in the splendid city of Abydus, the second in Egypt after Thebes; and the celebrated palace of the Ptolemies, under whom the national style of architecture experienced a complete change, and aimed at the superior graces of the Greek style.

"The vast and splendid city of Thebes is celebrated by ancient writers for the beauty and splendour of its domestic architecture, as well as for its

great perfection in sacred, monumental, and defensive architecture. This style, domestic art, must have arrived to a high degree of perfection among the Thebans; for Diodorus says, that the houses of the private citizens in Thebes were of four and five stories in height; which proves their knowledge of floors, stairs, and the other necessary mechanism of storied buildings. Of an antiquity nearly as remote as these splendid examples of the Egyptian kings is the celebrated palace of Solomon, who proposed to construct the most magnificent temple and the most splendid palace that had yet been seen. Although a very able contemporary, (Mr. Wilkins) has endeavoured to convert the temple of Solomon to a Grecian temple of the pure Doric order, there can be no question that the style of architecture, both of the temple and of the palace of Solomon, was strictly Egyptian in every particular but in its materials. The ancient historian who records the chronicles of the Jewish kings assures us, that Phœnicia produced the most skilful artizans in wood, or as our translation renders it, hewers of wood; and were probably skilful carpenters, joiners, carvers, and such like. A supply of these able workmen and materials of all descriptions were sent from Tyre to Jerusalem to build this palace, which was also designed by Phœnician or Tyrian architects. In corroboration of the opinion that the style of the architecture of this palace was the same as the Egyptian, it should be remembered that Solomon married the king of Egypt's daughter, and built it for her accommodation, and in her honour. The artists of Phœnicia were then the most skilful of their day; and much of the work was executed in their own country, and sent over to Judea for constructing these edifices. The palace was thirteen years (1 Kings, vii.) in building, and is described to have been built of hewn stones, of beams, and of columns of cedar wood, with spacious windows, porticoes, and porches. In one of which he constructed a lofty throne, whereon he sat to administer justice to the people. The description of this magnificent palace, and of the columns of wrought and cast brass, executed by Hiram, the architect, in the first book of Kings, is worth referring to, in corroboration of the perfection to which domestic architecture, and, in fact, all the other arts, had reached in this period of ancient history.

"In these early ages, as well as those so beautifully described in Homer, the patriarchal form of government was so prevalent, that the palaces of princes were used for every ordinary public use, and they seem to have been the only buildings dedicated to public purposes. The royal palace of Troy is described by Homer as very spacious; the material, stone, artfully wrought; the apartments numerous. But we have no accounts of the detail.

"The walls of Troy are celebrated as having been the works of gods; which fable proves nothing but that neither the Greeks nor the Trojans of

those days excelled in such works, which had been raised, like the temple and palace of Solomon, by foreign artists. The Israelites before Solomon, and the Greeks in Homer's time, seem to have made about equal progress in domestic architecture.

"Among various ancient specimens of domestic architecture of Eastern nations, is the ruins of the beautiful stone building at Delhi, called the Shikargah, or hunting palace, of Feeroz Shah. The lofty pillar of a single stone upon its summit, is called the *lat*, or walking staff, of the same monarch. From a translation made by Colonel Follien of its inscriptions, it would appear as old as the year 97 of the Christian era; but from another version, made by Mr. Henry Colebrooke,—who is celebrated as a Sanscrit scholar for his translation of the digest of the Hindu law, compiled under the superintendence of Sir William Jones,—it is made much later (1164.) One date may, however, refer to the pillar, and the other to the building.

"The Feeroz Shah, whose name is attached to the building, which is acknowledged to be a very ancient Hindu monument, appears from Ferishtuh's history to have reigned at Delhi between the years 1351 and 1388, in the last of which he died, at the age of ninety; and this historian, according to his translator Colonel Dow, gives him the following character: that 'though no great warrior in the field, he was by his excellent qualities well calculated for a reign of peace.' He reigned thirty-eight years and nine months, and left many memorials of his magnificence in the land. He built fifty great sluices, forty mosques, thirty schools, twenty caravanseras, a hundred palaces, five hospitals, a hundred tombs, ten baths, ten spires, one hundred and fifty wells or public fountains, a hundred bridges, and the pleasure gardens he made were without number.

"Mohammed Ameen Rasee, a native historian, who wrote a history of the world in the reign of Akbar, affirms that this palace was a hunting-place of Feeroz Shah. It is a building of three stories, in the centre of which is a column of red stone of a single piece, round which are engraved several inscriptions of a character which has hitherto remained undeciphered. The historian says only one-third of this column is visible, and that the remaining two-thirds are concealed by the ruins. Its length, or rather height, above the roof is thirty-seven feet, and its circumference, as measured by Captain Hoare's moonshee, Mohammed Morad, ten feet four inches; some authors say that the column is a monument of renown to the rajahs or princes of Hindustan, and that Feeroz Shah erected the building on which it stands for a menagerie and aviary, as an atonement for the severities which he practised on the inhabitants of Cumassa. It is a beautiful remain of ancient Hindu domestic architecture, and is agreeably varied in its several stories

for effect of light and shade. When perfect, with its verandas and porticoes, it must have presented a very graceful and elegant appearance. Other specimens of the domestic architecture of this people are the palace of Gazipoor, Oude, &c., &c.

"The Phœnician artists who executed the palace and temple of Solomon are generally supposed to be those descendants of Noah who settled on the coast of Palestine, and are the same people who are spoken of in the Old Testament as Canaanites, a word signifying merchants, and were afterwards called by the Greeks Phœnician. Sidon, their capital, so often spoken of by Homer, which was afterwards eclipsed by its own colony Tyre, was founded by Sidon the eldest son of Canaan. Inhabiting a barren country, they applied themselves to commerce and the arts, and were distinguished for their excellence in manufactures and works of taste. Their first settlements were in the isles of Cyprus and Rhodes, and they passed successively into Greece, Sicily, and Sardinia, afterwards into Gaul; and, always advancing, discovered the southern and western coasts of Spain, and lastly Britain. It is even thought that the isles of Cassiterides, whence they obtained their tin, were the Solingues and part of Cornwall. Of their beautiful city Tyre the twenty-seventh and twenty-eighth chapters of Ezekiel give a grand and poetical description; describing it as of perfect beauty, situate in the midst of the sea. Its public and private buildings and fortifications were of great extent: 'the men of Arvad with thine army,' says the writer, 'were upon thy walls, and the Gammadims were in thy towers; they hanged their shields upon thy walls round about.' The whole of the two chapters are worthy of reference for their striking descriptions.

"The Phœnicians built several cities distinguished for the magnificence of their domestic architecture, their wealth, manufactures, and extended commerce. Among the principal were Joppa, Damascus, and Baalbec. Herodotus mentions among other celebrated Phœnician structures a splendid temple dedicated to Hercules, at Tyre; and Hiram, king of Tyre, the friend and ally of Solomon and the patron of Hiram the great architect, is mentioned as the founder of many palaces and cities.

"It is probable that the style of Phœnician architecture differed from that of other contemporary nations, as Strabo, in speaking of Tyrus and Aradus, two islands in the Persian Gulf, says they had temples and other structures resembling those of the Phœnicians.

"It has been conjectured, and with much probability, that the Phœnician architects constructed the principal part of their edifices with timber, as Mount Lebanus supplied them with great quantities, and its cedar is much

celebrated; and, from what we can learn of the construction of the palaces, and other buildings of Solomon by Phœnician architects and workmen, much timber was used in its erection.

"Of the domestic architecture of the Chinese both ancient and modern, for they scarcely differ, little need be said. Tents and pavilions were the original types of its style, and appear to have served as models of design to this extraordinary people. From this origin arises its essential character, lightness; and its essential defects, weakness and bad taste. The materials principally used by the Chinese, are wood of different sorts, bricks and tiles burned in the sun. Marble and stone are not often used, which may perhaps be attributed to their climate. The heat and humidity of the southren provinces render it extremely unhealthy to reside in houses built of stone; and, according to the missionaries who were at Pekin, they would, in the northern provinces, be uninhabitable for more than half the year. The general style of Chinese architecture cannot but be familiar to any one who has ever drunk from a China tea-cup, or who has seen many of the signs of our grocers' shops, Sir William Chamber's pagoda in Kew Gardens, or the Pavilion at Brighton.

"The Chinese are governed more by the laws of their police than by either theory or good taste in their domestic architecture. These laws prescribe with the greatest accuracy how the *lou*, or palace, should be built of a prince of the first, second, or third order of the imperial family, of a grandee of the empire, or of a mandarine; and they regulate, like our building act of parliament, the public edifices of the capital, and of provincial edifices, cities, and towns, according to their several ranks or grades in the empire. According to these laws, which are said to be very ancient, the number of courts, the dimensions of the terraces, the length of the buildings, and the height of the roofs, are ordered, by progressive degrees of increase, from the simple citizen to the man of letters, from the man of letters to the mandarine, from the mandarine to the prince, and from the prince to the emperor himself.

"All these measurements are fixed to within a few inches, and these laws have of course produced a uniformity in the houses of individuals; and, after the gradation prescribed among all buildings, it is not astonishing that the common houses are but merely huts of a single floor; but the climate may also prevent them from building many stories. Their plan is also as uniform as their elevation; more than half the ground-floor is occupied by courts and passages. The fronts of Chinese dwelling-houses next the street have no windows, except when the building is used for a shop. There is but one opening, namely, the door, before

which they hang a mat or place a screen, to prevent the passers-by from looking in. The form of the Chinese roof is characteristic of their style, always producing the idea of the tent, or pavilion as the primeval type of their architecture.

"In the domestic architecture of the Chinese are often found doors of a circular form at the top, approaching somewhat to the idea of the arch, but resembling more the door of a bird cage than that of the entrance of a dwelling-house. The palaces of China, especially those of the emperor, are distinguished by their vast extent, by the number of large courts, turnings, galleries, porticoes, halls, &c., of which they are composed.

"Some of their public buildings are of a more substantial and durable nature than their domestic architecture; but there is nothing in their style—even after attentively perusing the best European Chinese critic and architect, Sir William Chambers, and inspecting the best designs both executed and on paper—to commend either on the score of propriety, beauty, or good taste.

"The domestic architecture of the Greeks cannot be accurately ascertained; but that of the Romans can be well gathered from some of their ruins, and the relations of their authors. The palaces and dwelling-houses of the ancient Romans were in a profuse style of grandeur and superb decoration. Their villas, baths, and town-houses were of vast extent, and embraced every luxury that domestic architecture could demand, aided by painting, sculpture, and all the arts of design and decoration.

"Among their most splendid and costly examples of domestic architecture were their baths, their theatres, and their amphitheatres. In the latter description of building they aimed so much at prodigality that the relations of their most authentic writers almost appear fabulous; as the account of the temporary theatre of Marcus Scaurus, erected while he was edile, which he embellished with three hundred and sixty marble columns and three thousand bronze statues. It was capable of holding eighty thousand persons. The shafts of the lower range of columns were thirty-eight feet long, and their weight so great that Scaurus was obliged to give security for the reparation of the great sewers over which they were to pass, if they should be damaged by their conveyance; and this, we should remember, was only for an occasional temporary amusement.

"Such also in character was the timber edifice erected by Curio for the celebration of the funeral games in honor of his father; which was so contrived as to form, according to the nature of the exhibition, either a theatre or an amphitheatre. When to be used in the former manner, the circular backs were placed against each other, thus becoming two separate theatres; so

that the declamations, music, and applauding acclamations of the one were not heard in the other. After the theatrical performances were concluded, the two edifices, turning on pivots, were rolled round by machinery, with all the audience within them, and the circle or amphitheatre was completed: the pit, cleared of the populace, forming the arena.

"The splendour of the baths of the Romans was equal to their other structures. Ammianus Marcellinus describes them of immense size. Some idea of their splendour may be gathered from the ruins of the baths of Titus, and from the Pantheon; which Cameron, in his dissertation on the baths of the ancients, says was only a vestibule to the vast and magnificent baths of Agrippa, who is the reputed founder of its fine portico.

"Before the introduction of pure taste and the importation of Grecian arts and artists into Rome, we have the authority of all historians to prove that its architecture was as rude as that of any people of antiquity. Their Etruscan neighbours led them to copy Greek originals; and one of their earliest kings, Tarquinius Priscus, was a native of Greece: hence the origin of the Roman style. Nor was it the architecture of Greece alone that the Romans imitated; but also their literature, their eloquence, their manners and customs, were all borrowed from their illustrious predecessors. Vitruvius founded his code of architectural laws upon those of the Greeks; Virgil imitated Homer; Cicero, Demosthenes; the early Roman plays were translations from the Greek, and their later ones imitations.

"The elements, or constituent parts of Roman architecture, like those of the Grecian, are the orders; which consist in the style now before us of five, as the Grecian does of three; and are named the *Tuscan*, the *Doric*, the *Ionic*, the *Corinthian*, and the *Composite*."

GLOSSARY

OF

NAMES AND TERMS USED IN ARCHITECTURE.*

[FROM THE ENCYCLOPEDIA BRITANNICA—SEVENTH EDITION.]

ABACISCUS (diminutive of Abacus, *q. v.*). This term is applied to the chequers or squares of a tessellated pavement.

ABACUS (Gr. *αβαξ*, a square tile or table). The rectangular and equilateral tablet covering the ovalo of the capital of the Doric column, and on which the superimposed entablature rests, is called the abacus; and from it the similar part (though differently shaped) of all capitals is distinguished by the same term. Abacus means the same thing, but is opposed in application to PLINTH.

ACROTERIUM (Gr. *ακρωτηριον*, the summit or vertex), a statue or ornament of any kind placed on the apex of a pediment. The term is often incorrectly restricted to the plinth, which forms the podium merely for the acroterium. The statue of the saint on the apex of the pediment of the western front of St. Paul's is an acroterium; the other statues may be called acroteral figures.

AMPHIPROSTYLE (Gr. *αμφι*, around or about, and *prostyle*, q. v.) A temple with a portico at each end is said to be an amphiprostyle. This term would be more correctly applied to a structure having projecting porticoes on all its sides, especially if it be equilateral like the *Bourse* or Exchange at Paris, allowing no distinction of flanks or wings to make it peripteral.

ANNULET (Lat. *annulus*, a ring). This term is applied to the small fillets or bands which encircle the lower part of the Doric capital immediately above the neck or trachelium.

ANTÆ (probably from the Gr. *αντιος*, or some other compound of the preposition *αντι*, for, or opposite to; it has no singular), the pierformed ends of the walls of a building, as in the portico of a Greek temple. A portico is said to be *in antis* when columns stand between antæ, as in the temple of Theseus, supposing the peristyle or surrounding columns removed.

ANTEFIXÆ (Lat. *ante*, before, and *fixus*, fixed), upright blocks with an ornamented face placed at regular intervals on a cornice. Antefixæ were originally adapted to close and hide the lower ends of the joints of the covering tiles on the roof of a temple.

APOPHYGE (Gr. *αποφυγη*, a flying off), the lower part of the shaft of an Ionic or Corinthian column, or the highest member of its base if the column be considered as a whole. The apophyge is the inverted cavetto or concave sweep, on the upper edge of which the cylindrical shaft rests.

APTERAL (Gr. *α* priv. and *πτερον*, a wing), a temple without columns on the flanks or sides.

ARÆOSTYLE (Gr. *αραιος*, rare or weak, and *στυλος*, a column), a wide intercolumniation. The space assigned to this term is four diameters.

ARÆOSYSTYLE (compounded of *arœostyle* and

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* Those marked thus † are either entirely, or almost entirely, peculiar to Pointed Architecture.

systyle, q. v.). This term is used to express the arrangement attendant on coupled columns, as in the western front of St. Paul's Cathedral.

Arcade, a series of arches.

Arch (Lat. *arcus*, a bow), a construction of separate or distinct blocks or masses of any hard material, cut wedge-wise, and arranged in a bowed form, so as to bear from end to end horizontally, or across an opening, though abutting or being supported only at the ends.

Architrave (Gr. ἀρχή, chief, and Lat. *trabs*, a beam), the chief beam,—that part of the entablature which rests immediately on the heads of the columns, and is surmounted by the frieze; it is also called the epistylium or epistyle. The moulded enrichment on the sides and head of a door or window is called an architrave.

Archivolt. This term is a contraction of the Italian *architrave voltato*. It is applied to the architrave moulding on the face of an arch, and following its contour.

Arris, the sharp edge or angle in which two sides or surfaces meet.

Astragal (Gr. ἀστραγαλος, a vertebral joint), a convex moulding. This term is generally applied to small mouldings, and (torus to large ones of the same form. (See torus.)

Attic, a low story above an entablature, or above a cornice which limits the height of the main part of an elevation. The etymology of this term is unsettled: probably the upper range of columns in a Greek hypæthral temple was called ἀτείχον, from having no coherent wall; whence the Latin *atticum*, and its application to a story superimposing the general ordinance. Otherwise such a thing is unknown in Greek architecture; but it is very common in both Roman and Italian practice. What is here termed the tholobate in St. Peter's and St. Paul's cathedrals are generally termed attics.

Baluster, a small column or pier supporting the coping in a pierced parapet: the parapet itself, when pierced, is hence called a balustrade.

Band or Tænia, nearly synonymous with Fillet, *q. v.* This term is, however, most generally applied to that listel in the Doric entablature which separates the frieze from the architrave, and connects the lower parts of the triglyphs.

Base (Gr. βασις, from the verb to bear). The congeries of mouldings generally placed under the shaft of an Ionic or Corinthian column is called its base. The term is applied also to the lowest part of a pedestal or stylobate; to the vertical moulded fittings which go round walls on the floor; and generally to every thing that is put lowest, for any thing to rest on,

Batter (Fr. *battre*, to beat). Building over in projecting courses, like inverted steps, is termed battering, beating, or corbelling over.

† Battlement, a pierced or machicolated parapet.

† Bay. The space between the mullions of a window, between piers, and between the principal beams of a roof, floor, or ceiling, is a bay.

Bead, a small cylindrical moulding of frequent use.

Bed-mould, the congeries of mouldings which is under the projecting part of almost every cornice, and of which indeed it is a part.

Blocking-course, a deep but slightly projecting course in an elevation, to act as cornice to an arcade, or to separate a basement from a superior story. (See String-course.)

† Boss, a sculptured knob which is placed on the intersections of ribs in groined ceilings.

† Buttress, the projected piers against the angles of towers, and against the ordinary piers of walls, to strengthen them, and receive the outward thrust of the inner transverse arches.

Cabling. The flutes of columns are said to be cabled when they are partly occupied by solid convex masses, or appear to be refilled with cylinders after they had been formed.

† Canopy, a covering or hood, the enriched projecting head to a niche or tabernacle. The tablet or drip-stone, whether straight or circular, over the heads of doors or windows, if enriched, is called a canopy.

Capital, Cap (Gr. κεφαλη, the head), the spreading, moulded, voluted, foliate, or otherwise enriched head of a column. The term *cap* is applied, in contradistinction, to the congeries of mouldings which forms the head of a pier or pilaster.

Caryatides. Human female figures used as piers, columns, or supports, are called *Caryatides;* and, adjectively, *Caryatic* is applied to the human figure generally, when used in the manner of Caryatides.

Cassoon, (Ital.), a deep panel or coffer in a soffit or ceiling. this term is often written after the French *caisson*, whereas we derive it directly from the Italian *cassone*, the augmentative of *cassa*, a chest or coffer.

Cathetus (Gr. κάθετος, a perpendicular line). The eye of the volute is so termed because its position is determined, in an Ionic or voluted capital, by a line let down from the point in which the volute generates.

Cauliculus (Lat. a stalk or stem), the inner scrolls or tendrils of the Corinthian capital are called *Cauliculi*. It is not uncommon, however, to apply this term to the larger scrolls or volutes of the same also.

Cavetto (Ital. *cavare*, to dig out), a moulding whose form is a simple concave, and impending.

Cella (Lat.), the cell or interior of a Cleithral temple. The Greek term is Naos.

Chamfer. An edge or arris taken off equally on the two sides which form it, leaves what is called a *chamfer*, or a *chamfered edge*. If the arris be taken off more on the one side than the other, it is said to be splayed or bevelled.

† Cinquefoil, tracery in five foliations or featherings.

Cleithral (*vide* Cleithros.) This is used of a covered Greek temple, in contradistinction to *Hypæthral*, which designates one that is uncovered.

Cleithros (Gr. κλείθρος, an inclosed or shut up place). A temple whose roof completely covers it is a Cleithros.

Coffer, a deep panel in a ceiling.

Column (Lat. *columna*), a tapering cylindrical mass, placed vertically on a level stylobate, in some cases with a spreading congeries of mouldings called a base, and having always at its upper and smaller end a dilating mass called a capital. Columns are either insulated or attached. They are said to be attached or engaged when they form part of a wall, projecting one half or more, but not the whole of their substance.

Consol or Console, a bracket or truss, generally with scrolls, or volutes, at the two ends, of unequal size and contrasted, but connected by a flowing line from the back of the upper one to the inner convolving face of the lower.

Coping, the covering course or cornice of a wall or parapet. The term *coping* is generally applied to a plain, slightly projected, covering course, and *cornice* to a larger moulded coping

† Corbel, a knob, boss, or consol, projecting from a vertical face, to act as a prop or support. Its jutting or overhanging has induced the application of the term to describe the projection of one thing over another.

Cornice (Gr. κορωνίς, the highest part, that which is placed last on a building), the highest part of an entablature—that which rests on the frieze. The term *cornice* is very generally applied to any bold congeries of moulding occupying the highest place in a composition, whether external or internal. A plain covering to a wall or parapet is called a coping *q. v.*

Corona (*vide* Cornice). This term is applied to the deep verticle face of the projected part of the cornice between the bed-mould and the covering mouldings.

† Crocket (probably from the old English word *crok*, a curl), an ornament of foliage or animals running up the back of a pediment, arch, pinnacle, or spire, from the corbels below to the finial above, in which latter the crockets on both sides appear to merge. In the earlier examples the crocket is a mere curl, or bent tendril, with an enriched end.

Cupola (Ital. *cupo*, concave, profound), a spherical or spheroidal covering to a building, or to any part of it.

† Cusp (Lat. *cuspis*, a spear), the points in which the foliations of tracery finish. These are sometimes themselves enriched, and are sometimes plain.

Cyclostylar (Gr. κυκλος, a circle, and, στυλος, a column). A structure composed of a circular range of columns without a core is cyclostylar; for with a core, the range would be a peristyle. This is the species of edifice falsely called by Vitruvius Monopteral. (See Monopteros.)

Cyma (Gr. κυμα a wave), the name of a moulding of very frequent use. It is a simple, waved line, concave at one end and convex at the other, like an Italic *f*. In that manner it is called a cyma-recta; but if the convexity appear above, and the concavity below on the right hand, it is then a cyma-reversa.

Cyrtostyle (Gr. κυρτος, convex, and στυλος, a column), a circular projecting portico.

Dado or Die, the vertical face of an insulated pedestal, between the base and cornice or surbase. It is extended also to the similar part of all stereobates which are arranged like pedestals in Roman and Italian architecture.

DECASTYLE (Gr. δεκα, ten, and στυλος, a column), a portico of ten columns in front. (See note to the term HEXASTYLE.) The portico to the London University is of this description; more particularly described, it is decaprostyle and recessed.

DENTIL (Lat. *dens*, a tooth). The cogged or toothed member, so common in the bed-mould of a Corinthian entablature, is said to be Dentilled; and each cog or tooth is called a dentil.

DESIGN. Architects apply this term to what is vulgarly called a plan, intending by it the scheme or design of a building in all its parts, the term *plan* having a distinct application to a technical portion of the design. (See PLAN.) The plans, elevations, sections, and whatever other drawings may be necessary for an edifice, exhibit the design.

DETAIL. As used by architects, detail means the smaller parts into which a composition may be divided. It is applied generally to mouldings and other enrichments, and again to their minutiæ.

DIAMETER (superior and inferior). The greater diameter of the shaft of a column is technically termed its inferior, because it is that of the lower end; and the lesser, that of the upper end, its superior diameter.

DIASTYLE (Gr. δια, through, and στυλος, a column), a spacious intercolumniation, to which three diameters are assigned. (*Vide* EUSTYLE.)

DIPTERAL. (See DIPTEROS.)

DIPTEROS (Gr. δις, twice and πτερον, a wing), a double winged temple. The Greeks are said to have constructed temples with two ranges of columns all round, which were called Dipteroi. A portico projecting two columns and their interspaces is of dipteral or pseudo-dipteral arrangement.

DISTYLE (Gr. δις, twice, and στυλος, a column), a portico of two columns. This term is not generally applied to the mere porch with two columns, but to describe a portico with two columns in antis. The elevation of the pronaos of the hexastyle peripteral temple exhibits an example of distyle in antis.

DITRIGLYPH (Gr. δις, twice, and triglyph, *q. v.*), an intercolumniation in the Doric order, of two triglyphs. (See MONOTRIGLYPH.)

DODECASTYLE (Gr. δωδεκα, twelve, and στυλος, a column), a portico of twelve columns in front.

DOME (Gr. δωμα, a structure of any kind; whence the Latin *domus*, a house or temple), a cupola or inverted cup on a building. The application of this term to its generally received purpose is from the Italian custom of calling an archiepiscopal church, by way of eminence, *Il duomo*, the temple; for to one of that rank, the cathedral of Florence, the cupola was first applied in modern practice. The Italians themselves never call a cupola a dome: it is on this side the Alps the mistake has arisen, from the circumstance, it would appear, that the Italians use the term with reference to those structures whose most distinguishing feature is the cupola, tholus, (or as we now call it) dome. (See CUPOLA.)

† DRIPSTONE, the moulding or cornice which acts as a canopy to doors and windows. Horizontal running mouldings are sometimes called tablets and sometimes dripstones.

DROPS. (See GUTTÆ).

ECHINUS (Gr. εχινος, an egg), a moulding of eccentric curve, which (when it is carved) being generally cut into the forms of eggs and anchors alternating, the moulding is called by the name of the more conspicuous. It is the same as Ovalo, *q. v.*

ELEVATION, the front, or *façade* as the French term it, of a structure. A geometrical drawing of the external upright parts of a building. Architects speak of front, back-front, and side or end elevations.

ENTABLATURE or INTABLATURE (Lat. *in*, upon, and *tabula* a tablet). The superimposed horizontal mass in a columnar ordinance, which rests upon the tablet or abacus of a column, is so called. It is conventionally composed of three parts, architrave, frieze, and cornice.

ENTASIS Gr. εντασις, a stretching or swelling). Columns are said to have entasis when they do not diminish regularly, but in a curved line.

EPISTYLIUM or EPISTYLE (Gr. επι, upon, and στυλος, a column). This term may with propriety be applied to the whole entablature, with which it is synonymous; but it is restricted in use to the architrave or lowest member of the entablature.

ESCAPE, a term sometimes used for the apophyge of a column. (See APOPHYGE.)

EUSTYLE (Gr. ευ, well, and στυλος, a column), a species of intercolumniation, to which a proportion of two diameters and a quarter is assigned. This term, together with the

others of similar import,—pycnostyle, systyle, diastyle, and aræostyle, referring to the distances of columns from one another in composition, is from Vitruvius, who assigns to each the space it is to express. It will be seen, however, by reference to them individually, that the words themselves, though perhaps sufficiently applicable, convey no idea of an exactly defined space, and by reference to the columnar structures of the ancients, that no attention was paid by them to such limitations. It follows, then, that the proportions assigned to each are purely conventional, and may or may not be attended to without vitiating the power of applying the terms. Eustyle means the best or most beautiful arrangement; but as the effect of a columnar composition depends on many things besides the diameter of the columns, the same proportioned intercolumniation would look well or ill, according to those other circumstances; so that the limitation of eustyle to two diameters and a quarter is absurd, and so it is in the case of the other similar terms. With Doric intercolumniation it is different, as may be seen by reference to the word Monotriglyph.

Facade. (See Elevation.)

Fascia (Lat. a band). The narrow vertical bands or broad fillets into which the architraves of Corinthian and Ionic entablatures are divided, are called fasciæ or fascias; and the term is generally applied to any similar member in architecture.

† Featherings. (See Foliations.)

Fillet, a narrow vertical band or listel, of frequent use in congeries of mouldings, to separate and combine them, and also to give breadth and firmness to the upper edge of a crowning cyma or cavetto, as in an external cornice. The narrow slips or breadths between the flutes of Corinthian and Ionic columns are also called fillets.

† Finial (Lat. *finis*, the end.) This term is equivalent to the Greek Acroterium. It is applied to the carved apex of pediments, piers, pinnacles, and canopies.

Flute, a concave channel. Columns whose shafts are channelled are said to be fluted, and the flutes are collectively called flutings.

† Foliations or Featherings, small arches meeting in points or cusps, which are plain or enriched. They are used as an enrichment in tracery, and are distinguished as trefoils, quatrefoils, and cinquefoils, as the case may be.

Frieze (Ital. *fregio*, from the Lat. *phrygionius*, enriched or embroidered), that portion of an entablature between the cornice above and the architrave below. It derives its name from being the recipient of the sculptured enrichments either of foliage or figures which may be relevant to the object of the structure. The frieze is also called the zoöphorus.

Frontispiece, the front or principal elevation of a structure. This term, however, is generally restricted in application to a decorated entrance.

Gable. When a roof is not hipped or returned on itself at the ends, its ends are stopped by carrying up the walls under them in the triangular form of the roof itself. This is called the gable, or indeed, the pediment. The latter term, however, is restricted to the ornamental and ornamented gable; and gable itself is applied to a plain triangular end.

Gradino (Ital. dim. of *gradus*, a step). Architects frequently used the plural of this term, gradini, and to gradinate, instead of the English, steps, and to graduate, perhaps without sufficient reason, though they find them useful to distinguish what they intend from the meaning of the latter words in their ordinary acceptation.

Groining. In vaulting or arching over from insulated piers, the cross vaults meet in angles, and lead to a common centre or apex. This is called groining.

Guilloche or Guillochos (Gr. γυιον, a member, λοξος, a snare). An interlaced ornament like network, used most frequently to enrich the torus.

Guttæ (Lat. drops). The small cylindrical drops used to enrich the mutules and regulæ of the Doric entablature are so called.

Helix (Gr. ἑλιξ, a wreath or ringlet), used synonymously with Cauliculus, *q. v.* It forms in the plural Helices.

Hemiglyph (Gr. ἡμισυς, half, and γλυφη, an incision or channel). The half-channels, or rather chamfered edges, of a triglyph tablet, may be so called. The two hemiglyphs are included to make the third channel, and complete the triglyph. (See Triglyph.)

Hexastyle (Gr. ἑξ, six, and στυλος, a column). A portico of six columns in front is of this

description. Most of the churches in London which have porticoes have hexa-prostyles. (See PROSTYLE.)

HYPÆTHRAL. (See HYPÆTHROS.)

HYPÆTHROS. (Gr. ὑπο, under, and αἰθρα, the air), a temple open to the air, or uncovered. The Greeks frequently made the temples of the supreme divinities hypæthral. For instance, those of Jupiter Olympius at Agrigentum in Sicily, of Neptune at Pæstum, and of Minerva Parthenon at Athens, are all of this description. The term may be the more easily understood by supposing the roof removed from over the nave of a church in which columns or piers go up from the floor to the ceiling, leaving the aisles still covered. In that case it would be hypæthral, after the manner of the Greek hypæthros. The Pantheon in Rome having an opening in the centre of the dome, is thereby rendered hypæthral.

HYPOGEA (Gr. ὑπο, under, and γη, the earth). Constructions under the surface of the earth, or into the sides of a hill or mountain, are hypogea.

HYPOTRACHELIUM (Gr. ὑπο, upon, and τραχηλος, the neck,) the part forming the junction of the shaft with the capital of a column; the neck of the capital itself. In some styles it is a projecting fillet or moulding, and in others, as the Doric, it is composed of a channel or groove, and sometimes of more than one.

JAMB, the side-post or lining of a door-way or other aperture. The jambs of a window outside the frame are called reveals.

ICHNOGRAPHY (Gr. ιχνος, a footstep or track, and γραφη, a description or representation). A plan or the representation of the site of an object on a horizontal plane, is its ichnography. The term plan (*q. v.*) is, however, much more frequently used than this.

IMPOST (Lat. *impositus*, laid upon). The horizontal congeries of mouldings forming the capital of a pier, or edge pilaster, which has to support one leg of an arch, is called the impost; sometimes, and more conveniently, this term is used for the pilaster itself, when its capital is called the impost cap or impost mouldings.

INTERCOLUMNIATION (Lat. *inter*, between, and column, *q. v.*). The distance from column to column, the clear space between columns, is called the intercolumniation.

† LABEL, the level moulding or dripstone over a door or window, common in the later Pointed works. It is generally turned down at the ends at right angles, and slightly returned again horizontally and outwards.

LACUNAR (Lat.), a panelled or coffered ceiling or soffit. The panels or cassoons of a ceiling are more classically called *locunaria*.

† LANTERN (Lat. *lanterna*), a turret raised above a roof or tower, and very much pierced, the better to transmit light. In modern practice this term is generally applied to any raised part in a roof or ceiling, containing vertical windows, but covered in horizontally.

METOPE (Gr. μετοπη, a middle space), the square recess between the triglyphs in a Doric frieze. It is sometimes occupied by sculptures.

MEZZANINE (Ital. *mezzanino*, dim. of *mezzo*, the middle), a low story between two lofty ones. It is called by the French entresol, or inter-story.

MODILLION (Lat. *modulus*, a measure of proportion), so called because of its arrangement in regulated distances; the enriched block or horizontal bracket generally found under the cornice of the Corinthian entablature. Less ornamented, it is sometimes used in the Ionic. See also MUTULE.

MODULE (Lat. *modulus*, *à modus*, a measure or rule). This is a term which has been generally used by architects in determining the relative proportions of the various parts of a columnar ordinance. The semidiameter of the column is the module, which being divided into thirty parts called minutes, any part of the composition is said to be of so many modules and minutes, or minutes alone, in height, breadth, or projection. The whole diameter is now generally preferred as a modus, it being a better rule of proportion than its half.

MONOPTERAL. (See MONOPTEROS.)

MONOPTEROS (Gr. μονος, one, or single, and πτερος, a wing). This term is incorrectly used by Vitruvius to describe a temple composed of a circular range of columns supporting a tholus, cupola, or dome, but without walls. (See PERIPTERAL.) Such an edifice would be more correctly designated as Cyclostylar, *q. v.*

MONOTRIGLYPH (Gr. μονος one, or single, and *triglyph*. q. v.) The intercolumniations of the Doric order are determined by the number of triglyphs which intervene, instead of the number of diameters of the column, as

in other cases; and this term designates the ordinary intercolumniation of one triglyph.

Mouldings, eccentric curves of various kinds, intended to enrich and ornament, by producing light and shade, and obviating the monotony attendant on many flat and angular surfaces. They may be variously carved to increase their efficiency. The most usual forms of mouldings are called the cyma recta and reversa, cavetto, scotia, torus, astragal or bead, and the echinus or ovalo. In Pointed architecture, mouldings are not limited either to those names or to the forms they are intended to designate, nor indeed is any other style, except by absurd custom and authority.

† Mullion, the columnar vertical bar used to divide a window into breadths; the trunk out of which tracery flows.

Mutule, (Lat. *mutulus*, a stay or bracket,) the rectangular impending blocks under the corona of the Doric cornice, from which guttæ or drops depend. Mutule is equivalent to modillion, but the latter term is applied more particularly to enriched blocks or brackets, such as those of Ionic and Corinthian entablatures.

Naos, (Gr. ναος, a temple.) This term is sometimes used instead of the Latin Cella, as applied to the interior; strictly, however, it means the body of the edifice itself, and not merely its interior or cell.

Newel, the solid or hollow column or cylinder which bears up the handrail of a staircase at the foot and in the most material parts. It means also the core or hollow, as the case may be, about which a circular staircase winds.

Niche, a concave recess in a wall, with a straight or single head. Niches are generally made to receive statues, vases, &c.

Octastyle (Gr. οκτω, eight, and στυλος, a column.) A portico of eight columns in front. (See note to Hexastyle.) It may indeed be called a pseudo-octa-prostyle. (See Pseudo-prostyle.)

Ogee, the vulgar name for the Cyma, *q. v.*

Opisthodomus (Gr. οπισθεν behind, and δομος, a house or other edifice,) the part behind a Greek temple corresponding with the Pronaos before it. (See Pronaos.)

Order. A column with its entablature and stylobate is so called. The term is the result of the dogmatic laws deduced from the writings of Vitruvius, and has been exclusively applied to those arrangements which they were thought to warrant.

Ordinance, a composition of some particular order or style. It need not, however, be restricted to a columnar composition, for it will apply to any species which is subjected to conventional rules for its arrangement.

Orthography, (Gr. ορθος, straight or true, and γραφη, a description or representation.) A geometrical elevation of a building or other object, in which it is represented as it actually exists, or may exist, and not perspectively, or as it would appear, is called its orthography.

Orthostyle, (Gr. ορθος, straight or true, and στυλος, a column,) any straight range of columns. This is a term suggested to designate what is generally but improperly called a peristyle, *q. v.*; that is, columns in a straight row or range, but not forming a portico.

Ovalo, (Ital.), egg-formed (See Echinus.) This is the name most commonly applied to the moulding which appears to have originated in the moulded head of the Doric column, and, with an abacus, forming its capital.

Panel, a compartment with raised margins, moulded or otherwise. Deep panels in a ceiling are called Cassoons, and Lacunaria, *q. v.*

Parapet (Ital.) *parapetto*, against the breast, or breast-high,) the low breast-high wall which is used to front terraces and balconies, to flank bridges, &c. The most common application of the term in this country is to so much of the external walls of a house as stands above the level gutters of the roof behind.

Parastas (Gr. παραστας, standing before.) an antæ or end pilaster. This is the Greek term for which the latin antæ is generally used, and it has the same meaning. (See Ante.)

Pedestal (Gr. πους, a foot, and στυλος, a column.) An insulated stylobate is for the most part so called. The term is, moreover, generally applied to any parallelogramic or cylindrical mass used as the basement of any single object, as a statue or vase.

Pediment, that part of a portico which rises above its entablature to cover the end of the roof, whose triangular form it takes. The cornice of the entablature, or its corona and part of the bed-mould only, with the

addition of a cymatium, bounds its inclined sides, and joins in an obtuse angle at the apex. In Pointed Architecture, however, the angle of a pediment is for the most part acute.

† PENDENT (Lat. *pendens*, hanging.) In some of the later works of the Pointed style, large masses depend from enriched ceilings, and appear to be formed by the other legs of intersecting arches: these are called pendents. They also occur in canopies.

PERIBOLUS (Gr. περι, around or about, and βαλλω, to gird or throw around,) an inclosure. Any inclosed space is a peribolus; but the term is applied more particularly to the sacred inclosure about a temple. The wall forming the inclosure is also called the peribolus.

PERIPTERAL. (See PERIPTEROS.)

PERIPTEROS (Gr. περι, around or about, and πτερον, a wing.) A temple or other structure with the columns of its end, prostyles or porticoes, returned on its sides or wings, and one intercolumniation distant from the walls. Almost all the Doric temples of the Greeks were peripteral. The term is, however, incorrectly applied by Vitruvius to peristylar structures, though it is clear that a perfectly round building, such as he describes to be peripteral, cannot be said to be winged or to have wings.

PERISTYLER, having a Peristyle. (See PERISTYLE.

PERISTYLE (Gr. περι, around or about, and στυλος, a column,) a range of columns encircling an edifice, such as that which surrounds the cylindrical drum under the cupola of St. Paul's. The columns of a Greek peripteral temple form a peristyle also, the former being a circular and the latter a quadrilateral peristyle. The same term is generally but incorrectly applied to a range of columns, in almost any situation, when they do not form a portico. (See ORTHOSTYLE.)

PIER. The solid parts of a wall between windows, and between openings generally, are called piers. The term is also applied to masses of brick-work or masonry, which are insulated to form supports to gates or to carry arches.

PILASTER (Lat. *pila*, a pillar, and the Ital. augmentative *astro*, which indicates an inferior quality,) an inferior sort of column or pillar; a projection from or against a pier, having the form and decorations of antæ, when used correctly; but too frequently they have capitals, like those of columns, assigned them.

PILLAR (Lat. *pila*, and Ital. *piliere*,) a columnar mass of no particular form. Columns are vulgarly called pillars; but architects make a distinction, restricting this term to such pillars as do not come within the description of a column. (See COLUMN.)

PILLOWED. A swollen or rounded frieze is said to be pillowed or pulvinated.

† PINNACLE, the slender tapering head of a turret or buttress. A small spire, or the head of a spire or steeple.

PLAN, a horizontal geometrical section of the walls of a building; or indications, on a horizontal plane, of the relative positions of the walls and partitions, with the various openings, such as windows and doors,—recesses and projections, as chimneys and chimney breasts,—columns, pilasters, &c. This term is often incorrectly used in the sense of DESIGN.

PLANCEER is sometimes used in the same sense as soffit, but incorrectly, as it is from the French *plancher*, to board or floor. It is more particularly applied to the soffit of the corona in a cornice.

PLINTH (Gr. πλινθος, a square tile.) In the Roman orders the lowest member of the base of a column is square and vertically faced; this is called a plinth.

POLYTRIGLYPH (Gr. πολυς, many, and triglyph, *q. v.*) An intercolumniation in the Doric order of more than two triglyphs. (See MONOTRIGLYPH and DITRIGLYPH.)

PORTICO (an Italicism of the Lat. *Porticus*,) an open space before the door or other entrance to any building, fronted with columns. A portico is distinguished as prostyle, or in antis, as it may project from or recede within the building, and is designated with either of these terms by the number of columns its front may consist of. (See DISTYLE, TETRASTYLE, HEXASTYLE, OCTASTYLE, &c.

PORTICUS, (Lat. See PORTICO.) In an amphiprostylar or peripteral temple, this term is used to distinguish the portico at the entrance from that behind, which is called the posticum.

POSTICUM (Lat.) A portico behind a temple. (See PORTICUS and PORTICO.)

PRONAOS, (Gr. προ, before, and ναος, a temple.) The inner portico of a temple, or the space between the porticus, or outer portico, and the door opening into the cella. This is a

conventional use of the term; for, strictly, the pronaos is the portico itself.

Propylæum (Gr. *προ*, before, and *πυλη*, a portal), any structure or structures forming the entrance to the peribolus of a temple; also the space lying between the entrance and the temple. In common usage this term, in the plural (propylæa), is almost restricted to the entrance to the Acropolis of Athens, which is known by it as a name.

Prostyle (Gr. *προ* before, and *στυλος*, a column). A portico in which the columns project from the building to which it is attached is called a prostyle. It is tautologous to say a prostyle portico,—a prostyle is a portico. Custom, however, seems to warrant the impropriety, for the word portico is always superadded. In determining the number of columns of which a portico consists, the Greek numerals are prefixed to the term Style, *q. v.*, and prostyle is repeated. It would be more concise, and, at the least, equally correct, to put the numeral before prostyle, and say tetra-prostyle, hexa-prostyle, &c. instead of tetrastyle-prostyle, &c. as the custom is; that mode is adapted in this article throughout.

Pseudo-dipteral (Gr. *ψευδης*, false and dipteral, *q. v.* false double-winged. When the inner row of columns of a dipteral arrangement is omitted, and the space from the wall of the building to the columns is preserved of the consequent double projection, it is pseudo-dipteral. The portico of the London University is pseudo-dipterally arranged, the returning columns on the ends or sides not being carried through behind those in front.

Pseudo-peripteral (Gr. *ψευδης*, false, and peripteral, *q. v.*), false-winged. A temple having the columns on its flanks attached to the walls, instead of being arranged as in a peripteros, is said to be pseudo-peripteral.

Pseudo-prostyle (Gr. *ψευδης*, false, and prostyle, *q. v.*). This is a term not in general used, but is suggested to designate a portico projecting less than the space from one column to another, as the western porticoes to St. Paul's cathedral, and the portico to the East India House, in London; but that they are recessed also, and therefore may be described as pseudo-prostyle and recessed. The front of Trinity Church in the new road, near the Regent's Park, in London also, presents a mere pseudo-prostyle.

Pulvinated (Lat. *pulvinus*, a cushion or bolster), a term used to express the swelling or bolstering of the frieze which is found in some of the inferior works of the Roman school, and is common in Italian practice. It is used indifferently with pillowed.

Pycnostyle (Gr. *πυκνος*, dense, and *στυλος* a column), columns thickly set. The space or intercolumniation assigned to this term is one diameter and a half. (See Eustyle.)

Quatre-foil, tracery in four foliations or featherings; but applicable only to circular or square panels, and not to arches.

Quoin (Lat. *ancon*, an elbow or corner, whence the Fr. *coin*), a corner-stone. The stones which are made to project from the regular surface of the walls at the angles of a building are technically called quoins. The front of the Farnese Palace exemplifies them.

Regula (Lat.), a rule or square. The short fillet or rectangular block, under the tænia, on the architrave of the Doric entablature, is so called.

† Rose or Catherine-wheel Window, the large circular window filled with various tracery, which is common in the upper part of transept fronts in churches and cathedrals.

Scotia (Gr. *σκοτια*, shadow or darkness), a concave moulding, most commonly used in bases, which projects a deeper shadow on itself than any other form would possess in an underview position. It is like a reversed ovalo, or rather what the mould of an ovalo would present.

Scroll, synonymous with volute. The term scroll is commonly applied to the more ordinary purposes, while volute is generally restricted to the scrolls of the Ionic capital.

Section, a drawing showing the internal heights of the various parts of a building. It supposes it to be cut through entirely, so as to exhibit the walls, the heights of the internal doors, and other apertures; the heights of the stories, thicknesses of the floors, &c. It is one of the species of drawings necessary to the exhibition of a Design, *q. v.*

Shaft. The body or tapering cylindrical mass of a column, from the base below to the capital above, is so called.

Sill or Sole (Lat. *Solum*, a threshold, whence the Fr. *seuil*). The horizontal base of a

door or window-frame is called its sill, though in practice a technical distinction is made between the inner or wooden base of the window-frame and the stone base on which it rests, the latter being called the sill of the window, and the former that of its frame. This term is not restricted to the bases of apertures; the lower horizontal part of a framed partition is called its sill. It is often incorrectly written cill.

Soffit (Ital. *soffitta*, a ceiling), the inverted horizontal face of anything. The horizontal face of an entablature resting on, and lying open between, the columns, is its soffit. The underface of an arch, where its thickness is seen, is its soffit.

Spandrel. The unoccupied angles, or rather the excluded triangles of a square, described about a circle, are called spandrels; whence almost any triangular space is designated by the same term.

† Spire, the tapering mass which forms the summit of a steeple.

Steeple. This term is used in contradistinction to tower, the latter being upright, or nearly so, and terminating almost abruptly, or with pinnacles, and the steeple running to a point with sides converging from the base upwards, or from a certain height only.

Stele (Gr. στηλη, a cippus or small monument). The ornaments on the ridge of a Greek temple, answering to the antefixæ on the summit of the flank entablatures, are thus designated.

Stereobate (Gr. στερεος, firm, or solid, and βασις, a base or fulciment), a basement. It is sought to make a distinction between this term and Stylobate, *q. v.*, by restricting the latter to its real import, and applying stereobate to a basement in the absence of columns.

Stoa (Gr. στοα, a portico.) This is the Greek equivalent for the Latin porticus and the Italo-English portico, *q. v.*

String or String-course, a narrow, vertical-faced, and slightly projecting course in an elevation. If window-sills are made continuous, they form a string-course; but if this course is made thicker or deeper than ordinary window-sills, it becomes a blocking-course.

Style (Gr. στυλος, a column). The term style is of very constant use in the composition of architectural names and distinctions, and in those compositions it is not to be understood in its ordinary and almost unlimited application, but in its simple and original meaning,—a column. It is, however, not used in that sense unless in composition; but in its ordinary acceptation it is applied to the varieties of architecture, as the Greek and Roman styles, &c.

Stylobate (Gr. στυλος, a column, and βασις, a base or fulciment), a basement to columns. (See Stereobate.) Stylobate is synonymous with pedestal, but is applied to a continued and unbroken substructure or basement to columns, while the latter term is confined to insulated supports.

Surbase (Lat. *super*, whence the Fr. *sur*, above or upon, and *base*, *q. v.*), an upper base. This term is applied to what, in the fittings of a room, is familiarly called the chair-rail. It is also used to designate the cornice of a pedestal or stereobate, and is separated from the base by the dado or die.

Sistyle (Gr. συν, together with, and στυλος, a column), columns rather thickly set. An intercolumniation to which two diameters are assigned. See Eustyle.

† Tabernacle, a canopied recess or niche. The rich ornamental tracery forming the canopy, &c. to a tabernacle, is called tabernacle-work: it is common in the stalls and screens of cathedrals, and in them is generally open or pierced through.

† Tablet. Projecting mouldings, or moulded strings in the Pointed style, are better described as tablets than as cornices.

Tænia (Lat.) a band. (See Band.)

Terminal. Figures of which the upper parts only, or perhaps the head and shoulders alone, are carved, the rest running into a diminishing pedestal, with feet indicated below, or even without them, are called terminal figures.

Tetrastoön (Gr. τετρα, four, and στοα, a portico). An atrium or rectangular court-yard, having a colonnade or projected orthostyle on every side, is called a tetrastoön.

Tetrastyle (Gr. τετρα, four and στυλος, a column), a portico of four columns in front.

Tholobate (Gr. θολος, a dome or cupola, and βασις, a basis or substructure), that on which a dome or cupola rests. This is a term not in general use, but not the less of useful application. What is generally termed the attic above the peristyle and under the cupola of St. Paul's, would be correctly designated the tholobate. A tholobate of a dif-

ferent description, and one to which no other name can well be applied, is the circular substructure to the cupola of the London University.

THOLUS or THOLOS (Gr.) a dome or cupola, or any round edifice. This is the only term used by Greek writers that can be supposed to apply to the conical chambers which approach, in internal form, to that of the modern cupola or dome, and is therefore made the Greek equivalent for those terms.

TORUS (Lat.), a protuberance or swelling, a moulding whose form is convex, and generally nearly approaches a semicircle. It is most frequently used in bases, and is for the most part the lowest moulding in a base.

TOWER, a circular, square, or polygonal structure, with upright or slightly converging sides, running to a height equal to or greater than its diameter or base, and terminating abruptly or in horizontal lines. A tower may be flanked by buttresses whose pinnacles surmount it, and be superimposed by a turret, lantern, or spire.

† TRACERY. The transoms, mullions, and interlaced or flowing continuations of the latter, with their foliations in windows, on doors, panels, and in tabernacle-work, are so called. The ribs on groined ceilings, and almost all eccentric moulded enrichments, come under the same denomination.

TRACHELIUM (Gr. τραχηλός, the neck). In Doric and Ionic columns there is generally a short space intervening the hypotrachelium and the mass of the capital, which may be called the trachelium or neck.

TRANSOM, the horizontal bar used to divide a mullioned window into heights; the straight and horizontal parts of tracery.

† TREFOIL, tracery in three foliations or featherings.

TRIGLYPH (Gr. τρεις, three, and γλυφη, an incision or channel). The vertically channelled tablets of the Doric frieze are called triglyphs, because of the three angular channels in them, two perfect and one divided; the two chamfered angles or hemiglyphs being reckoned as one. The square sunk spaces between the triglyphs on a frieze are called metopes.

† TURRET, a small tower, or a tower of small base in proportion to its height. Turrets are sometimes placed on the angles of towers; but in the later works of the style they are attached to the angles of structures instead of buttresses, and they run up above their height in lieu of pinnacles.

TYMPANUM, the triangular recessed space inclosed by the cornice which bounds a pediment. The Greeks sometimes placed sculptures representing subjects in connection with the purposes of the edifice, in the tympana of temples.

VAULT, an arched ceiling or roof. A vault is, indeed, a laterally conjoined series of arches. The arch of a bridge is, strictly speaking, a vault. Intersecting vaults are said to be groined. (See GROINING.)

VOLUTE (Lat. *volutum*, *à volvo*, rolling up or over, convolving.) The convolved or spiral ornament which forms the characteristic of the Ionic capital is so called. The common English term is scroll, *q. v.* Volute, scroll, helix, and cauliculus, are used indifferently for the angular horns of the Corinthian capital.

ZOÖPHORUS (Gr. ζωον, an animal, and φερω to bear.) This term is used in the same sense as frieze, and is so called because that part of the entablature is made the receptacle of sculptures which are frequently composed of various animals.

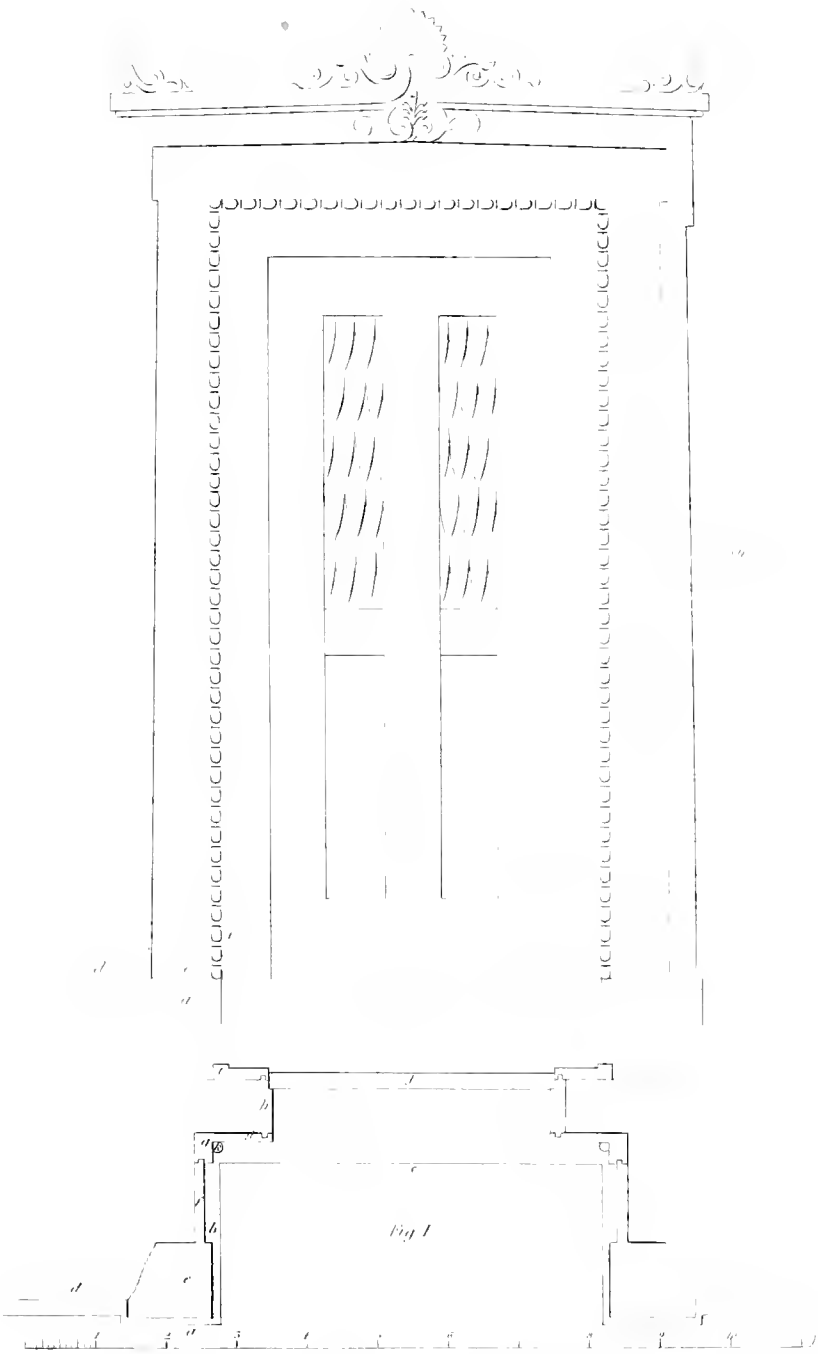
A MODERN FRONT DOOR.

Plate 1.

This design is new, and in many instances may advantageously be applied. It being original, and differing materially from any at present executed, it may by many be thought not practical, and (as is often the case) preference given to worn-out designs, instead of new. But prejudices of this kind are fast passing away, and proprietors of buildings are becoming more liberal in sentiment, submitting matters of design and details to those more sciened in the art of design and architecture generally. Such being the case, a belief is entertained that the design before you will find its admirers.

Fig. 1. The plan representing all parts of the elevation standing thereon: *a* plinth of architrave, see *a* on elevation, Fig. 2; *b* return of plinth to doorsill *c*, (see corresponding letters on elevation;) *c* doorsill; *d* brick wall; *e* plan of architrave, (the architrave may be executed of stone or wood, as may be seen in the enlarged drawing, Plate 3;) *f* recess jamb-piece which passes the same overhead, and forms the soffit of said recess; *g* connected with *f* is a sort of backing to the architrave *g*; *k* enriched bead; *h* door-jamb; *i* inside architrave; *j* door. If the doorsill is of stone, it should not extend from *c* to *j*, but stop within half an inch of the door, in order to admit a good securing through the front of the iron saddle to the floor, as well as to avoid the necessity of a broad saddle.

Fig. 2. Elevation: *a* plinth to architrave as in plan; *c* stone sill; *d* brick wall; *e* architrave; *f* enriched bead. The upper pannels are designed to be finished with mahogany sash and plate glass.



AN ANTÆ FRONT DOOR.

Plate 2.

In this is claimed the construction of the inner antæ, and the finish of the door, side-lights, transom-light, and transom mouldings, with said antæ, as original. The whole construction and relative connection of all the parts will be seen by referring to the sectional drawings to a large scale, Plates 3 and 4.

Fig. 1. The plan representing all parts associated with the elevation referred to, and lettered thus: *a* plinth; *b* return of plinth to doorsill; *c* doorsill, (see corresponding letters on elevation,) *d* brick wall; *f* recess jamb; *g* a narrow architrave or facia, which is formed of the same width overhead; *h* a jamb extending from *g* to *n*—this jamb is connected with a soffit or head-piece of the same width; *i i* pannels under side-lights; *j* front of inner antæ; *k* door-jamb and return, or flank of antæ; *l* inside antæ; *m* return or flank of antæ, which likewise forms a jamb to side-light; *n* inside architrave; *o* outside line of the door; *p* inside of door; *q* line of wall finish; *s* plan of architrave.

Fig. 2. Elevation: *a* plinth to anta, (see corresponding letters on plan;) *c* doorsill; *g* front of inner anta; *i* pannel or back under side-light; *j* elevation of the outside antæ.

PL. 2

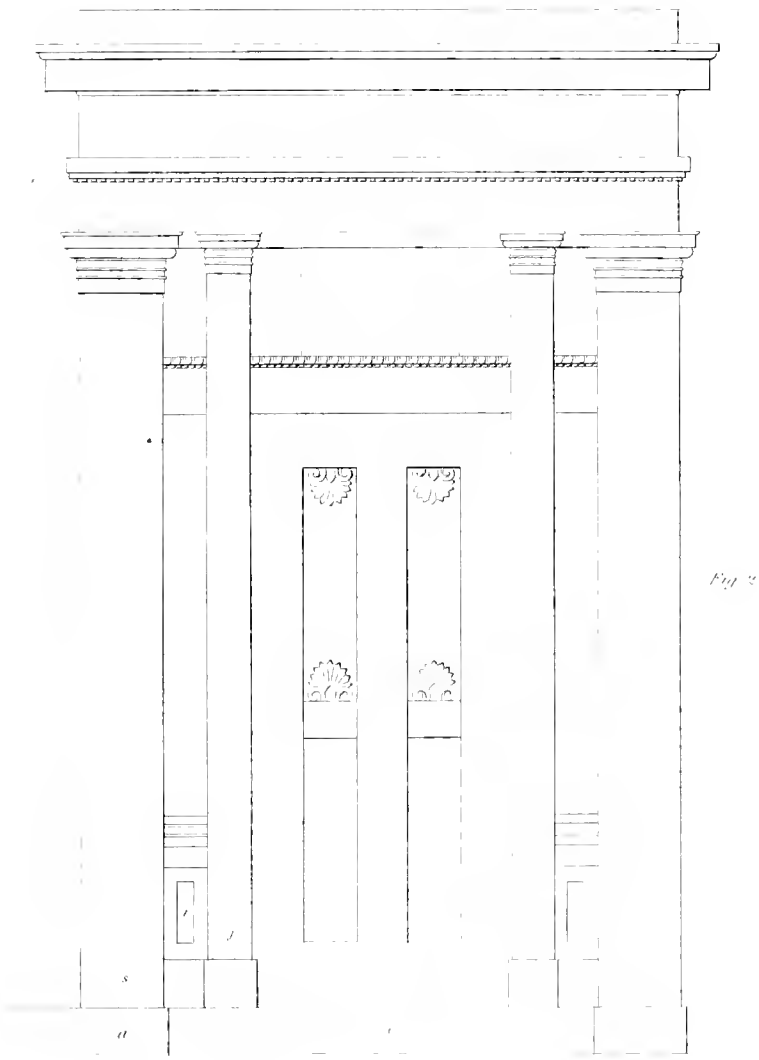


Fig. 2

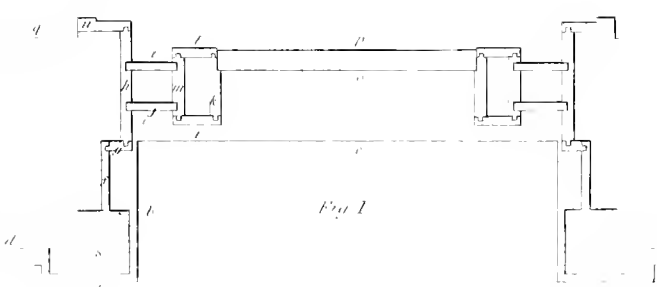


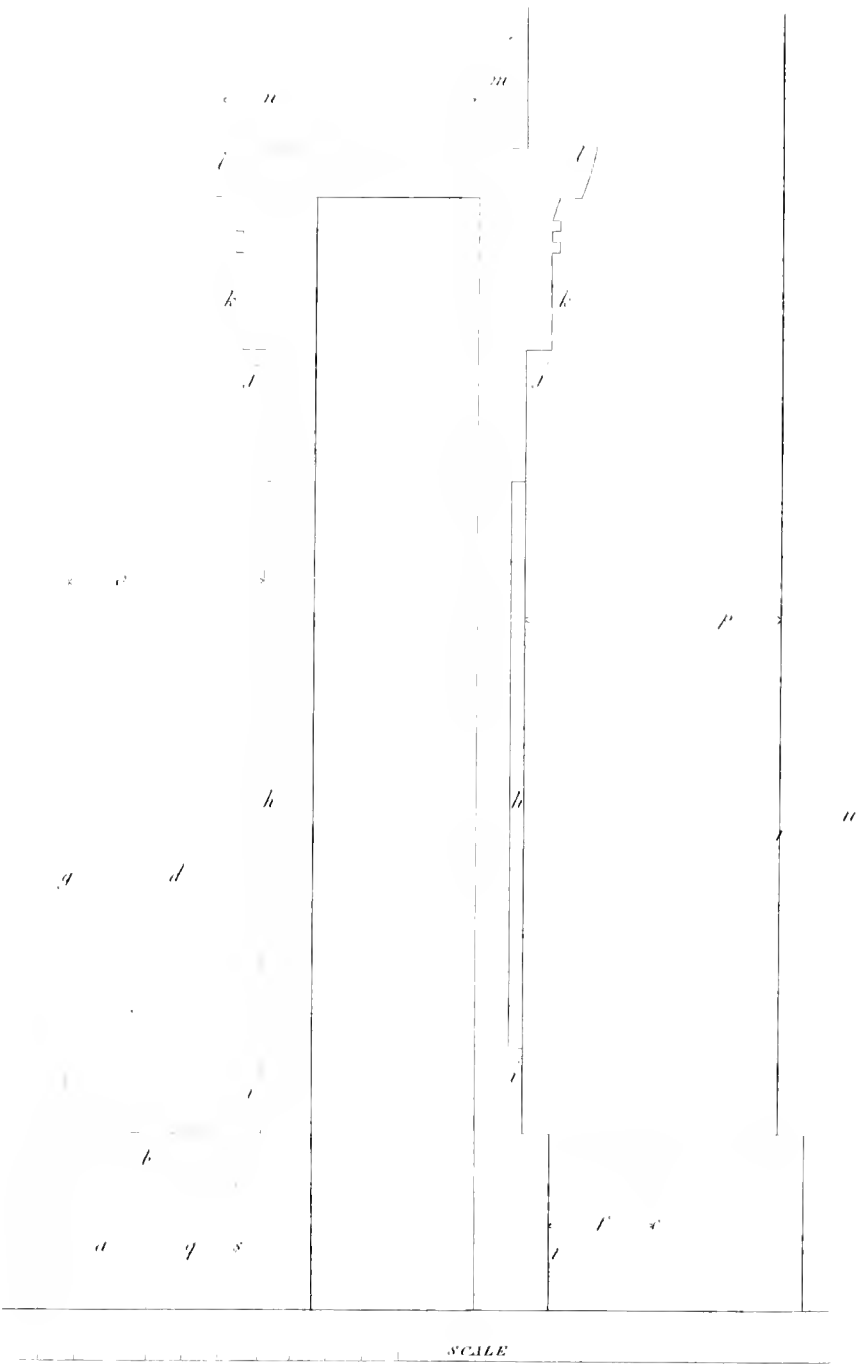
Fig. 1

DETAILS.

Plate 3.

This is a section to an enlarged scale, showing the form and connection of the parts under the side-lights of design, Plate 2: *a* is the return plinth from the plinth *s*, under the side-light inside; *b* (dotted line) plinth of anta between the door and side-light. The antæ between the door and side-lights, stand in advance of the door, (as may be seen at *h* in Plate 4.) This projection is to accommodate the projection of the transom and its mouldings, as represented by the letters *f* and *p p*, Plate 4; *c* (dotted line) represents the plinth of outside anta between the door and side-light; *d* face of inside anta; *e* face of outside anta between door and side-light; *f* front of architrave, or facia, which passes up both sides and overhead, as *c* and *s*, Plate 4; *g* inner extremity of the architrave, which forms the finish of the door, (refer to *i* and *g*, Plate 4, for further particulars;) *h h* pannel under side-light; *i i* bottom rail to back or pannel; *j j* top rail to pannel under side-light; *k k* facia to capital; *l l* ovolo of capital; *m* bottom rail and style of side-light sash; *n* represents the inside shutter. It will be observed that the shutter projects over the pannel, or back under the side-light, which is only done to reduce the whole width of the work; *o* represents the return jamb of the architrave from *g* to *h*; *p* return jamb of outside architrave; *r* return plinth from under side-light to front anta; *s* plinth under pannel; *t* plinth under outside pannel or back; *u* part of the recess jamb that finishes between the architrave and stone anta, (see *a* and *b*, Plate 4.)

Pl. 5

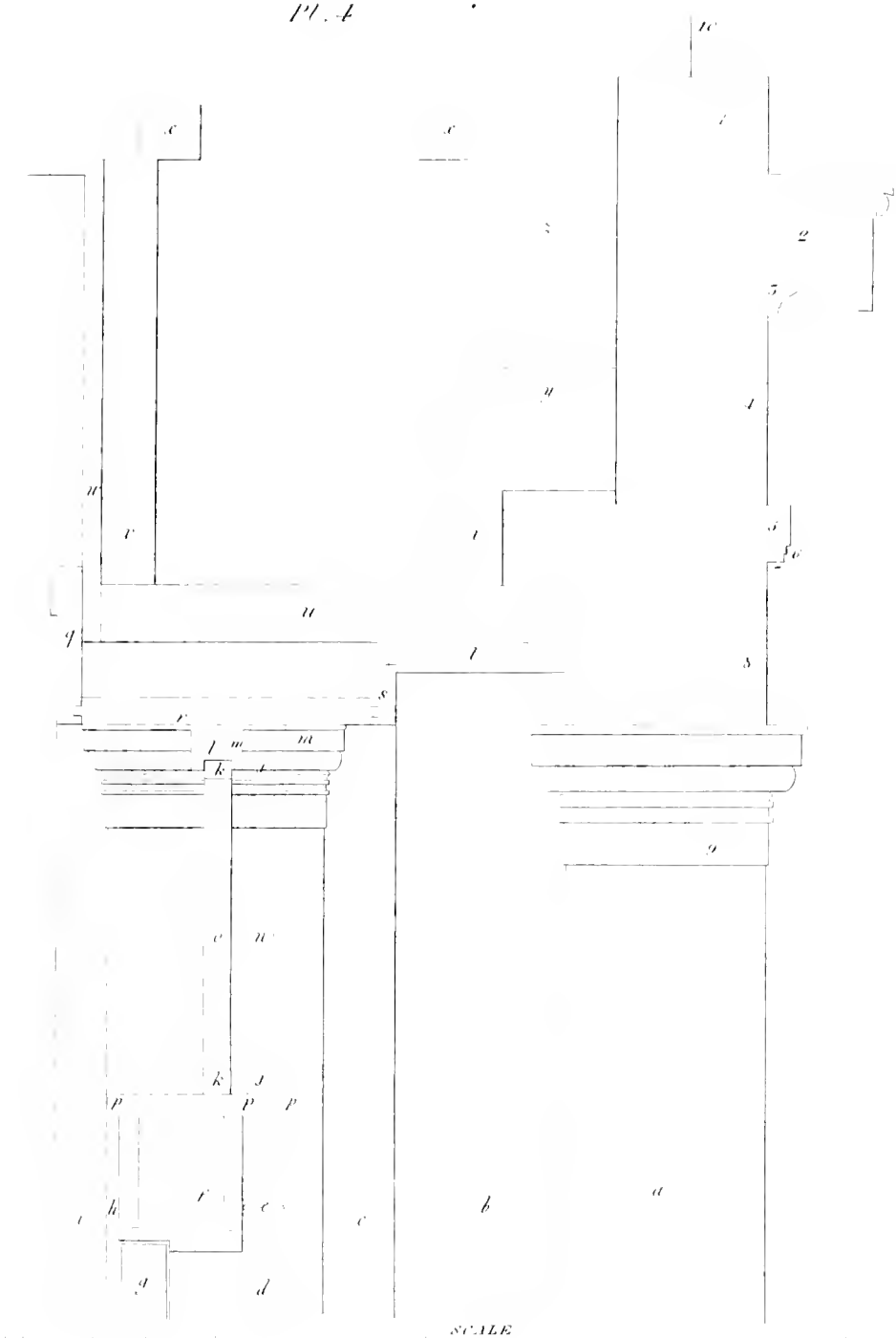


DETAILS.

Plate 4.

Is a section of the stone, brick, and wood work through the head of design, Plate 2 : *a* size of the stone or outside anta; *b* jamb that finishes between the anta and architrave *c* and *s*; *c* return or jamb of architrave; *d* return side of anta; *e* front of transom. The dotted line *e* is that part of the transom which projects over the side-light further than it does over the door; *f* transom over the door. Here it may be well to say that the transom is the width of *e* wider over the side-light than over the door; *g* represents a portion of the door; *h* that part of the anta which stands in front of the door sufficient to receive the transom. The transom projects over the door on the inside about $\frac{3}{8}$ of an inch; *i* the return or jamb of the architrave *g*; *j j* represents the top and bottom rails of the transom sash over the side-light; *k k* top and bottom rails of transom over the door; *l* head-piece (equal to the abacus and ovolo or echinus of the capital) in which to fix the transom sash; *m m* (dotted line) shows the same piece over the transom of the side-light; *n* style of the side transom sash; *o* side style of transom sash over the door; *p p p* ovolos on transom over door and side-light; *q* architrave that forms the finish on the side wall, as shown on the plan, Plate 2; *r* head-piece, or soffit, which passes over all the parts directly connected with the side-lights and door. This soffit is tongued, grooved, and glued to *s* and *q*, and should be finished and fitted to the jamb on the back in order to make a first rate job; *s* outside architrave or facia, which finishes on both sides and above; *t* soffit or head-piece; *u* furring joist; *w* lath and plaster; *x x* part of

Pl. 4



two beams; *y* wooden lintel to support the brick over the aperture; *z* brick-work; 1 stone blocking over the cornice of the door-way; 2 cornice; 3 bed mould; 4 frieze; 5 tenia, or upper fillet to the architrave moulding; 6 fillet, or regula; 7 drops, or guttæ; 8 face of architrave; 9 capital of anta; 10 front line of brick.

DETAILS.

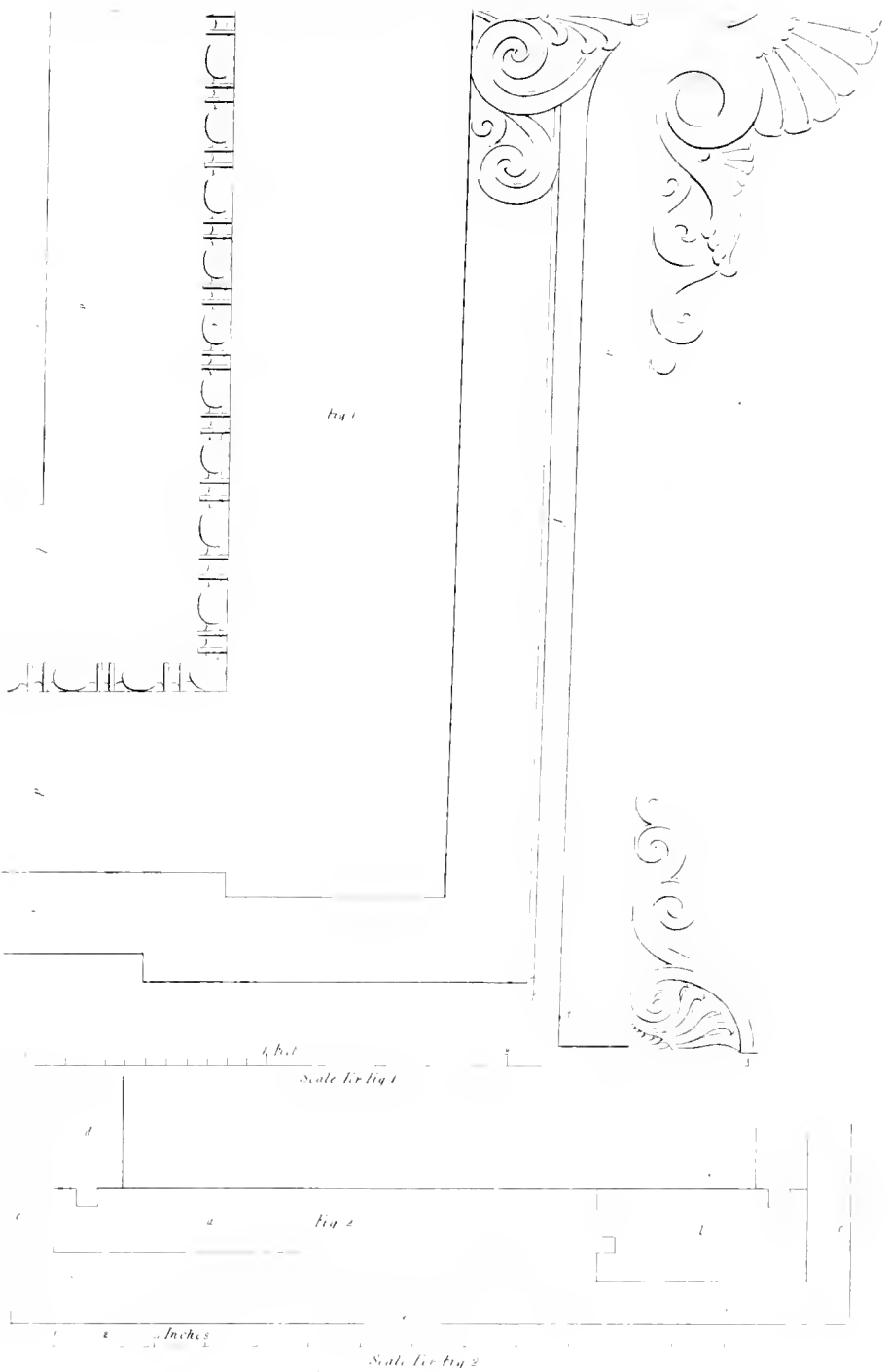
Plate 5.

This plate represents one half of the head and architrave of design Plate 1, on an enlarged scale, which will enable the student to comprehend the subject without the least difficulty.

Fig. 1, is the half head, and lettered as follows: *A* and *B* the head and side architrave as at *g* in Fig. 1, Plate 1; *d e* face of architrave as at *e* in Fig. 1, Plate 1; *f* relieved ovolo; *g* corona. *Fig.* 2 is a plan of the architrave *d e* in Fig. 1: *a* facia as at *d* in Fig. 1; *d* return or flank of architrave; *b* the outer margin of architrave. See *e* in Fig. 1; *c* backing-piece; *c c c* plinth to architrave. See *a b* in Fig. 1, Plate 1.

The two different scales are for the two different figures, and will give their correct dimensions when taken by a divider.

PL. 5



PARLOR WINDOW.

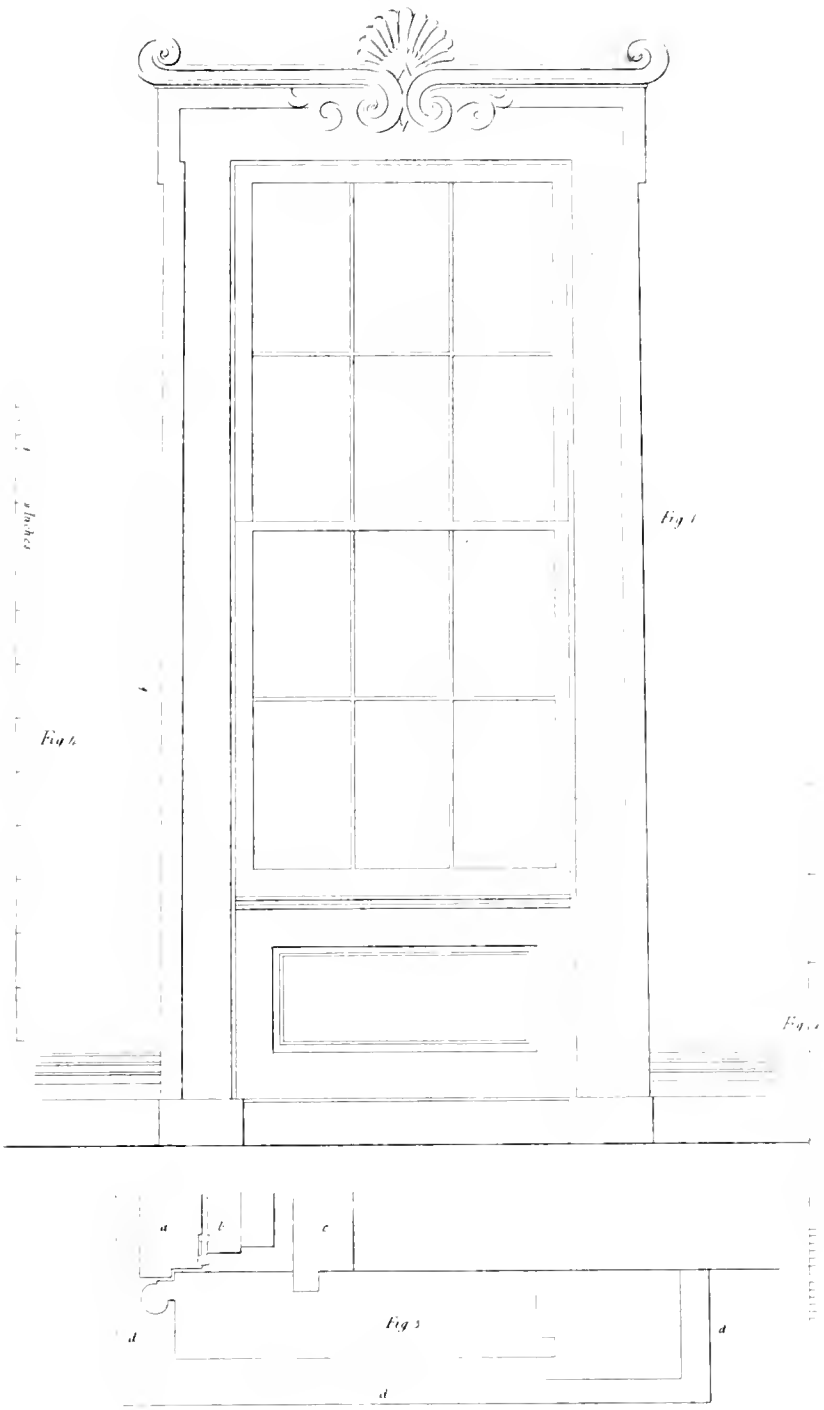
Plate 6.

Presents an original design for a parlor-window finish; in which it will be seen that a bead is executed on the architrave, receding about $\frac{1}{8}$ of an inch, which appears well; but I am, at the present time, executing the design without the bead, and give it a decided preference. It appears more chaste, and is attended with less labour in its execution.

Fig. 1. Elevation. *Fig.* 2, scale to Fig. 1. *Fig.* 3, plan of architrave, plinth, and shutters: *a* jamb flap; *b* back flap; *c* back lining; *d d d* plinth, this plinth is continued under the elbows and back. *Fig.* 4, scale of feet to Fig. 3.

The jamb shutter is in one entire pannel when executed with ornaments at bottom, top, and middle of pannel, which is the case in those I am now executing.

PL. 6.



SLIDING DOORS

Plate 7.

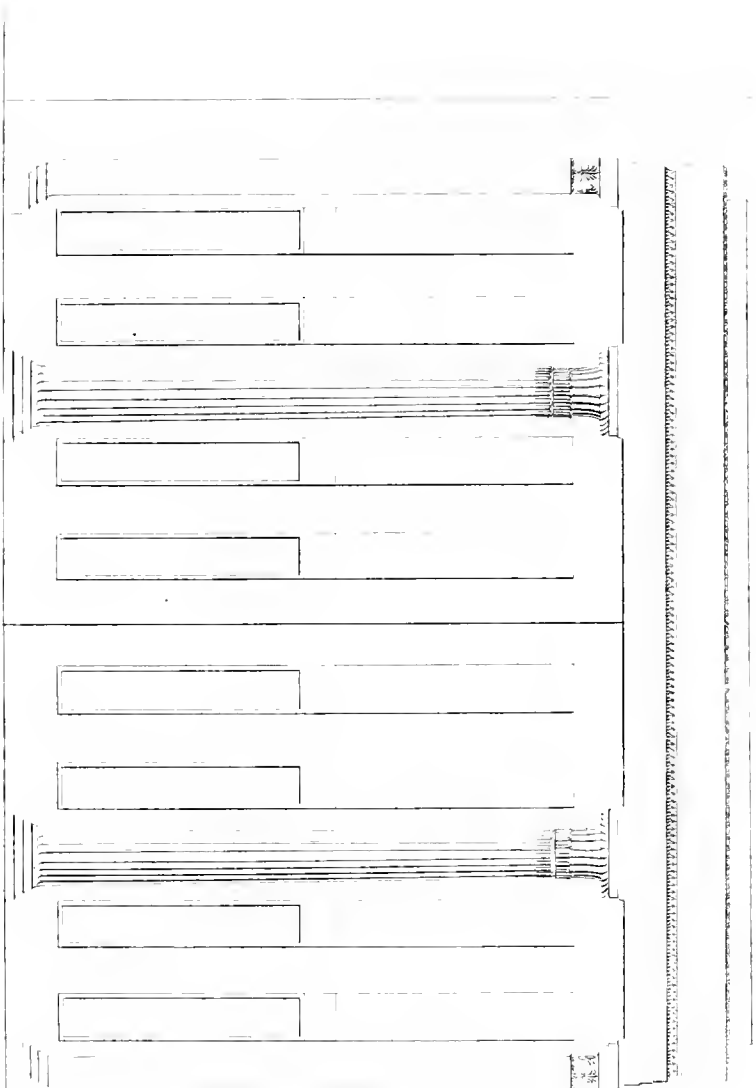
This plate presents an original design for sliding doors, and, if executed in every particular suggested, would eclipse every thing of the kind yet introduced.

The two middle doors are designed to slide into the two wall doors, which are hung to the wall; and when slid in the wall door, they are together turned around to the wall. In order that the wall door shall not sag, a way is let into the floor, as shown in Plate 8. To the outer and lower extremity of the wall doors is fixed a sheave crosswise of the door, which will act upon the circular way-piece. And in order that the middle door may slide into the wall or hung door, the floor is $\frac{3}{8}$ of an inch lower under that than any other part of the floor, which will admit of a way being secured at the bottom for the convenience of the middle sliding doors. The circular ways as shown on the plan in Plate 8.

The doors are designed to be executed with plate glass in the upper pannels, which would present a very striking effect.

The details of this plate and design follow in Plates 8, 9, 10, and 11. Plate 9 is an entablature on an enlarged scale. Plate 10 is a plan and section of the ceiling over the plan Plate 8. Plate 11 is the base column and capital on an enlarged scale, adapted to practical purposes. The above, if executed in a manner due to the design, will in effect rarely be excelled.

PL. 7

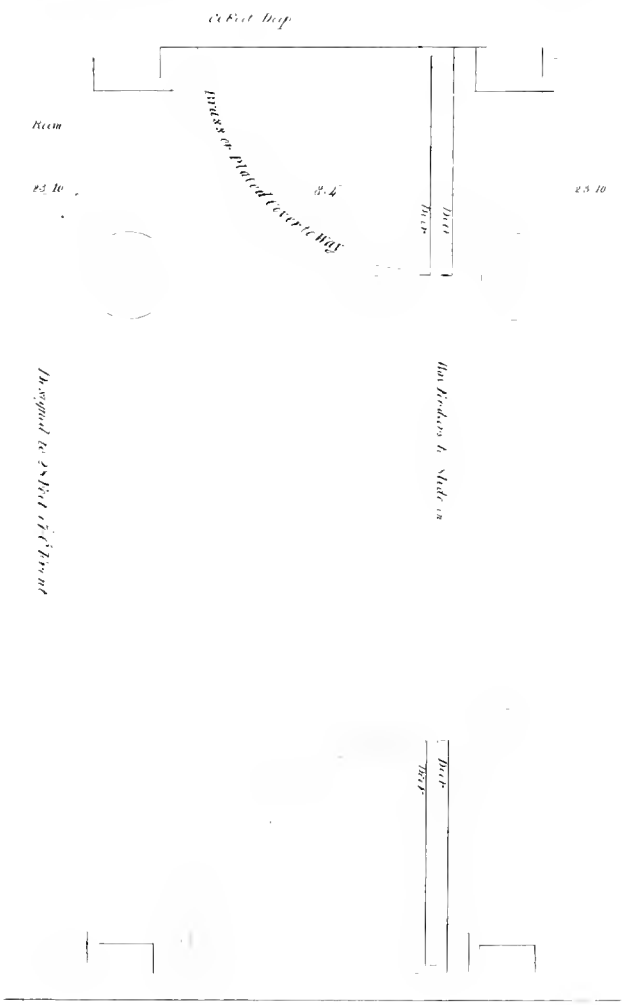


SLIDING DOORS.

Plate 8.

This plate represents a plan of the design in Plate 7, and explained in the explanation of that plate. Nothing can surpass the beauty and effect of this design when correctly executed in conformity to it. If at first the execution may be thought impracticable, it will, on a correct and careful examination, be found quite otherwise.

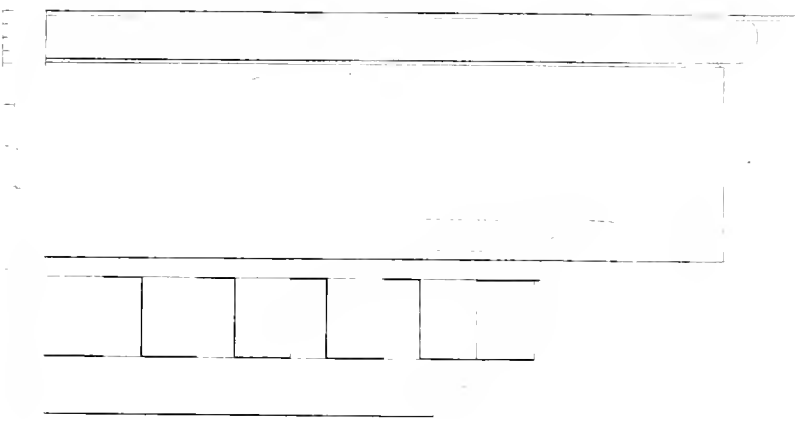
PL. 8.

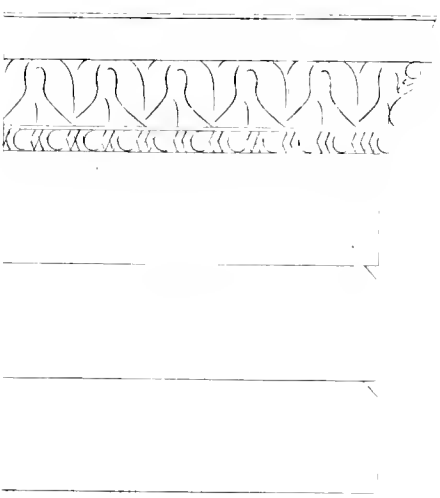


DESIGN FOR AN ENTABLATURE.

Plate 9.

This plate is a design for the entablature of Plate 7, on an enlarged scale, for practical purposes.



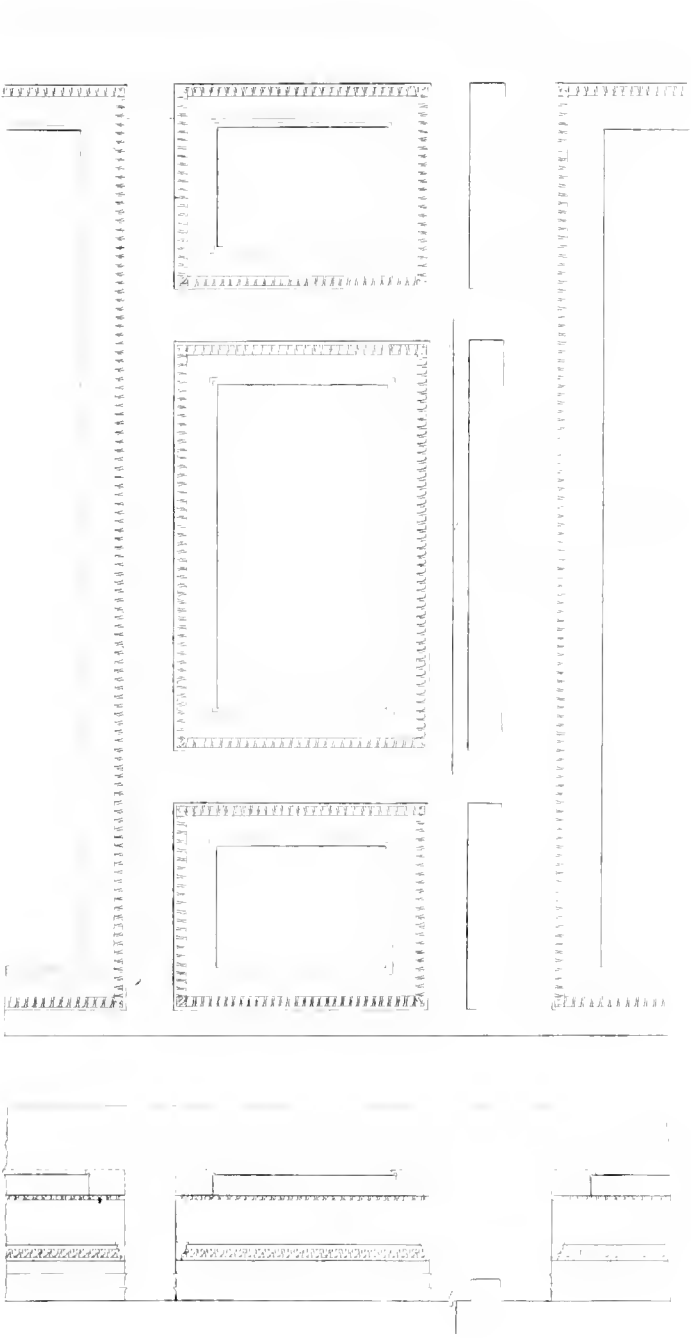


DESIGN FOR A CEILING.

Plate 10.

Is a plan and section of ceiling over the sliding door; plan in Plate 8. *Fig.* 1, plan of the ceiling over sliding door: *a* is a way fixed to the beam, (see *b* in Fig. 2.) *Fig.* 2, section of Fig. 1; *c* is the upper end of sliding doors.

PL. 10.

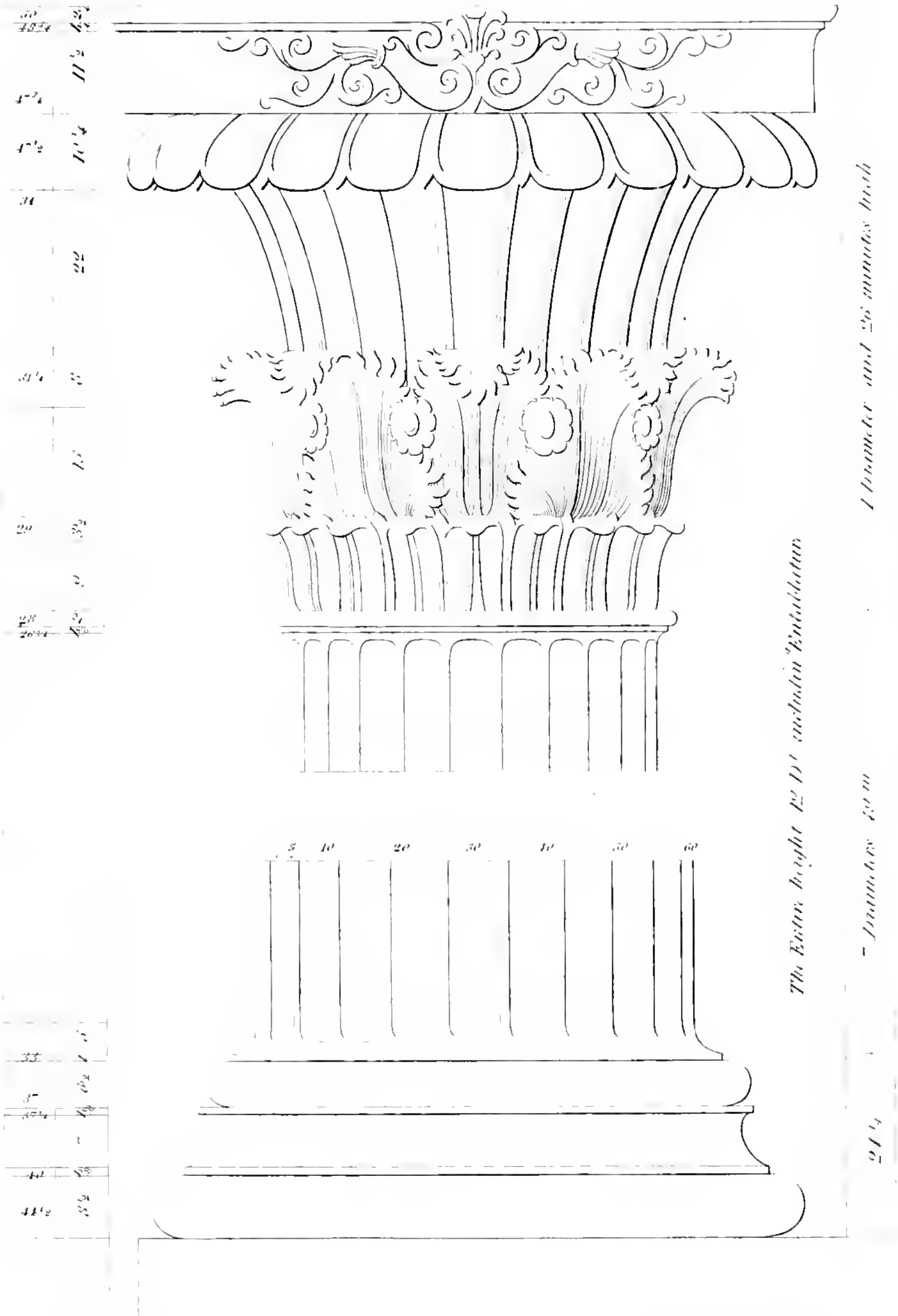


DESIGN FOR A CAPITAL.

Plate 11.

This is a design composed of antique specimens, and reduced to accurate proportions; with a view to render it acceptable in many places, instead of the standard orders. For the entablature see Plate 12. In many situations this design will be preferable to those generally in use.

Pl. II.

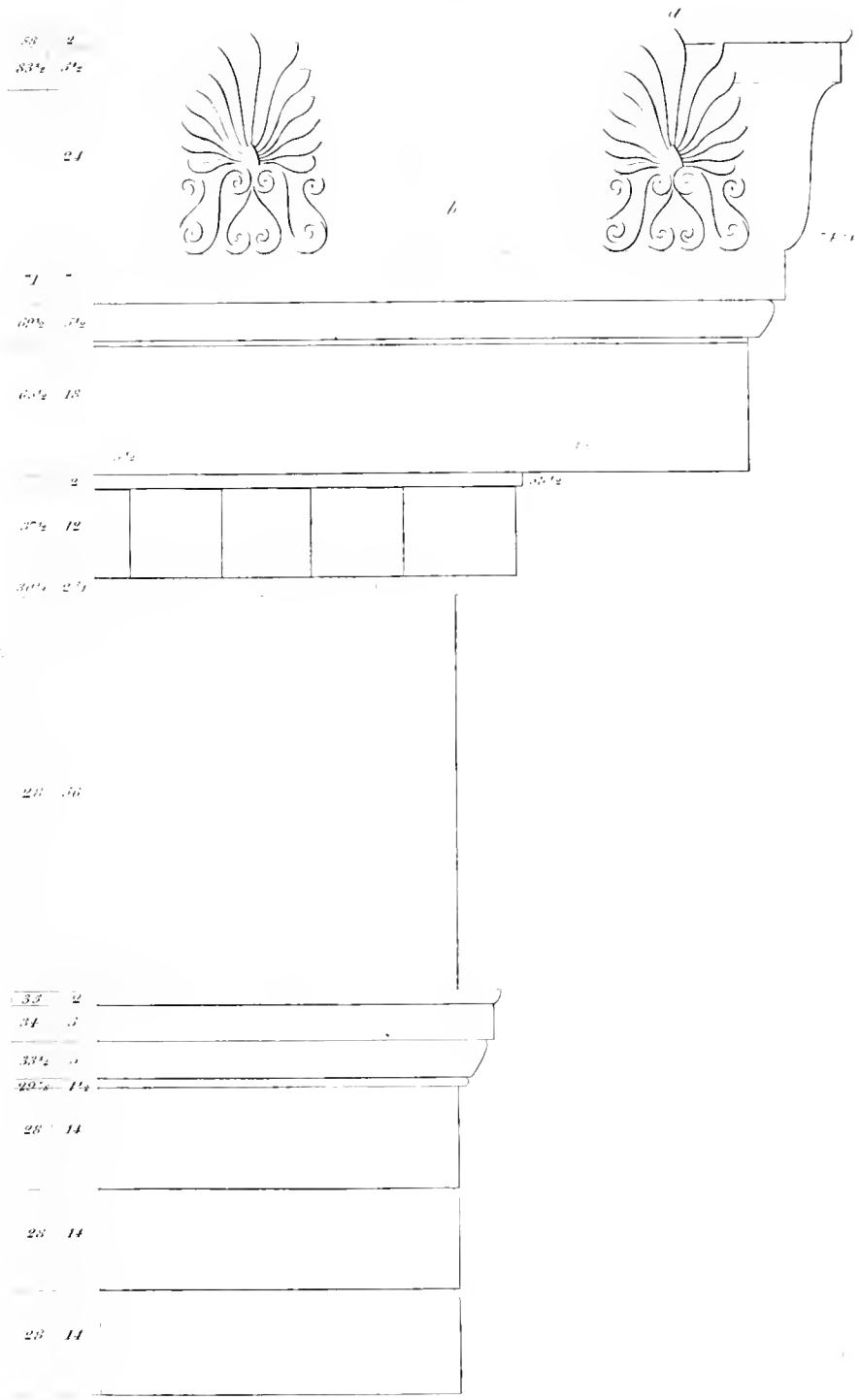


ENTABLATURE.

Plate 12.

Entablature to Plate 11. When this entablature is executed with a pediment, the effect would be improved on the sides or flanks by discontinuing the cymatium at *a* the centre of the first tile ornament. It is not intended that the tile ornaments should be executed, if the cymatium be returned or continued on the sides or flanks: *b* is the front of the water gutter, which stands behind the tile ornaments when executed.

Pl. 12.

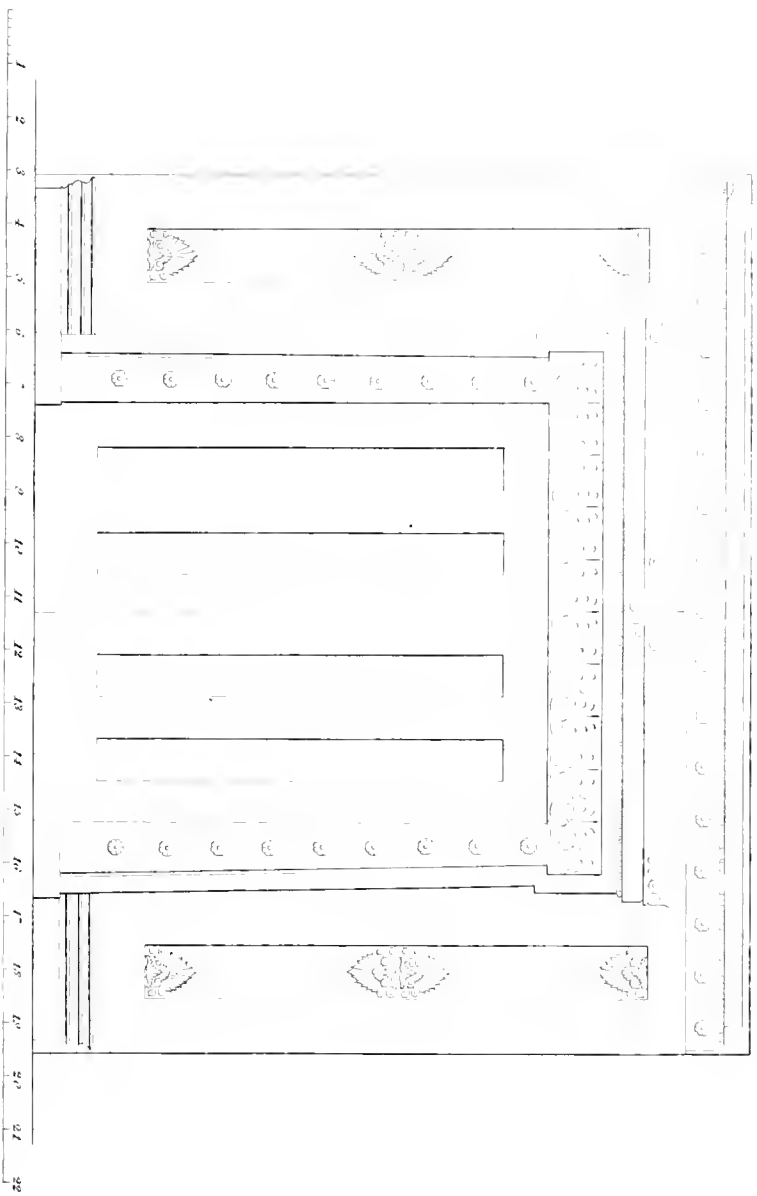


DESIGN FOR SLIDING DOORS.

Plate 13.

This plate represents the entire elevation of the partition separating the front and back parlours. In this elevation are designs of sliding or folding doors, pannels in the side-piers, cornice and frieze in the angle, formed by the ceiling and side walls. The whole elevation is new in design, and in many instances may be preferred to the antæ or column finish. In designing for interior finishings, and particularly parlours, the architect has much to perform if he wishes to excel, or even compare with, those of his profession. In this elevation, the sliding door design presents original fixtures, and by unprejudiced minds they will be favourably received, and in appropriate instances supersede the use of those which have been in use so long, and consequently become common and not so desirable as when first introduced.

Pl. 13.

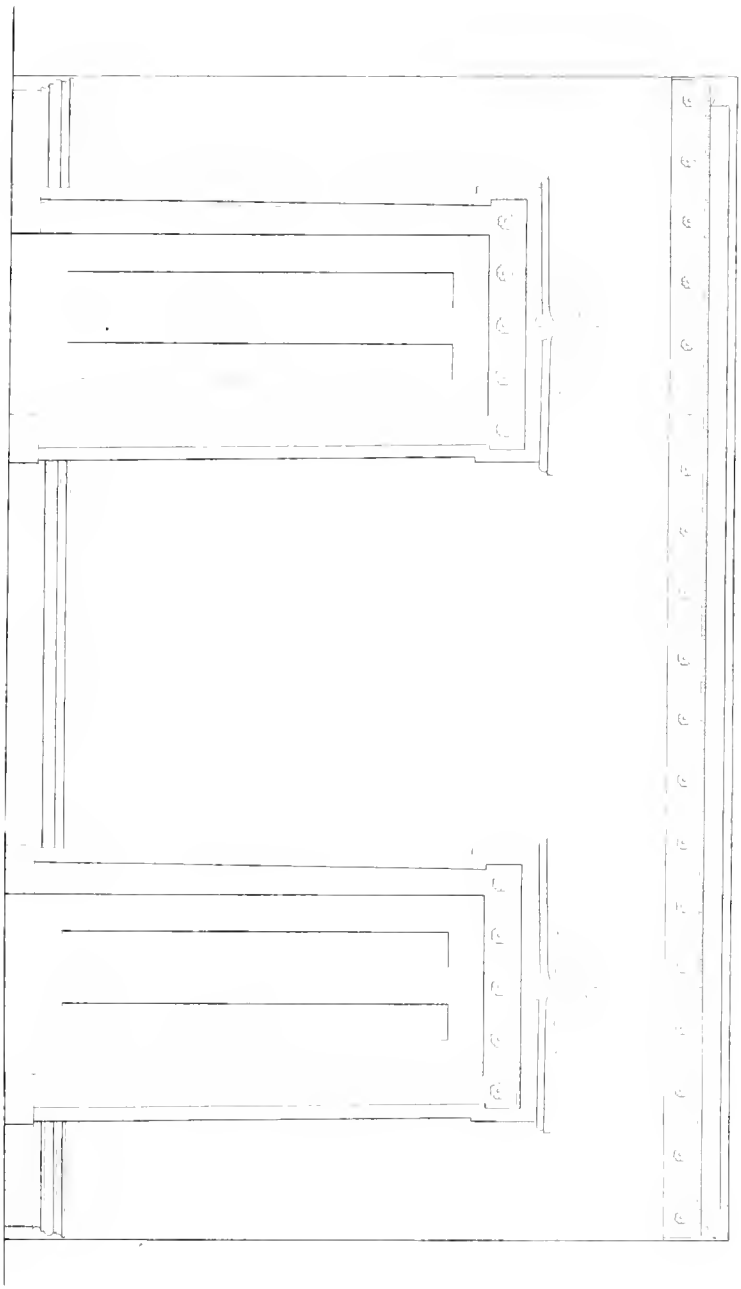


PARLOUR ELEVATION.

Plate 14.

In this is represented an entire elevation of the side of the parlours next the hall or entrance from the front door. This elevation is connected with Plate 13. The doors are trimmed in the architrave style, and executed next the door without a bead. The door recedes from the face of the architraves, in order to relieve them from the face of the door.

Pl. 14.



WINDOW DESIGN.

Plate 15.

In designing for parlour finishing, the most difficult task is to produce a desired effect, with due proportions of enrichments. In this, although considerably ornamental, yet in no respect has it an appearance of over-rated or superfluous labour. The capitals of the antæ are of an original character, and will equal any thing of a similar application yet in use. The capitals, or caps, are continued across the head of the window, under which the shutters will stand, when closed before the window; and the cap will project over them the same as it does over the face of the antæ and shutters when they are shut into the box, and at the same time forms the return sides or jambs of the antæ, as will be seen in the section. By this design it will be easy for the student to discover the important effect produced by the depth on the return of the antæ, which, prior to the present time, did not exceed one and a half inches in thickness, which certainly presented a very indifferent effect. The following are the lettered references to all the various parts: *Fig.* 1 is an entire elevation of a window with a part of the entablature directly over it. *Fig.* 2 is a section of Fig. 1, showing all the parts employed in the finish and execution of the design: *a* in Fig. 1 is a portion of the entablature; *a* in Fig. 2 is the piazza floor; *b* stone sill, this sill forms a common step from the floor *c* of window sill; *d* bottom rail of sash; *e* base to antæ and room, this base is six inches high; *f* the thickness of antæ to the shutter-box; *g* shutter, this shutter is in one entire piece, the back flap is executed

Pl. 15

Fig 1

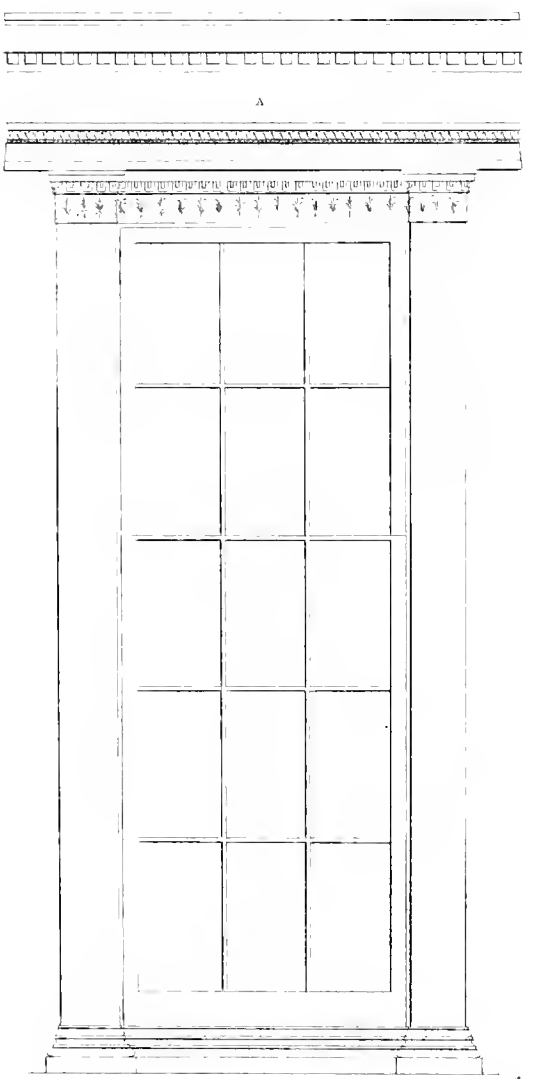
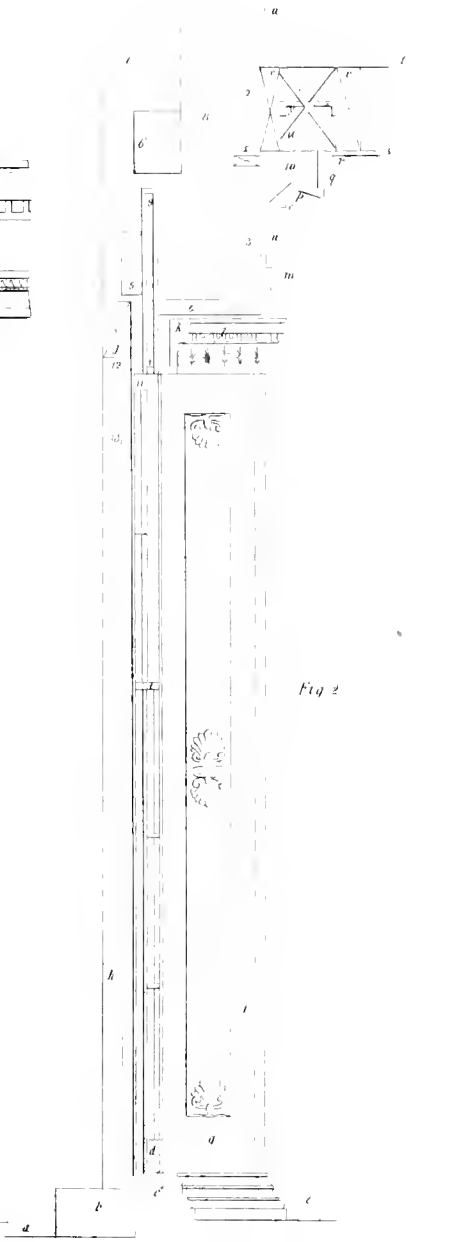


Fig 2



in two parts as usual; *h* return of brick-work to the hanging style; *i* meeting rail of sash; *j* marble or stone lintel; *k* section of that part of the antæ cap that passes over the window; *l* return of antæ cap; *m* section of the architrave of the entablature; *n* frieze of entablature; *o* bed mouldings and dentals; *p* soffit of cornice; *q* corona; *r* crown moulding of a relieved ovolo; *s* lath and plaster of the ceiling; *t* floor of second story; *u* lath and plaster of the second side wall; *v v* sections of two beams; *w* cross bridgings; *x* deafening boards; *y* strips nailed on the sides of the beams, to support the deafening board; *x z* is a section of a $4 \times 1\frac{1}{2}$ piece of hard wood running the whole extent of the wall or partition; 1 pocket-piece that raises up with the lowermost sash into the groove; 2 the second story stud; 3 the first story stud, this stud or post disappears behind the window finish; 4 cross furring to form the window soffit; 5 wooden lintel, over which a brick arch is turned to take the wall from the marble or stone lintel, *j*; 6 wooden lintel, over which is a brick arch to take the weight of the wall, and to form a recess for the pocket or groove to receive the sash when raised to admit a passage from the parlour to the piazza; 7 brick wall; 8 blank space; 9 pocket on the head of the window-frame to receive the lower sash. In the soffit or head-piece of the window there will be executed a pocket-piece the thickness of the sash, which will have a short tenon on each end, and which are to slide up in grooves prepared for the purpose; when the sash comes in contact with it, or is lowered down, it will follow it until it descends to its proper place; 10 bracket for lathing to; 11 top rail to sash; 12 section of head-piece to hanging style; 13 hanging style.

ANTÆ BASE AND CAPITAL.

Plate 16.

The antæ base and capital here represented, are designed at a half-size scale, intended as a working drawing for Plate 15. The base in this design is much lower than the usual height of parlour bases, which may by some be condemned; but after wisely examining the matter, it will be acknowledged that no architectural reasons can be assigned for its being any higher, but both utility and effect must be conceded, in an architectural point of view, in favour of the proportions here represented; *a* in the antæ capital represents a section of the moulding.

Fig 1

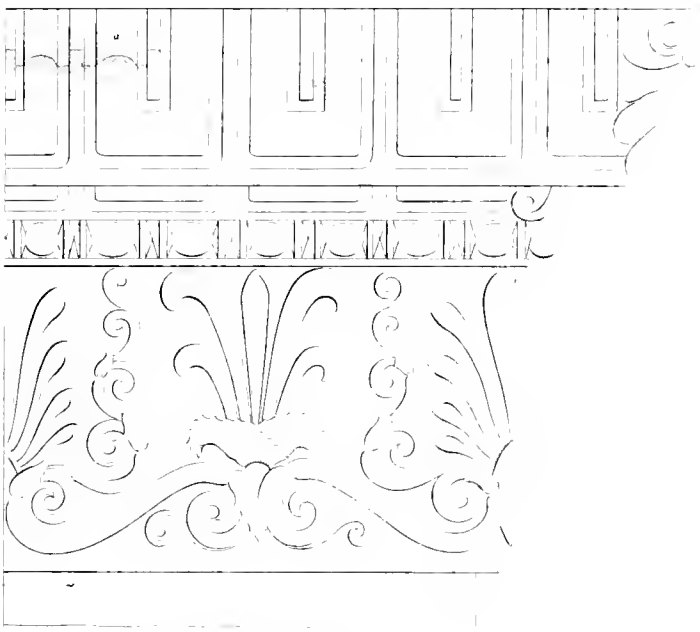
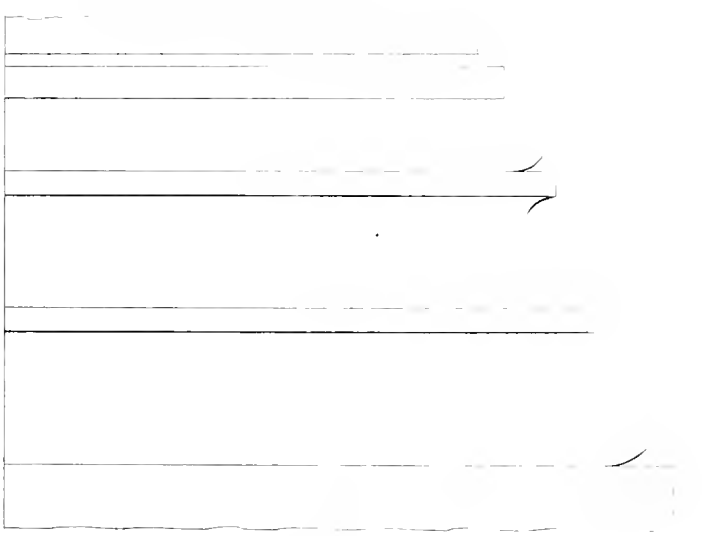


Fig 2



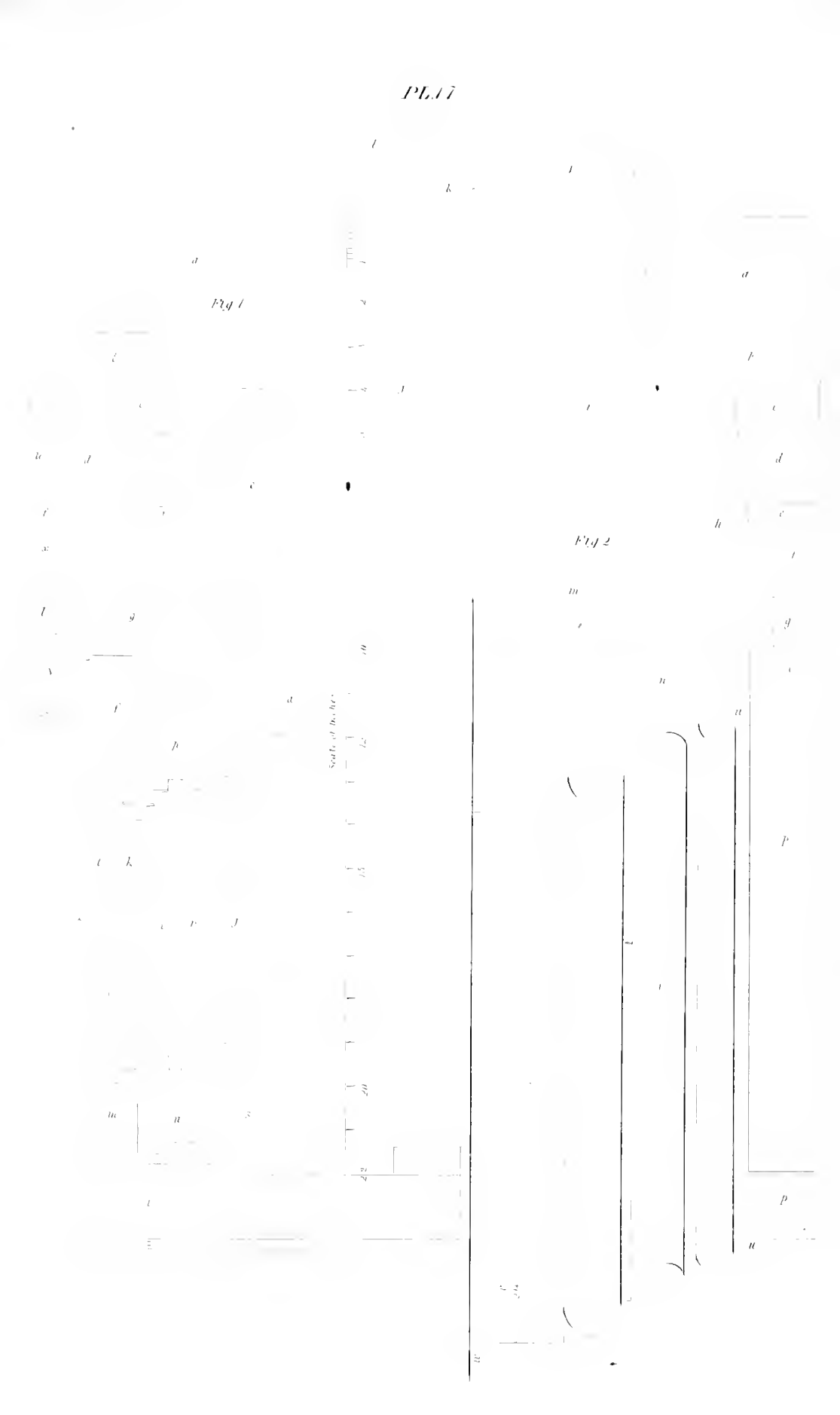
DETAILS.

Plate 17.

In this plate are illustrated all the particulars necessary to render the execution of the window design, Plate 15, intelligible to the understanding of every workman.

The parts that are most difficult to comprehend in Architecture, can no way be attained to, as readily as by plans and sectional drawings, which in this plate are fully set forth and explained. It contains a plan of the brick wall, window frame, inside shutters, shutter box, and a part of the inside architrave, and also a section of the stone sill, wooden sill, the different parts in the window frame, and an elevation and section of the base and anta. The following are the references to the different figures and letters: *Fig.* 1 represents a plan of the brick wall, window frame, shutters, box, and architrave: *a a* brick wall; *b* hanging style; *c* outside lining, and outside stop bead; *d* pulley style; *e* back lining to window frame; *g* inside lining; *v* inside stop bead; *x* inside and bottom sash; *f* parting bead; *w* groove for uppermost and outside sash; *&* box for sash weights. The following are the letters for the parts employed in the shutters, shutter box, &c.: *y* bed for the shutter when closed on the window; *z z z* projection of the fillet of the base, (see *u u* in Fig. 2;) *f* style of jamb shutter; *t* sunk pannel of shutter; *k* bead and butt pannel; *m* style of jamb shutter; *n* style of flap shutter; *o* bead and butt pannel of flap shutter; *p* outside style of flap shutter; *r* sunk pannel; *s s* style of back lining; *j* pannel of back lining: *v* inside architrave. The piece on the back of the archi-

PLATE



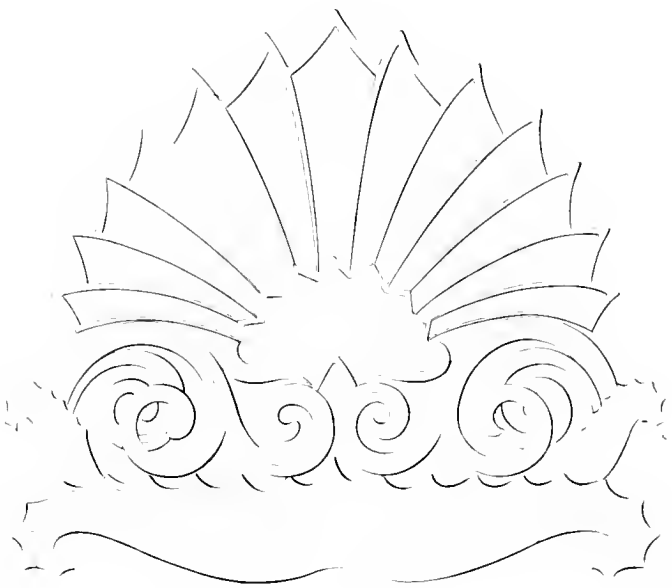
trave, near the No. 22, is glued or otherwise fitted to the architrave, to give it a sufficient projection from the wall, against which this piece lies; and is represented by the short line extending on to Fig. 2.

Fig. 2: *a* brick jamb, (see *a* in Fig. 1;) *b* hanging style; (see *b* Fig. 1;) *c* outside stop bead, (see *c* Fig. 1;) *d* groove for outside sash, (see *w* Fig. 1;) *e* parting bead, (see *f* Fig. 1;) *f* inside sash, (see *x* Fig. 1;) *g* inside stop bead, (see *v* in Fig. 1;) *o* thickness of jamb shutter when closed on the window, (see *y* Fig. 1;) *p p* inside shutter, and likewise serves as a side or flank to the anta. The *p* on the extremity of the return of the anta represents the side of the anta when the shutters are folded over the window; *r* represents the elevation of the base; *w* the section of the base; *u u* the projection of the fillet of the base past the anta and shutter, both when in the anta, and when closed over the window; *s* represents the plinth under the base mouldings; *w* floor line; *m* the height of stone sill and thickness of piazza floor, *j* under the sill is the thickness of the piazza floor, and in front represents the front thickness of sill; *k* is the difference between the height of the parlour and piazza floors; *l* underside of piazza floor; *i* section of stone sill.

DETAILS.

Plate 18.

The details described, are drawn to an enlarged scale for the pannels in Plate 15, but will be applicable in various situations. The designs are original, and designed and drawn by C. L. Bell, Architect.



PARLOR DOOR.

Plate 19.

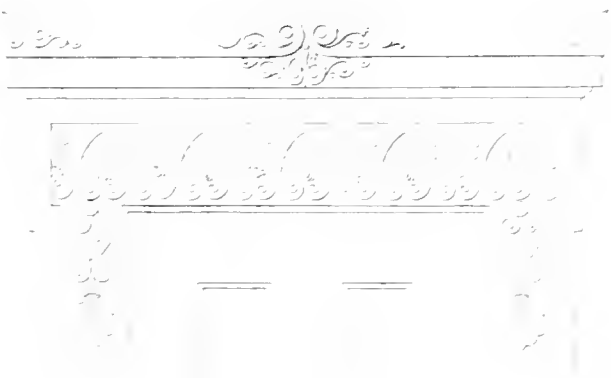
This design is original and appropriate for parlours of the first class. The composition is novel and judiciously arranged, and in no instance where elegance is required would it fail to produce a chaste and elegant effect.

The workmen in making preparations, and through the whole execution of this design, must pay particular attention to the neatness and perfection of all the parts engaged, in order to render it more perfect.

The plan of the door jamb is moulded with a neat ogee moulding, which will present it more chaste and acceptable to classic observers. In order to make it useful in practice, it is thought necessary to accompany it with the details in working drawings, which are illustrated at large and explained in Plate 20.

Note.—The present and former custom of executing high skirtings and bases in parlours being fixed in the minds of almost every workman as unavoidably necessary, it may be well to remark, (notwithstanding the treatises in favour of such proportions, that no one branch of finishing more requires a reform from the old school system. The writer is aware of the prejudices against new designs in the architectural department; he nevertheless resolves to carry into effect, as far as his abilities will permit, a change in designs and proportions of interior finishings for private residences. He would therefore recommend to those concerned, to duly consider all subjects of the above importance, prior to the execution thereof.

Pl. 19



SCALE

WORKING DETAILS TO PLATE 19.

Plate 20.

Fig. 1 represents the plans of the studs, lath and plaster, architrave, door jamb, plinth, and door, which are thus described, viz. : *a a a* plinths ; *b* architrave ; *c c* mouldings to door jamb ; *d* door jamb ; *e* door ; *f f* thickness of lath and plaster ; *g g* studs or joists ; *h* space between studs ; *i* backing of architrave ; *j j* front line of plaster.

Fig. 2, profile of architrave and cornice ; *a* crown moulding ; *b* corona ; *c* soffit, or plancer of cornice ; *d* bed mould ; *e* outer facia of architrave ; *f* inside facia.

Fig. 3, ornament across the door head, (see Plate 19.)

Pl. 20

Fig 2

1 2 3 4 5 6 7 8 9 10

SCALE OF INCHES

Fig 1

DESIGN FOR A CENTRE FLOWER.

PLATE 21.

The design presented is original, and appropriate to parlours of the first class. It may be varied in size to accommodate many situations.

Pl. 21.

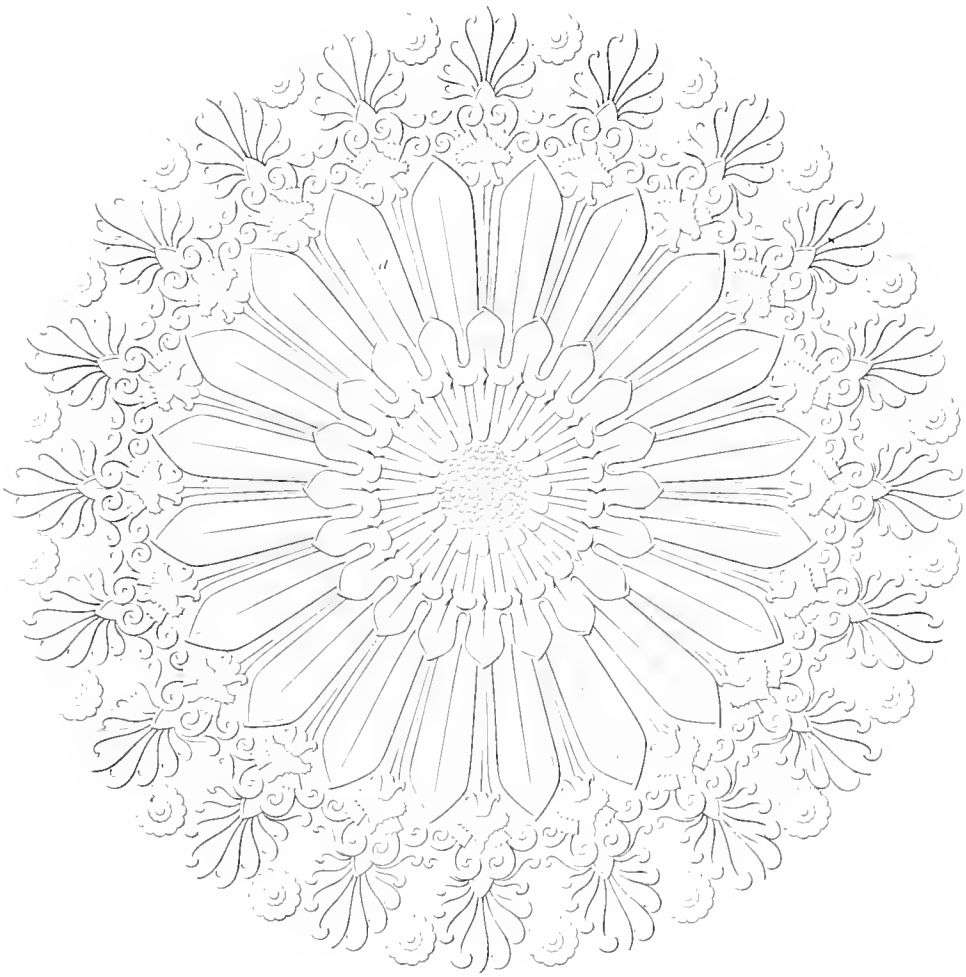


Fig 1

Fig 2

Fig 3

1 SCALE 2 3

ANTA AND ENTABLATURE.

Plate 22.

Is a miniature drawing of an anta and entablature, given to show the comparative heights and proportions, and to reduce it to a scale of minutes for operative purposes. The numbers are figured the same as in the details of Plates 23 and 24. *Fig.* 1 is the anta and entablature. *Fig.* 2, an enriched egg-moulding to an enlarged scale, but does not belong with the above anta.

PL. 22

Fig 2

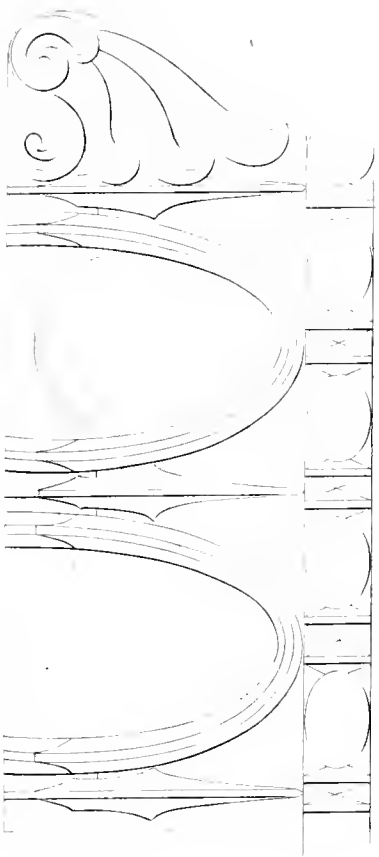
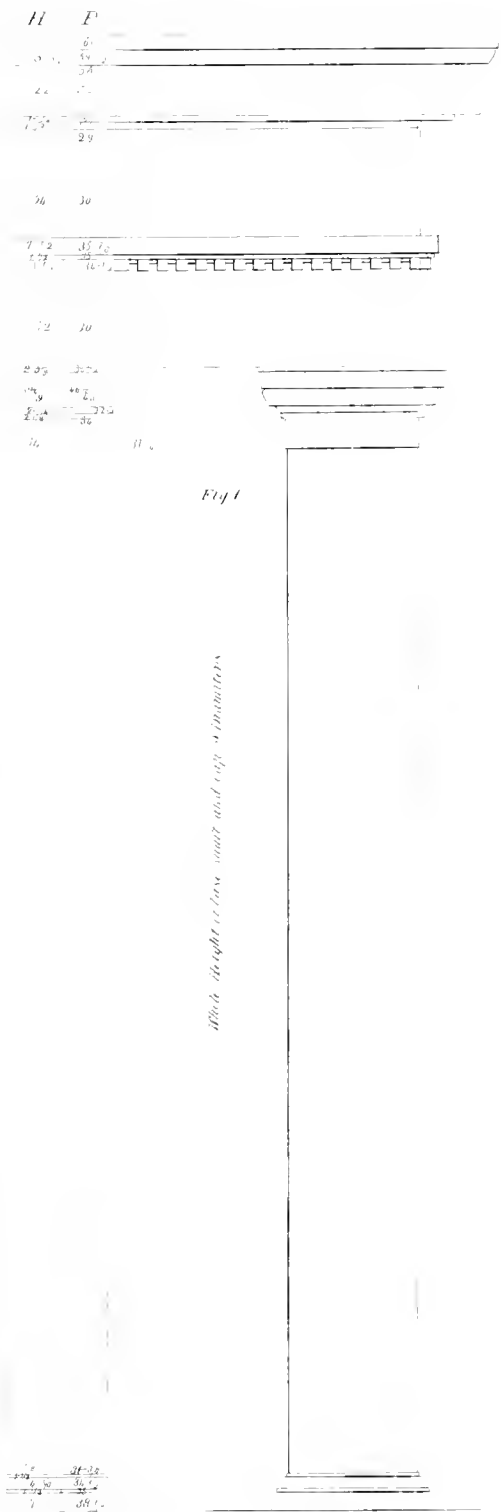


Fig 1



ANTA DETAILS.

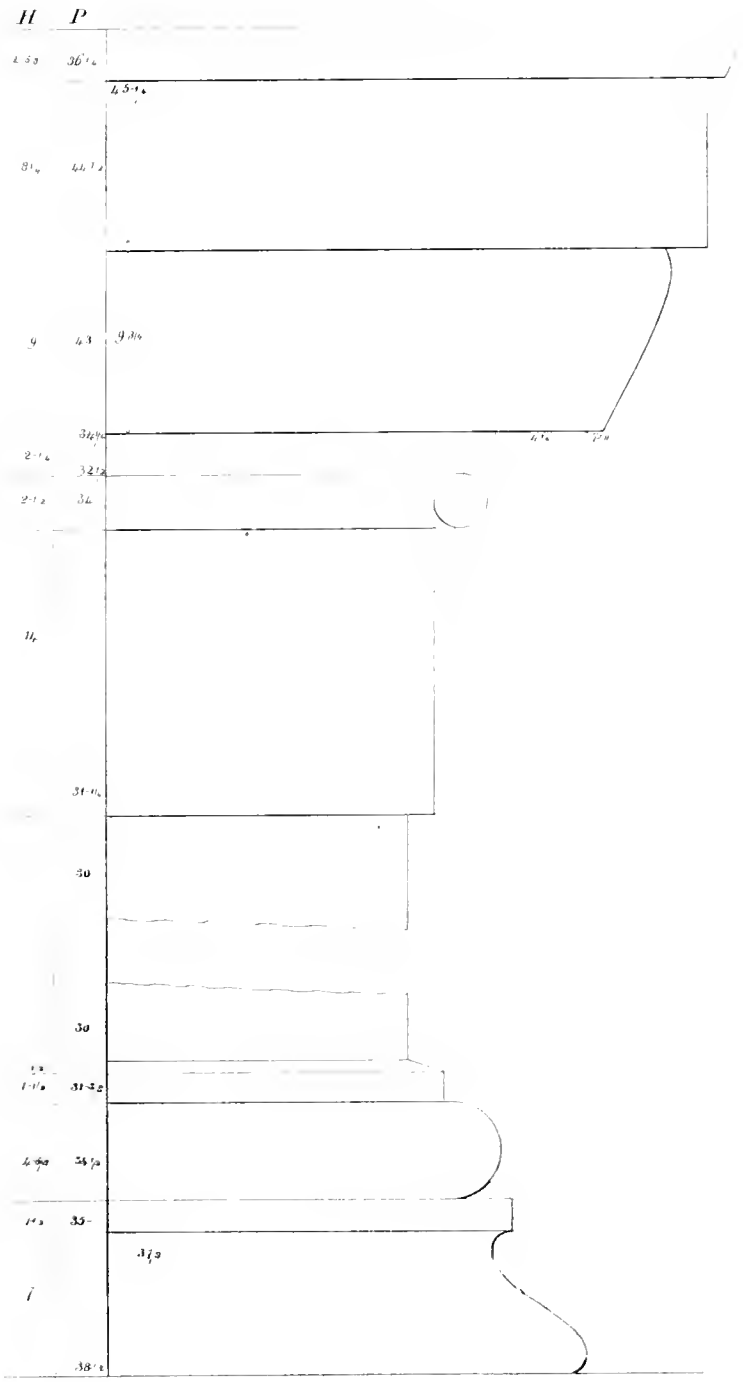
Plate 23.

The details of this plate are half full size, and reduced to a scale of minutes, in order to render it intelligible to the student, for practice. This anta bears resemblance to the anta employed in the Choragic Monument at Athens, yet it materially differs therefrom in the contours and proportions of the details. The projections are figured from the centre. The letter H at the top of the columns represents height, and P projection.

The base mouldings are well adapted in form and proportion for parlours.

N. B.—The termination of the base, which is a bevel, is figured one and a half minutes high, but should have been one half only.

PL. 23

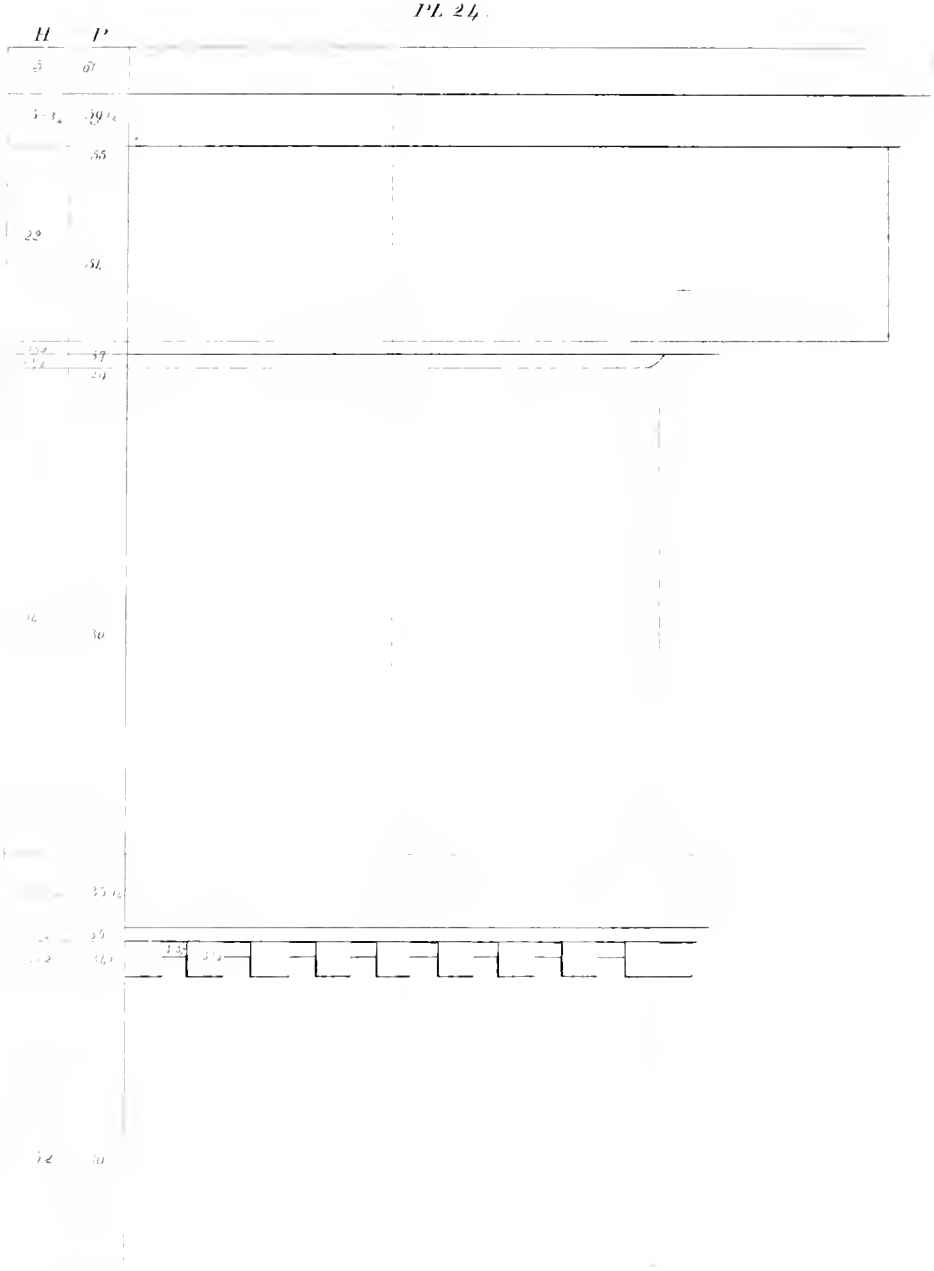


ANTA ENTABLATURE DETAILS.

Plate 24.

The architrave guttæ, or drops, are formed in two lengths and projections. The longest guttæ, or drops, may be either round or square; but the shortest row will be square, and project to the centre of the round guttæ. The projections are figured from the centre, as in Plate 23.

PL 24.



SLIDING DOOR DESIGN.

PLATE 25.

This design is original in its features, and may be classed with the richest compositions of the present style of finishing. It may be remarked, with propriety, that many attempts have been made to introduce appropriate and elegant finishing, that might be executed without connecting it with the cornice of the room, which in this case is effected, and may in various situations be preferable to column or anta when the architrave and frieze are terminated between the walls. The plan and elevation are shown entire at Figs. 1 and 2. *Fig.* 1, elevation; *Fig.* 2, the plan.

PL. 25.

Fig. 1

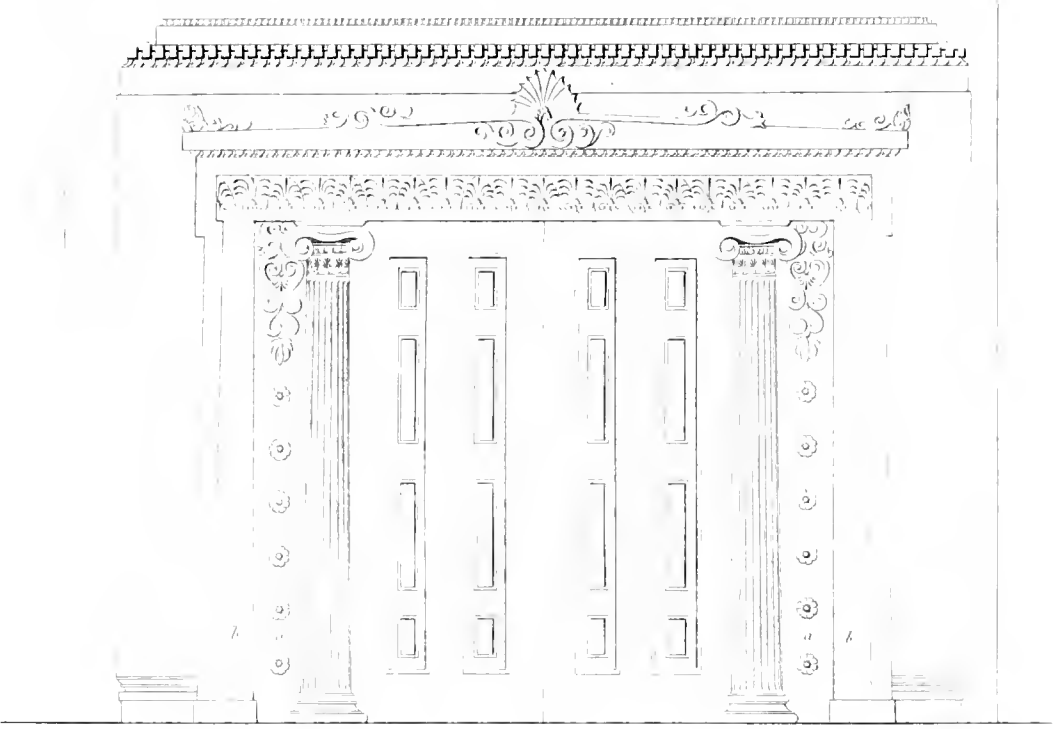
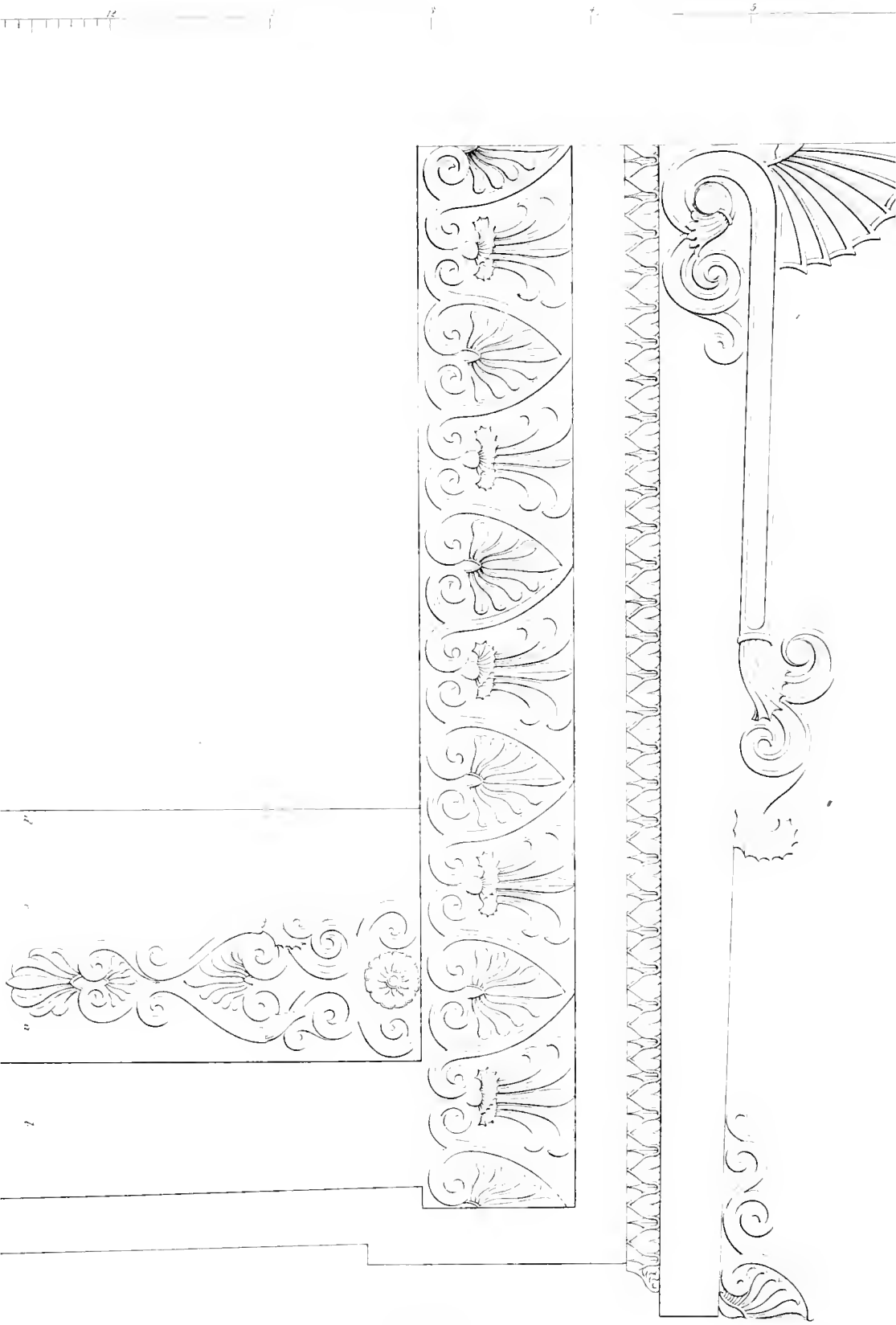


Fig. 2

DETAILS OF SLIDING DOORS. PL. 25.

Plate 26.

These details are drawn to an enlarged scale, by which the proportions and forms are distinctly shown, and by which the workman may be instructed to execute with a degree of correctness necessary to produce the required effect. The drawing, as shown, represents the semi-elevation of the door-head, connected with a portion of the side elevation: *a* represents the centre of the column; *b* elevation of the architrave, (see *b b* in the design, Pl. 25;) *e*, the dotted line, represents the extremity of the column.

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DETAILS OF SLIDING DOORS.

Plate 27.

In order that the student may be furnished with necessary instructions, which will enable him systematically to carry these designs into execution, the details are, in this and the two following plates, given on an enlarged scale, with all the parts figured and referred to in the following explanations.

Fig. 1 represents the plan with the studdings, base, boxing for the door, the door in the box, and the columns ; *a a* Fig. 1, plan of columns ; *b* facia back of column, (see *a* in Fig. 1, Plate 25 ;) *c* return or flank of *g* in Fig. 2 ; *d* face of architrave, (see *g* in elevation, Fig. 2 ;) *f* margin or band, (see *f* in elevation, Fig. 2 ;) *g* lath and plaster, and likewise grounds ; *h* regulating bead to the door ; *i* door jamb ; *j j j* studs ; *k k k* spaces between the studs which requires pieces worked in at about two feet apart for nailing to ; *l* plan of door when slid on the box ; *m* represents the partitions, door, &c., as broken off within the full extent. *Fig.* 2, a broken elevation of the base, architrave, facia between the architrave and columns, and the column ; *a* the base, and a small portion of the column ; *b* plinth under the architrave ; *c d e* base mouldings of the room ; *f* band or margin of the architrave ; *g* facia of the architrave ; *o* represents the way-piece.

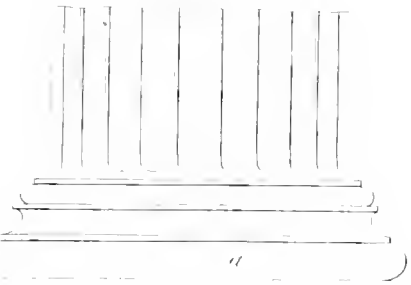


Fig 2

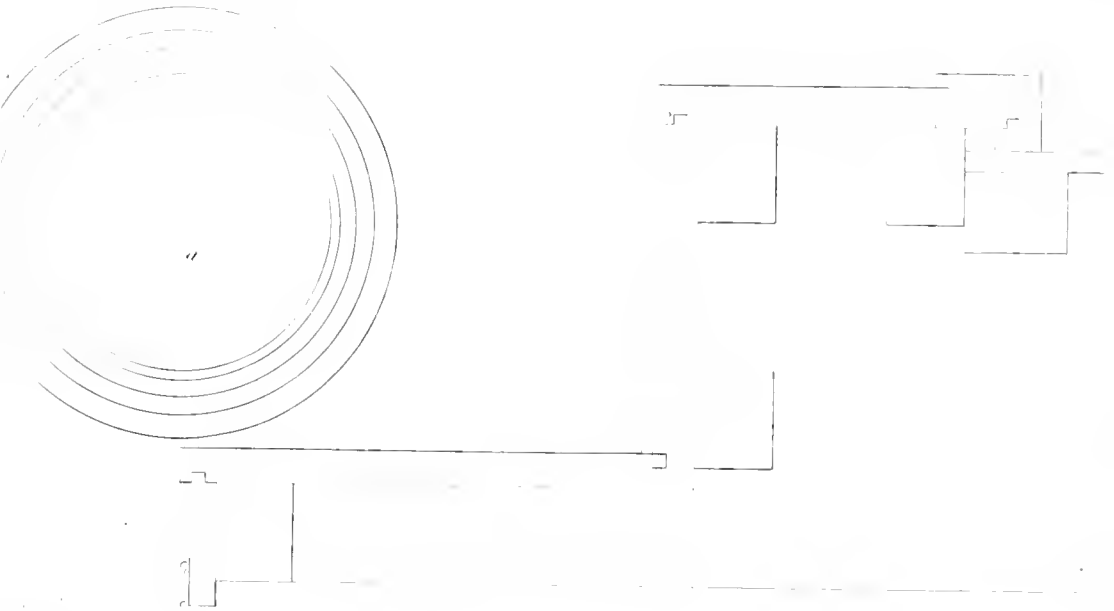
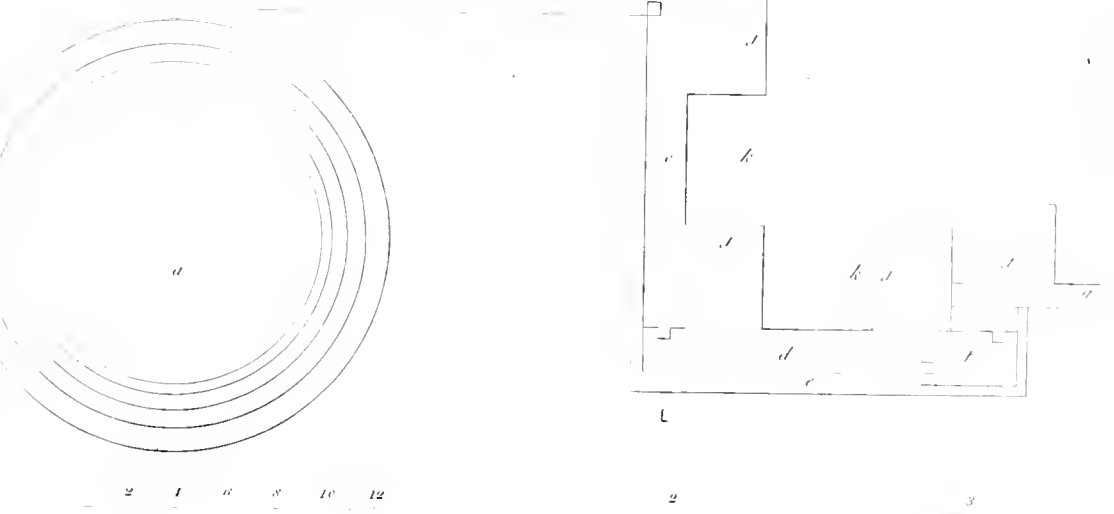


Fig. 1.

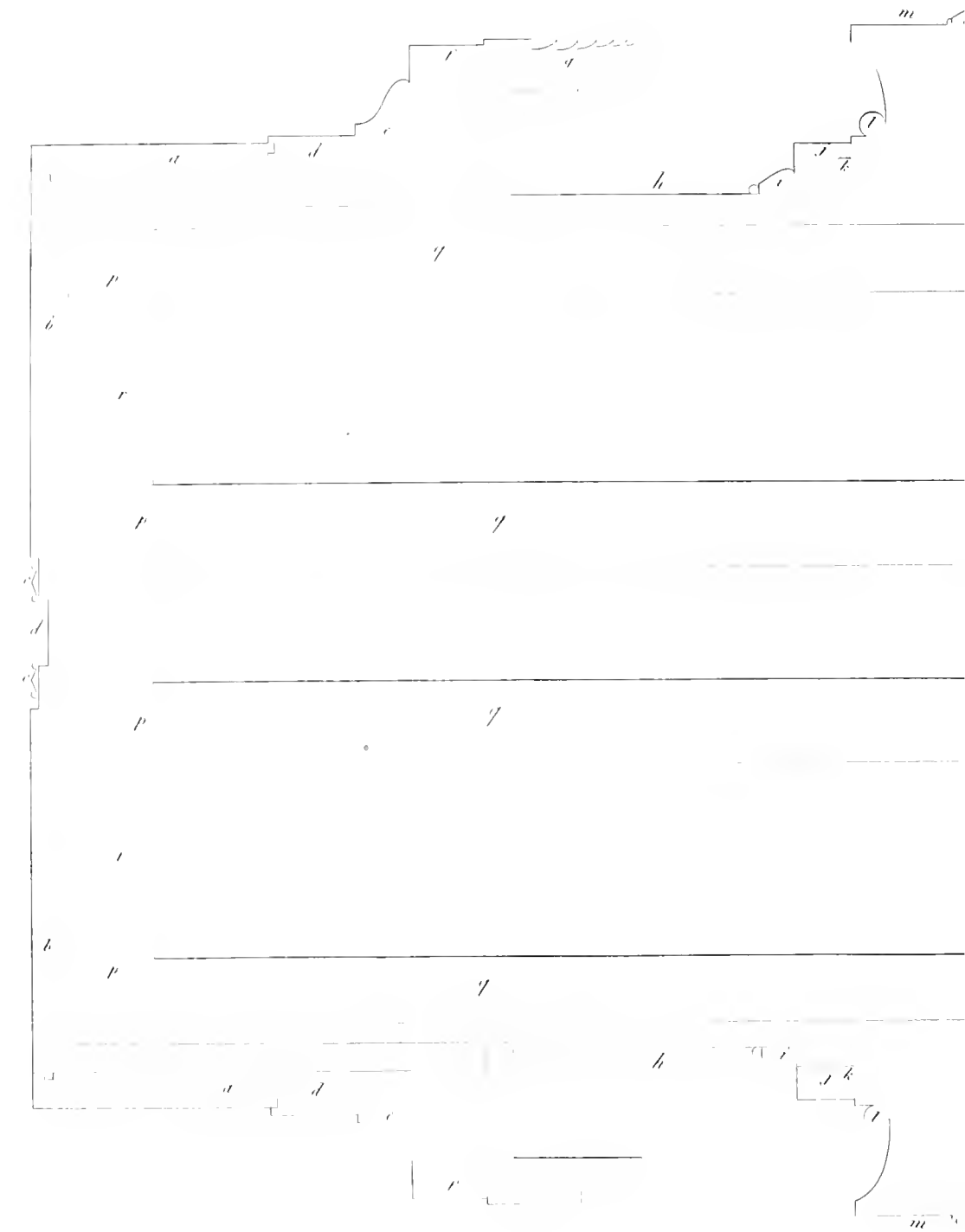


SECTION OVER SLIDING DOORS.

PLATE 28.

This section represents all parts employed in cornicing, furring, and finishing over the doors, and are designated by the terms, viz.: *a a* facia of the architrave on which the ornaments are applied over the door; *b b* soffit over the door; *c c* regulating beads for the doors, (see *h* in Plate 27;) *d* between the regulating beads, represents the groove formed for the door to slide in; *d d* on the two extremes represent the border or margin of the architrave; *e e* bed mould; *f f* corona upon which the ornament is executed; *g* the centre ornament; *h h* facia or frieze of the cornice around the room, which is of plaster; *i i* bed mould; *j* dental, (see Plates 30 and 31;) *k* anta, or intermediate dentals, (see Plates 30 and 31;) *l* ornamental bead, (see Plates 30 and 31;) *m m* corona of stucco cornice in the angle of the ceiling and side wall; *n n* crown moulding; *o o* ceiling of the room; *p p p p* section of furring; *q q q q* studding, or joists.

Pl. 28.

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DETAILS.

Plate 29.

Fig. 1 represents a section of parts of the styles and pannels of the sliding doors on an enlarged scale; *a a* a portion of the two styles; *b b* thickest part of the pannels, or that part which forms the outer margin; *c c* the inner recess or pannel, the entire elevation of which may be seen in the design, Pl. 25. *Fig.* 2, a parlour base on an enlarged scale: *b* represents a furring piece behind the plinth; *a* represents the wall line.

Pl. 29.

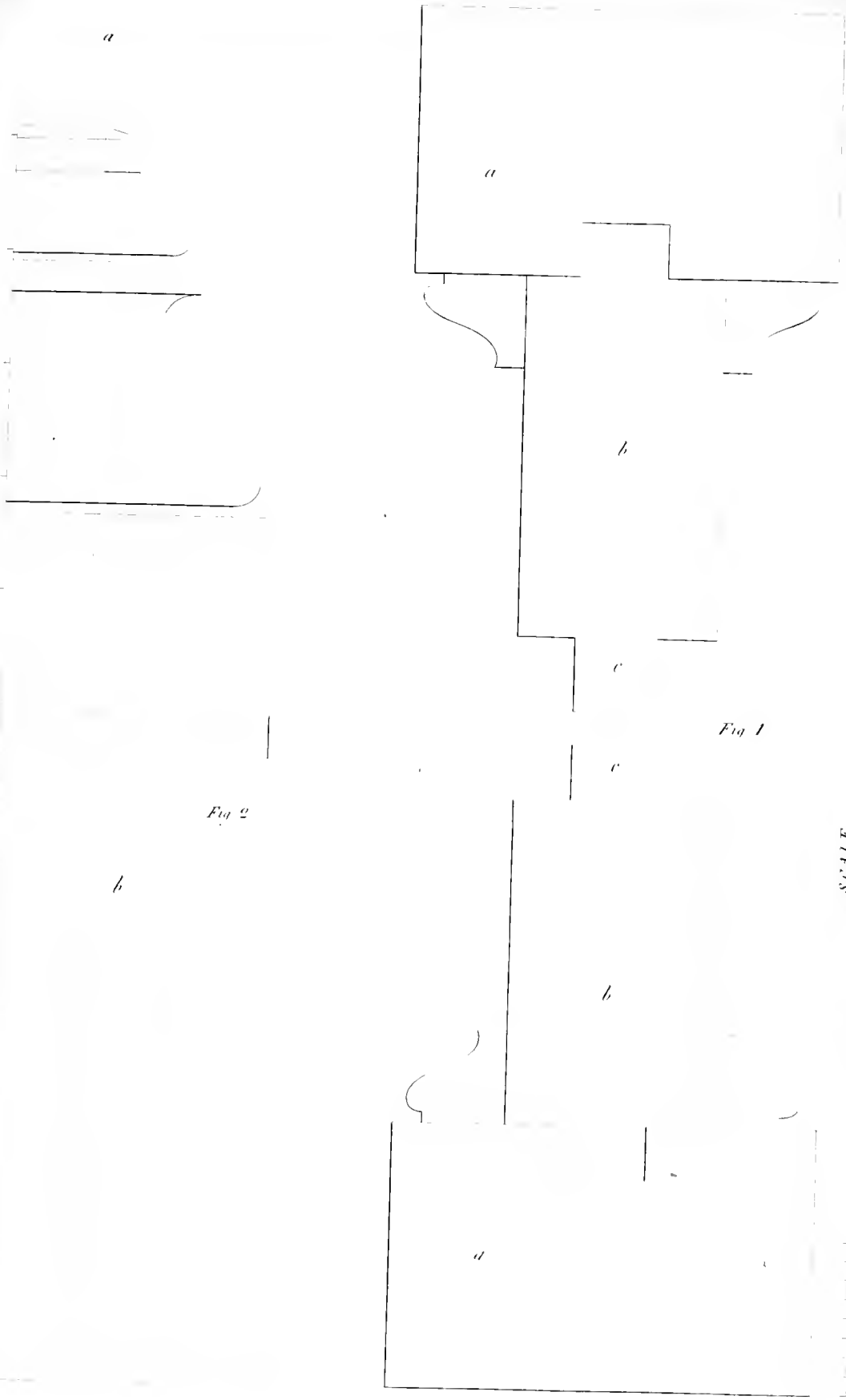


Fig 1

Fig 2

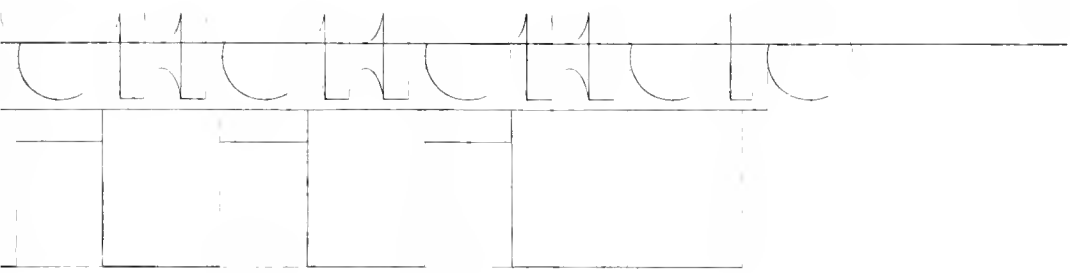
SCALE

SCALE

EXTERIOR EAVE CORNICE.

Plate 30.

This design consists of bold and prominent members, disposed of in a manner that will not fail to produce an imposing effect in any situation. It has proportions adapted to a three-story house; consequently, if required higher or lower, a variation accordingly will be required: *a* represents the frieze; *b* a piece put on the back of the frieze, to make the projection about two inches from the face of the brick wall; *c* should have set back of *b*, and represented the brick wall. By the projections over the head of the plate, it will be seen that the whole projects eighteen inches from the face of the brick wall, and sixteen inches from the face of the frieze.



IONIC ORDER.

Plate 31.

This example has neither the proportions nor general features of the antique Ionic order, nor is it pretended that it is in general equal to it; but it is hoped that it may not be wholly inferior. The general proportions are as below described, viz.:

The whole height of the column, base, and capital, is eight diameters; and the whole height of the entablature is three diameters and five minutes; and the whole entire height of the order, including base, shaft, capital, frieze, and cornice, is eleven diameters and five and a half minutes. For the proportions of the capital, see Plate 32, which is designed for a working drawing.

DETAILS OF IONIC CAPITAL.

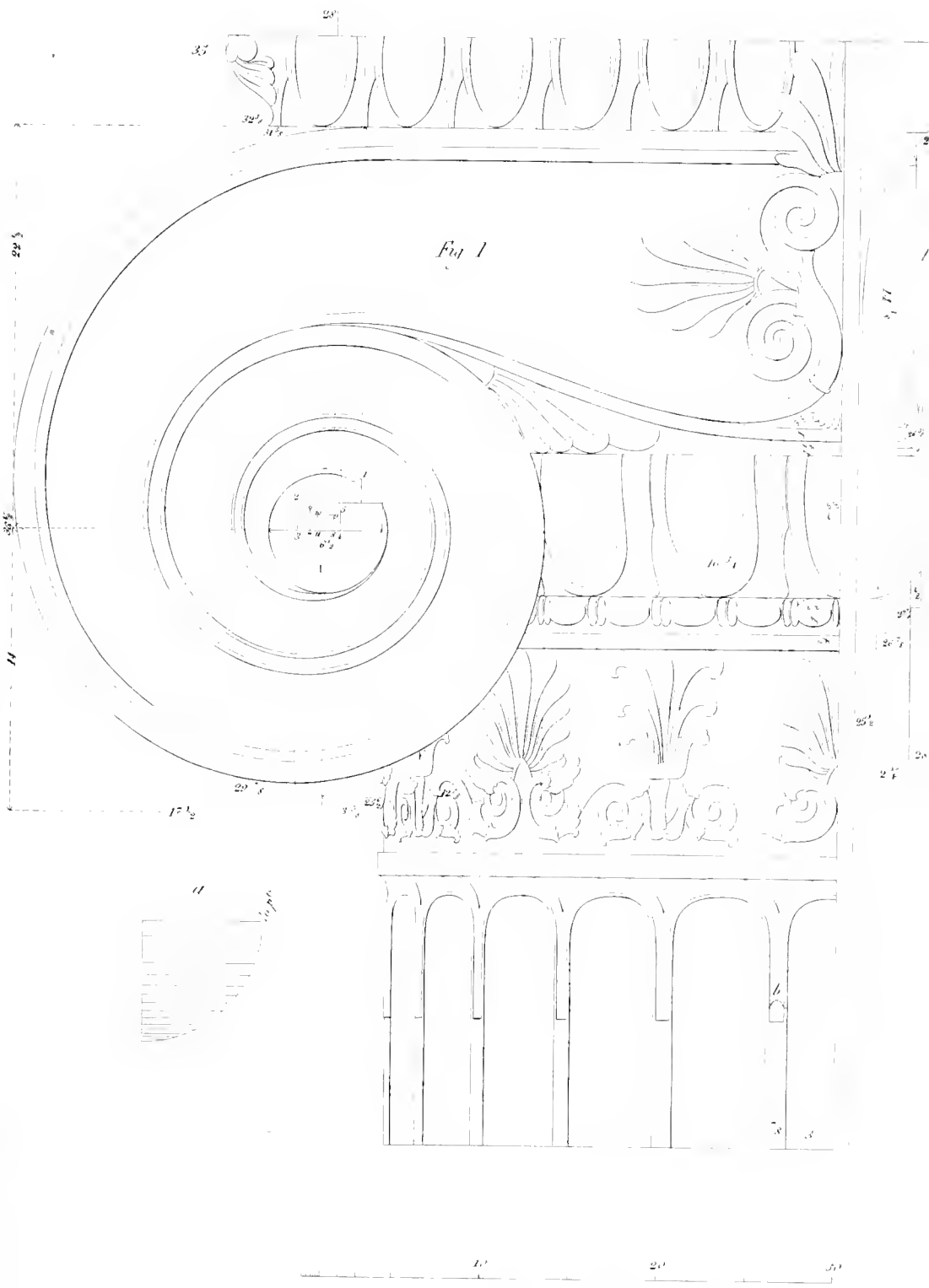
Plate 32.

This capital is not of any particular specimen of antique productions, but partakes of several, as well as of fancy. The composition is a departure from the strict, perfect, and arbitrary rules of design. Notwithstanding, it will be admitted that it, as a modern combination of parts, presents rather a pleasing effect.

Fig. 1 presents the abacus, volute, echinus, bead, the succle and lotus, necking ornament, and the heads of flutes which are banded, or headed with an astragle, as at *b*. *Fig.* 2, section of capital, Fig. 1. The quarter circle on the left of the plate, and represented by the small letter *a*, is a rule by which the spiral beads that revolve round the eye are proportioned, and is performed thus: Take the whole dimensions of the beads that are horizontal, under the abacus, and describe a quarter circle; which circle divide into sixteen parts, and each part on the right line will give a correct diminish for each quarter, as it revolves around the eye. The revolutions of the spirals are produced as follows: Divide the eye, which is seven minutes from out to out of the hem, and six and a half minutes within the hem of said eye, into the number of parts shown in the eye; then take the distances figured on the right lines, which are the number of minutes required, and revolve the dividers; the quarters, as described by the dotted lines.

The method of describing this volute, was invented and reduced to practice by Mr. James H. Daken, whose talents, taste, and ideas, are of the first order, and by the writer held in very high estimation.

PL. 32.

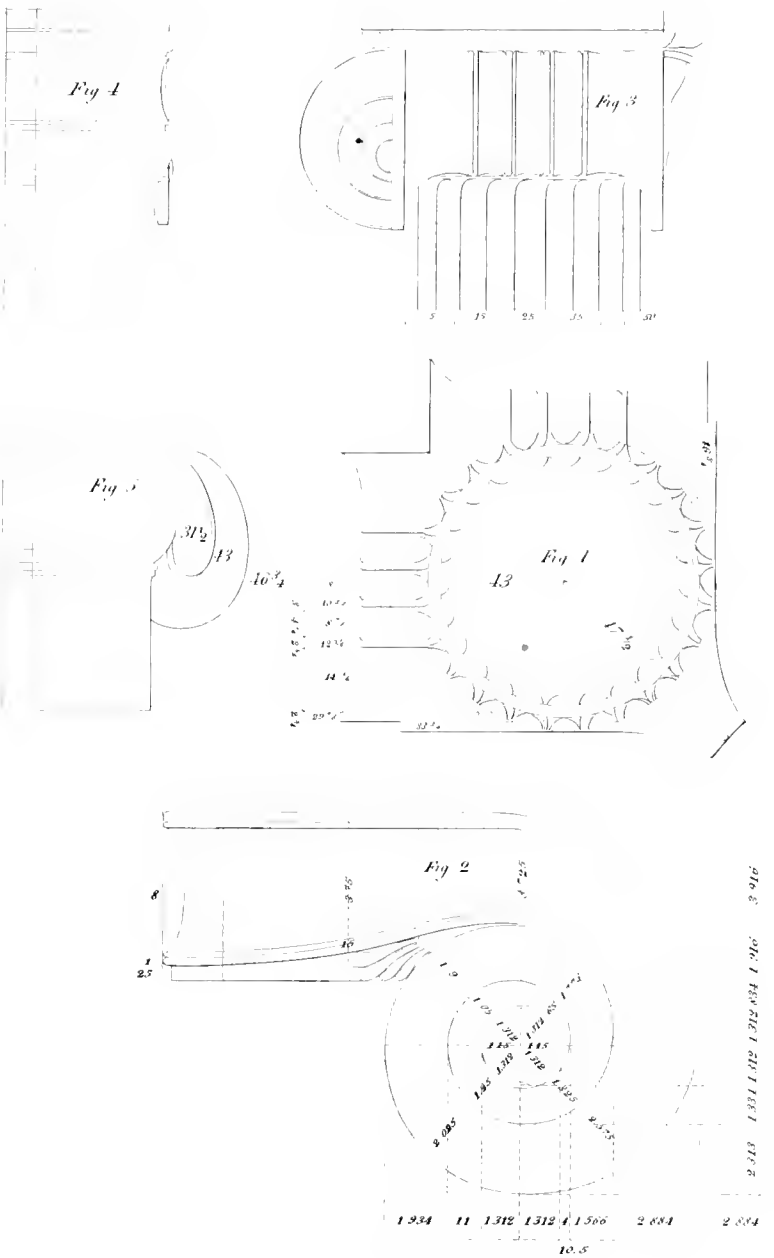


IONIC DETAILS.

Plate 33.

These details are introduced in order to give the operative workman a general view of the construction of this simple and beautiful capital. The details here given are precisely the same as they were in the original temple. The elevation of the volute, as represented by *Fig.* 2, is figured in feet and inches, as taken on the spot at the temple by Messrs. Stuart and Revett. *Fig.* 1 represents a general plan of the angular capital, and is figured by the scale of minutes, as at Plate 32. *Fig.* 5 represents a section of the flank. *Fig.* 4, a section through the volute, the same as Fig. 2 in Plate 32, and is not figured. *Fig.* 3 represents an elevation of the flank, the projections of which are figured on the under side of Fig. 5.

Pl. 33.



FROM THE ERECTHEION TEMPLE.

Plate 34.

Fig. 1, plan of the angular capital. *Fig.* 2, side elevation, or profile of the capital. *Fig.* 3, section of capital. *Fig.* 4, elevation of antæ capital.

Fig 2

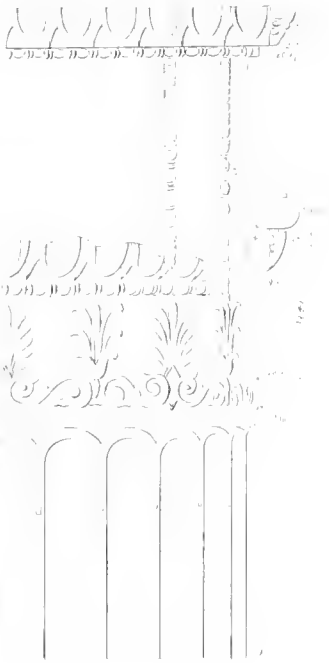


Fig 3

Fig 1

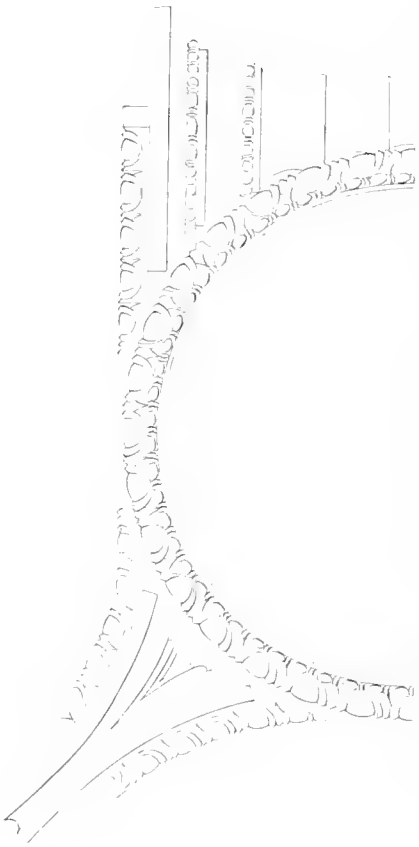
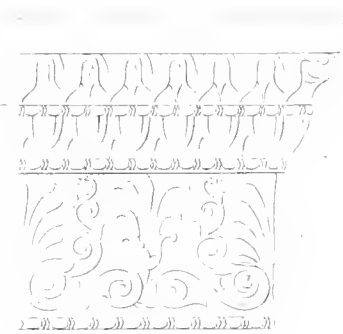


Fig 1



FROM THE ERECTHEION TEMPLE.

Plate 35.

This plate represents the front and side elevation of a cargatides. *Fig.* 1, side or profile view. *Fig.* 2, front elevation. For the peculiar character, refer to the historical description.

DETAILS OF CARYATIDAE PANDRDSEION.

PL. 35

Fig. 1

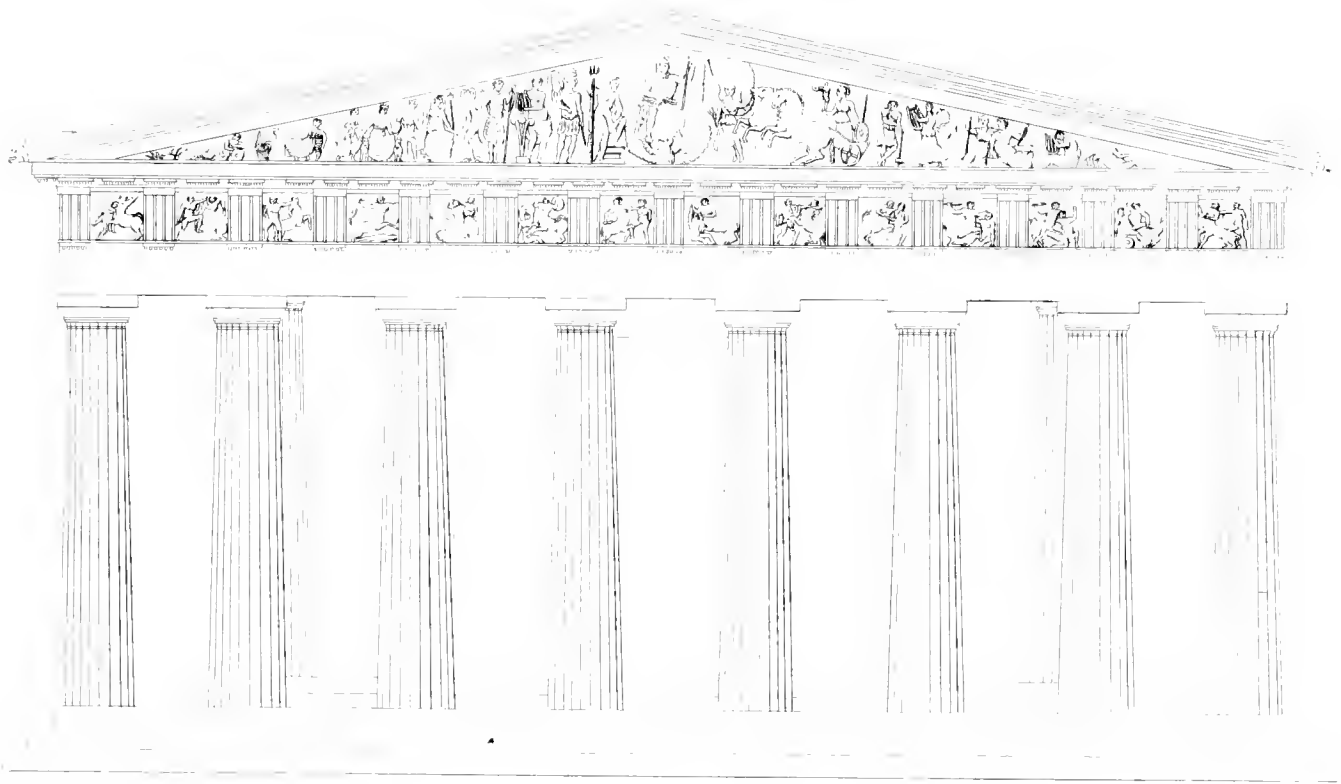
Fig. 2

FROM THE ERECHTHEION.

THE PARTHENON AT ATHENS.

PLATE 36.

The elevation exhibited in this example is simple, beautiful, rich, and unquestionably the most perfect of any building of antiquity. The reader, for an historical view, will refer as in the preceding plate.



ELEVATION OF THE TEMPLE OF MINERVA PARTHENON.

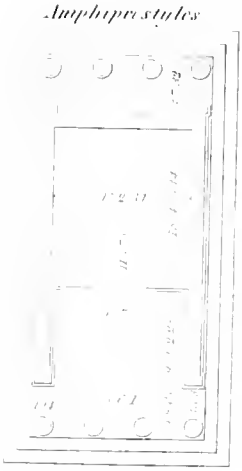
GREEK TEMPLES.

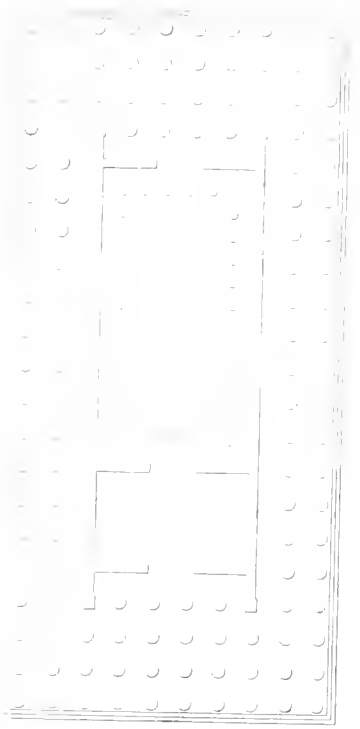
Plate 37.

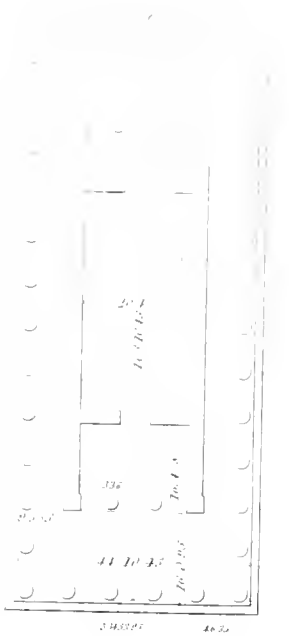
The plans here introduced are, for the purpose of stimulating the rising generation to a correct taste, of severe and perfect elegance of architecture. The different plans are to distinguish the different names originating out of the different number of columns employed. For particulars refer to definitions of terms.

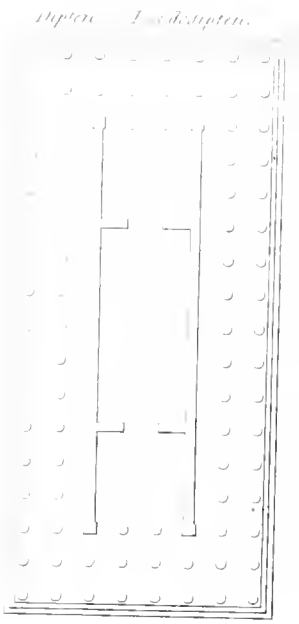
GRECIAN ARCHITECTURE.

Hypæthros









TEMPLES.

THE PARTHENON AT ATHENS.

PLATE 38.

Fig. 1, a perspective view. *Fig.* 2, a front geometrical view. *Fig.* 3, a longitudinal or side view.

Fig 1.

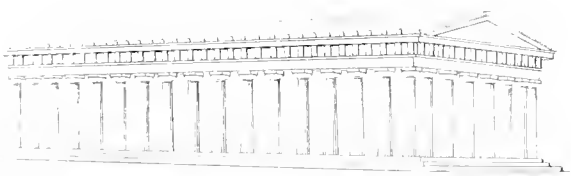


Fig 2

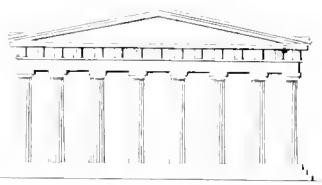
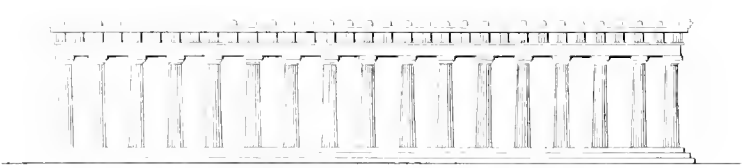


Fig 3

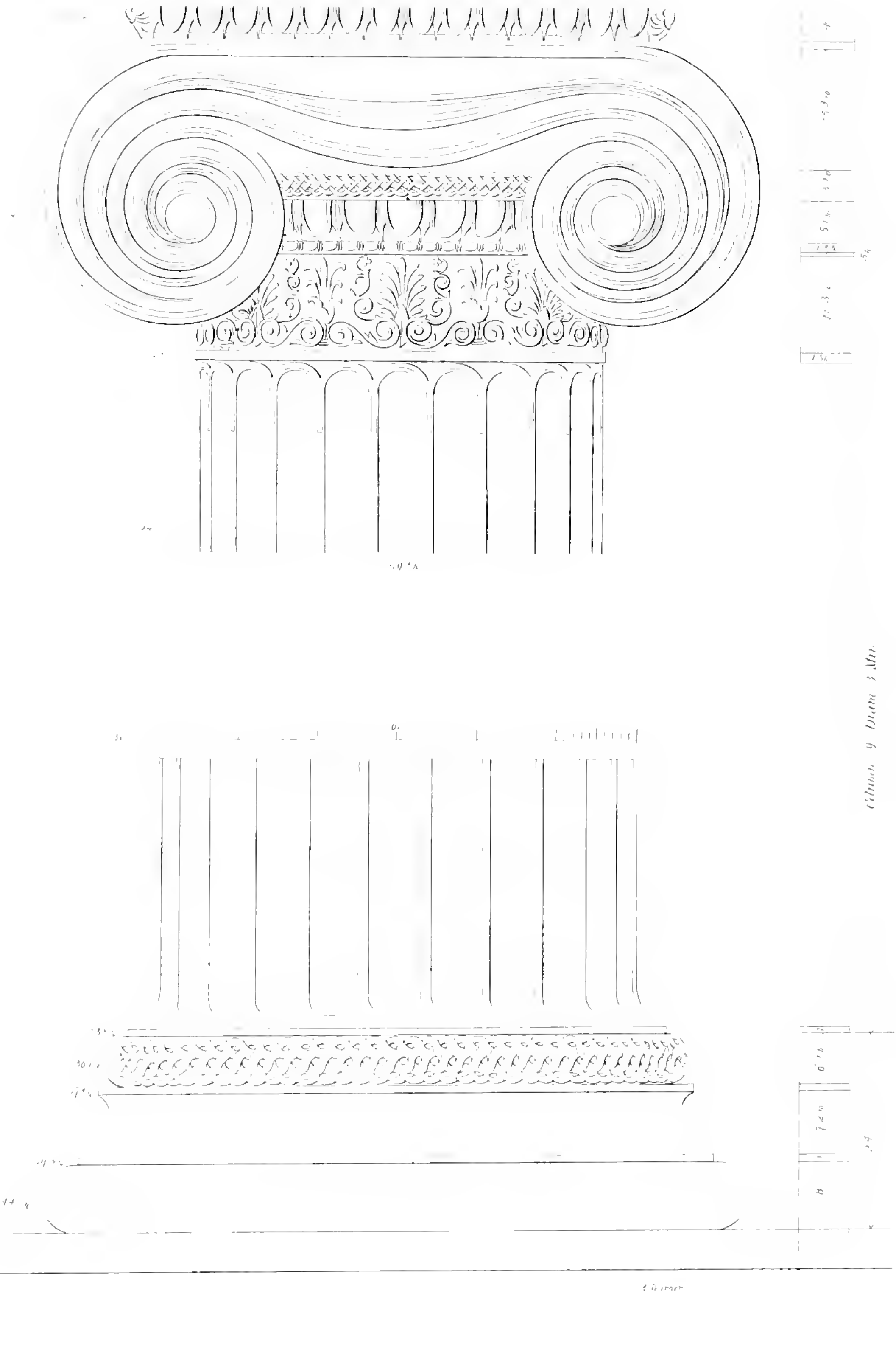


IONIC DETAILS.

Plate 39.

The details here presented are from the temple of Minerva Polias, which constitute one of the porticoes of the Erectheion temple at Athens.

PL. 39



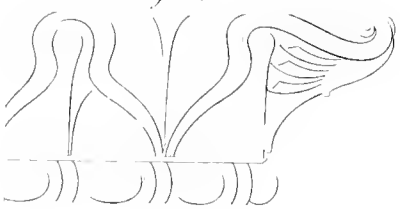
IONIC DETAILS.

Plate 40.

Fig. 1, entablature to the preceding Plate 39. *Fig.* 2, base, as in Plate 39. *Fig.* 3, antæ base to Fig. 4 in Plate 34. *Fig.* 4, architrave moulding to an enlarged scale. *Fig.* 5, bed moulding to an enlarged scale.

Pl. 40.

Fig 5.



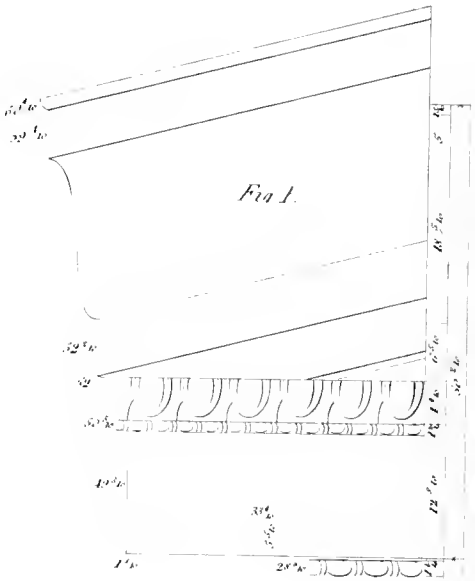


Fig 1.

Fig 4.

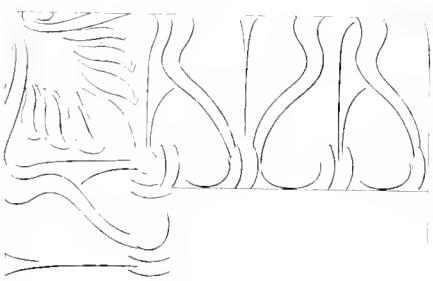


Fig. 3.

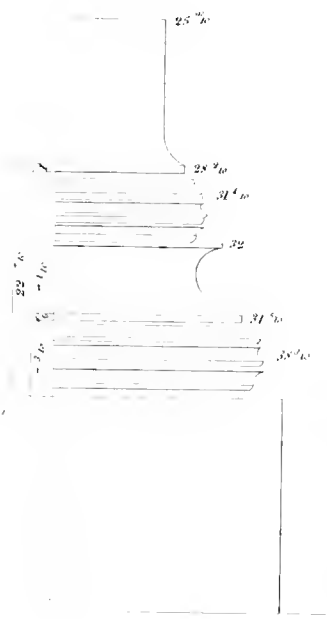
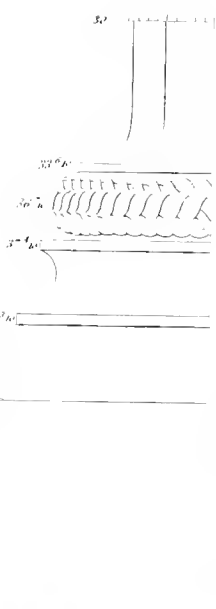
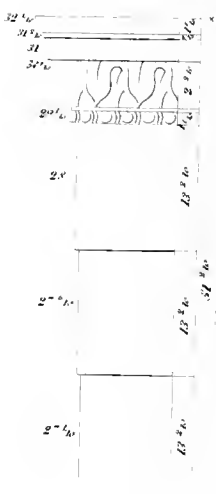


Fig. 2.





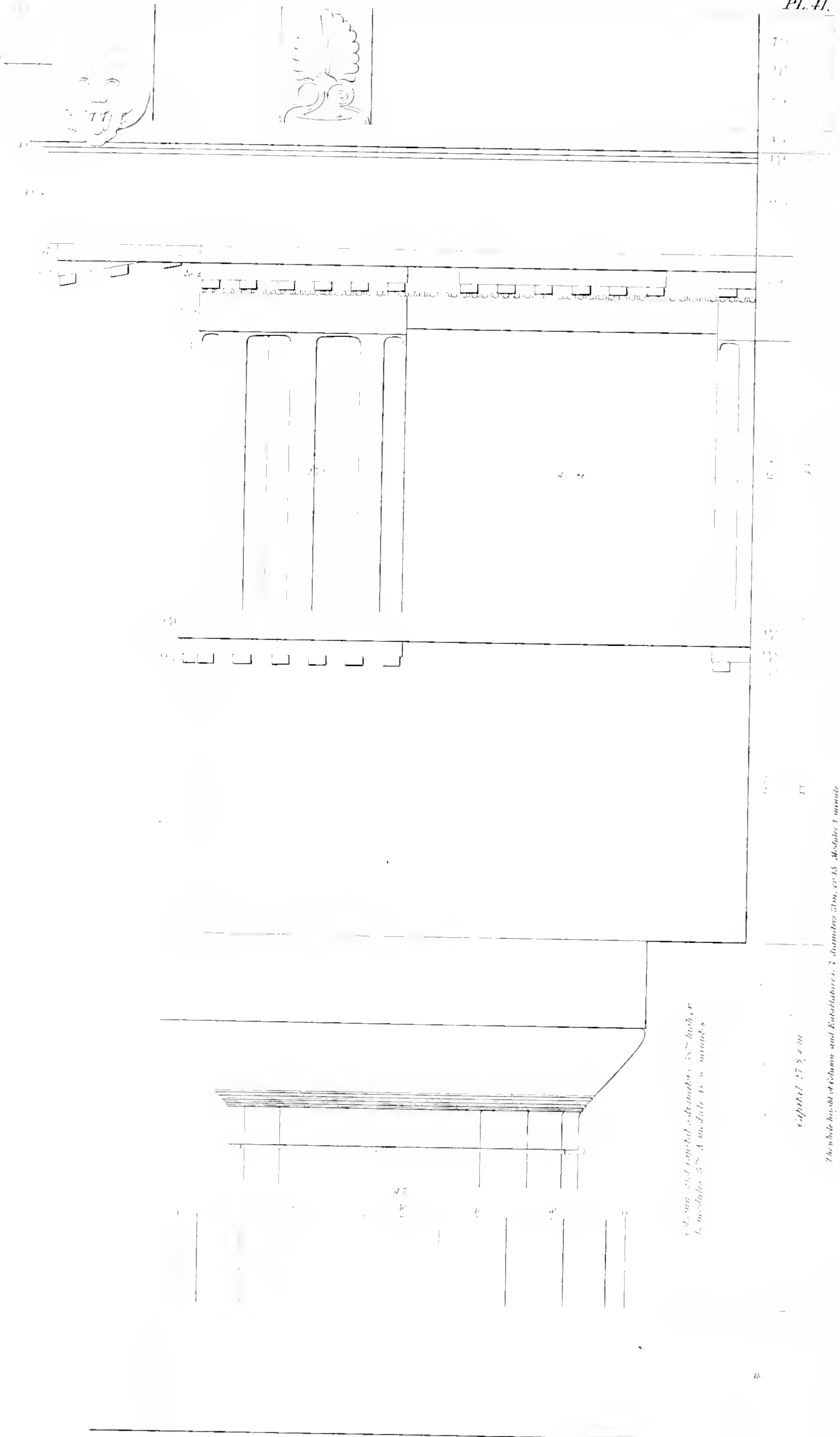
GRECIAN ARCHITECTURE.

Plate 41.

This Plate presents a detail drawing of the Doric order, from the Temple of Minerva, at Athens; for a description of which, refer to the History of the Temples. The parts in height and projections are figured by a scale of minutes.

DORIC ORDER FROM THE TEMPLE OF MINERVA AT ATHENS

PL. 41.



DETAILS OF THE DORIC CAPITAL.

PLATE 42.

Fig. 1, plan of column at the neck. *Fig.* 2, semi-elevation of the capital. *Fig.* 3, section of fillets, flute, and groove; *a* depth of the flute. It may be useful to the operative workman to remark that the flutes require to be worked up to the lowermost fillet entire.

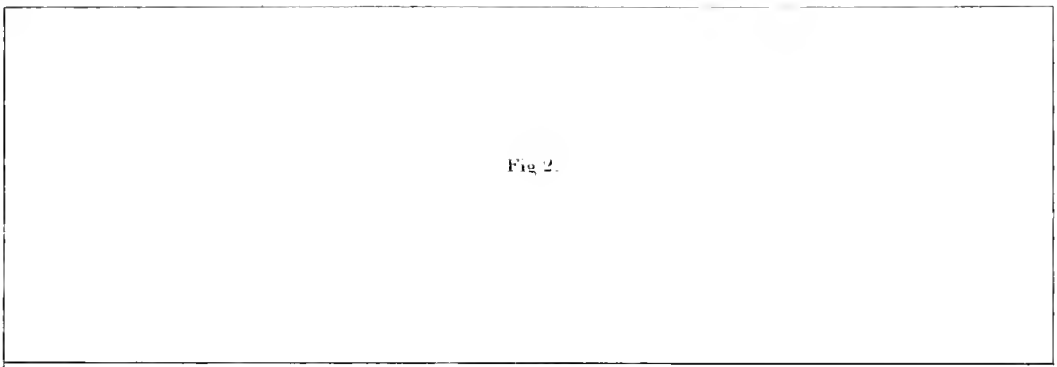


Fig 2.

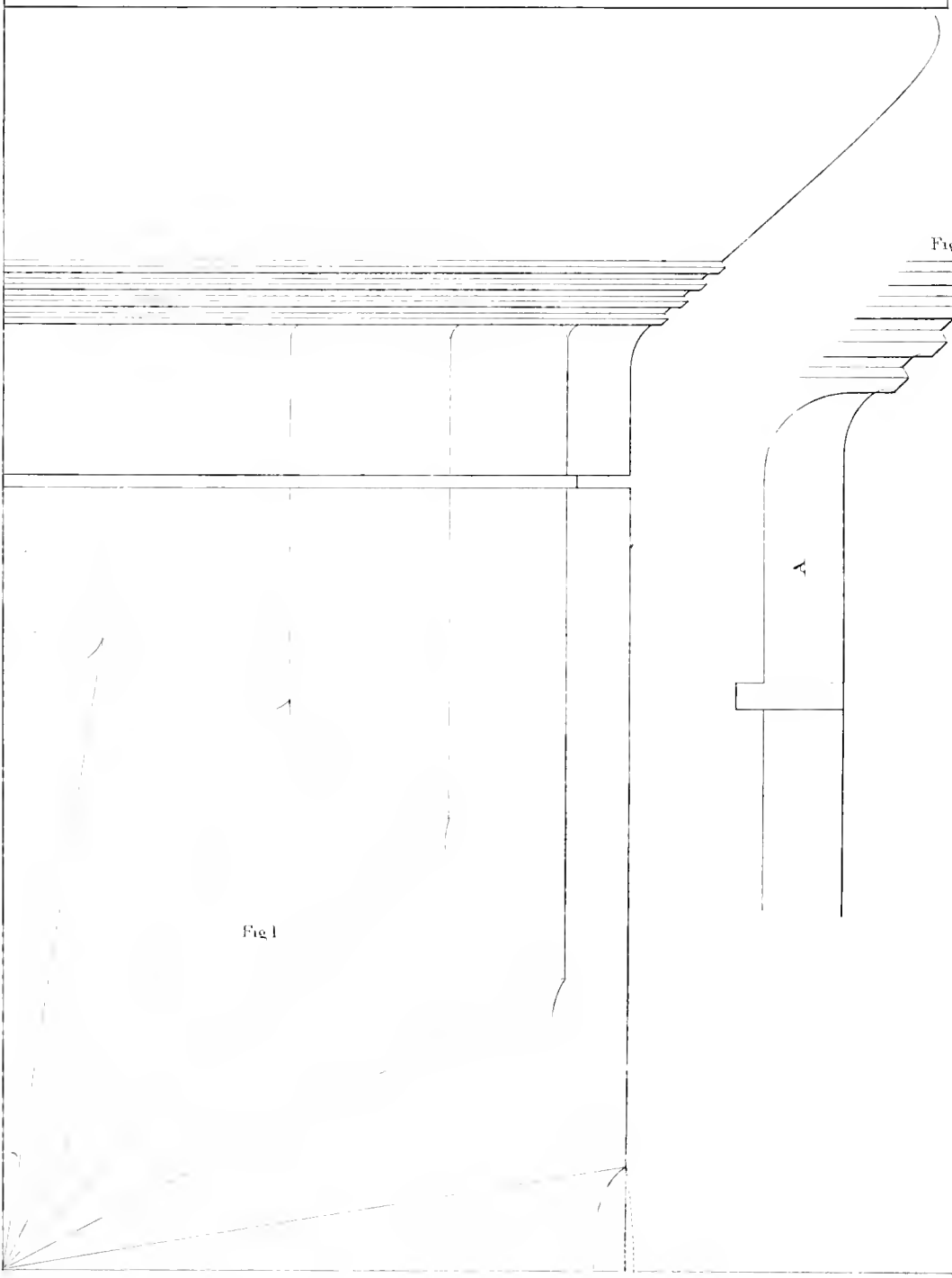


Fig 3
Fig 1

CORINTHIAN COLUMN AND CAPITAL.

PLATE 43.

From the monument of Lysicrates. *Fig.* 1, column, base, and capital. *Fig.* 2, section of capital; for historical description, refer to the preceding historical extracts.

Fig 1.

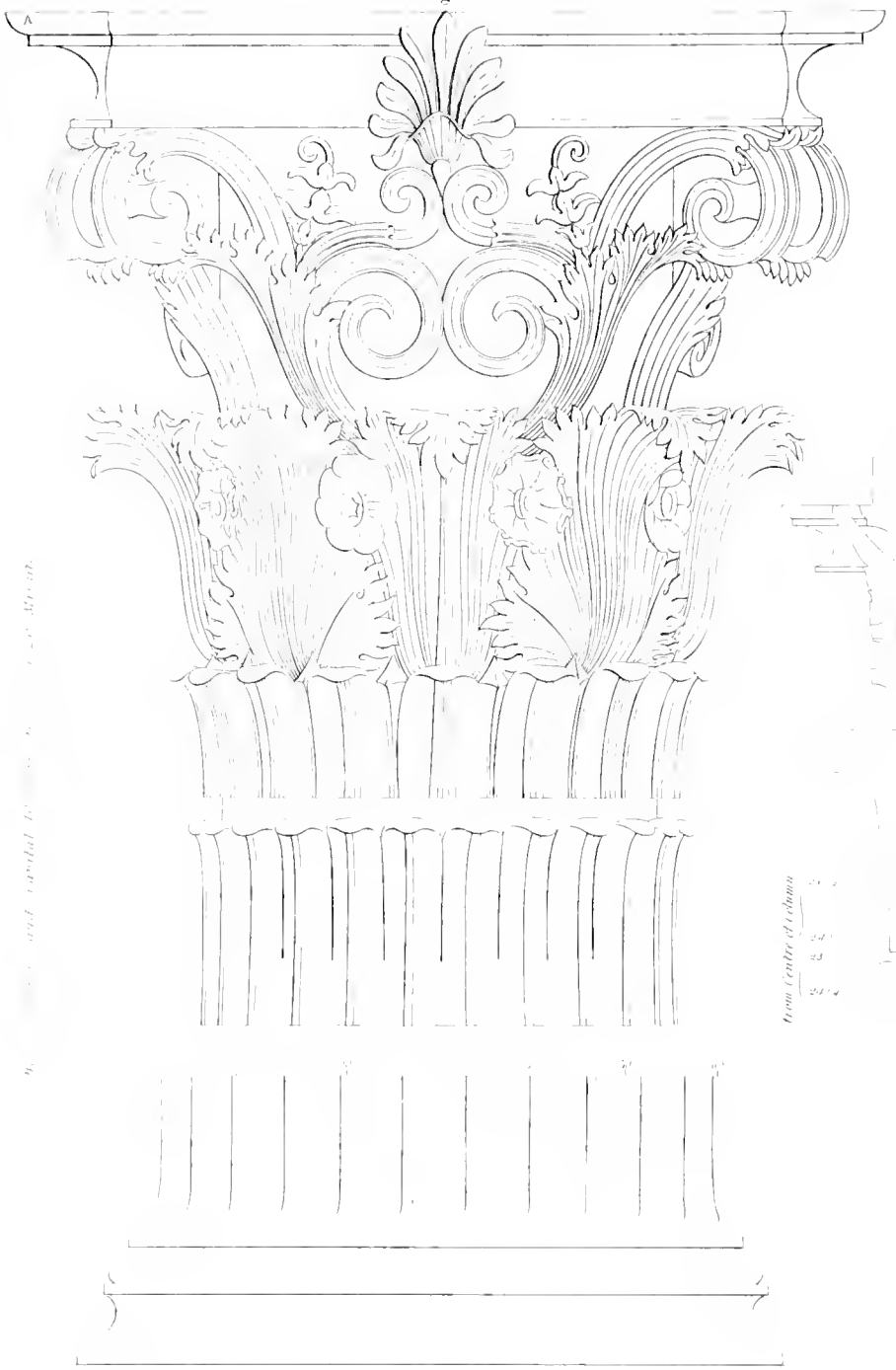
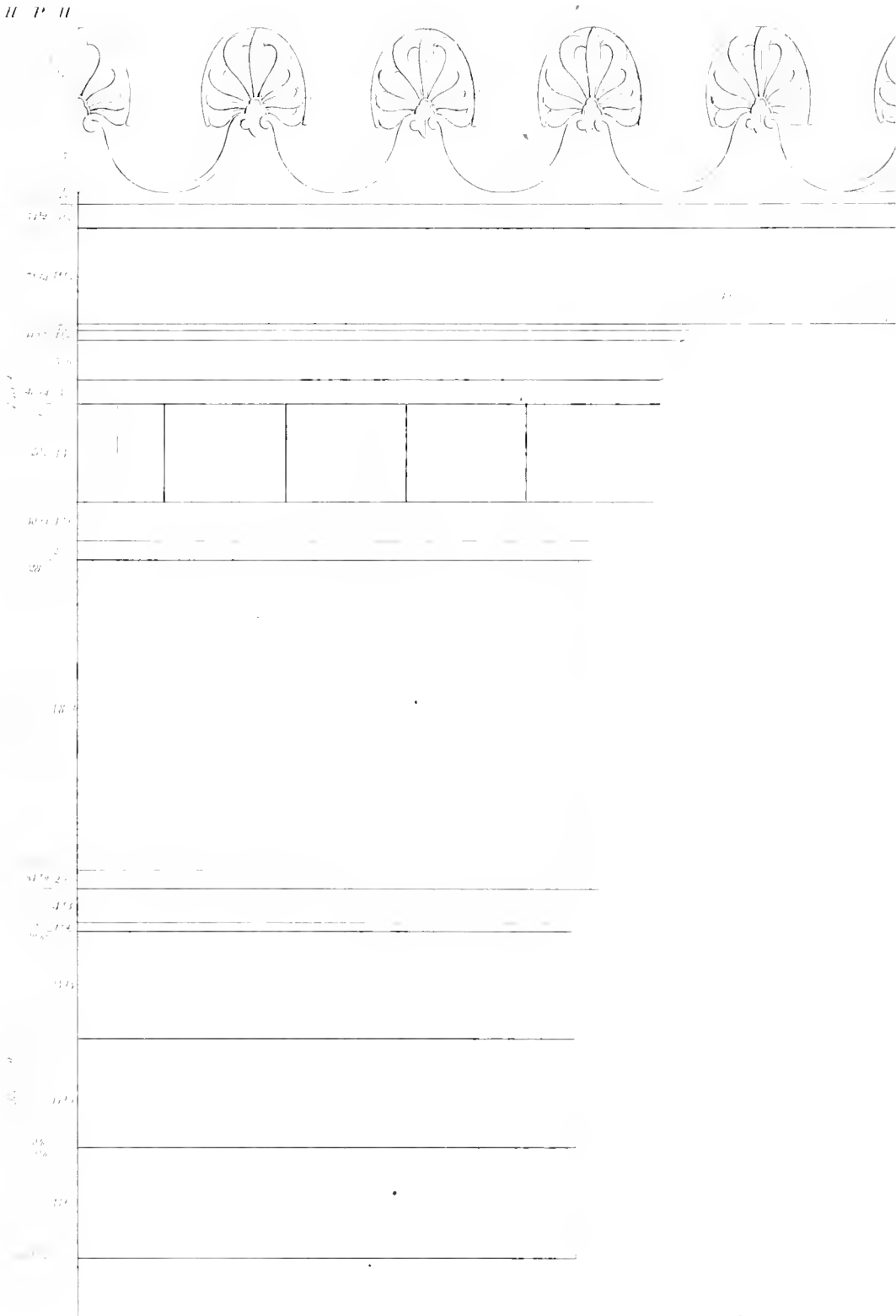


Fig 2

ENTABLATURE.

Plate 44.

Entablature to Plate 43. This entablature is drawn to the same scale as 43, and the dimensions are figured from the centre of the column.



DETAILS.

Plate 45.

In this Plate is exhibited a cornice, which is designed to explain the method of working the inclined cymatium to mitre with the level cymatium. *Fig.* 1 represents the level moulding, and *Fig.* 2 the inclined moulding. To form Fig. 2, first draw ordinate lines, as at 1 1, 2 2, and 3 3, in Fig. 1, from which on the contour of the moulding transfer the distances 1 1, 2 2, 3 3, and so on to 1 1, 2 2, 3 3, in Fig. 2; which will, when traced, produce the cymatium required to mitre with the level cymatium, Fig. 1.

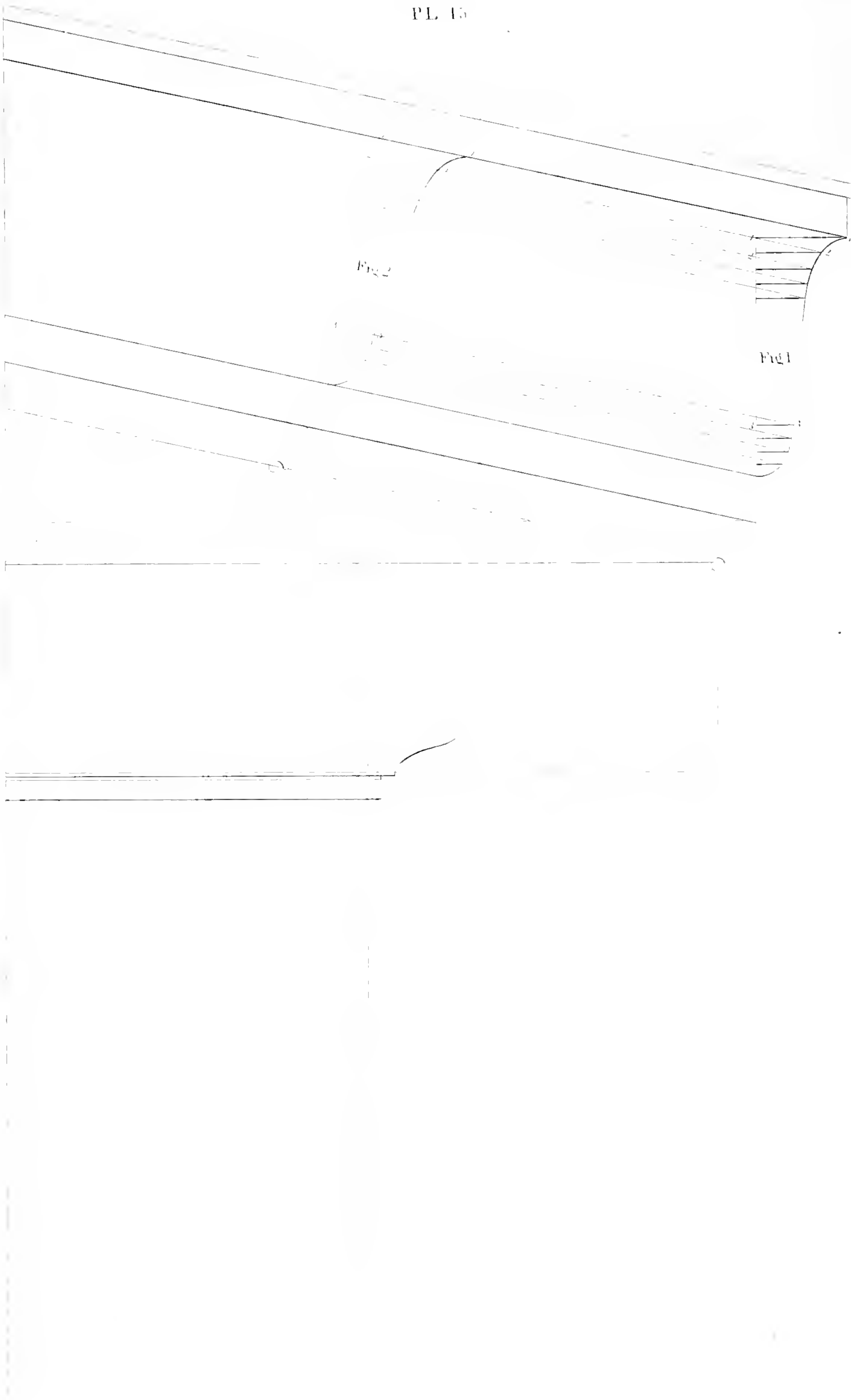


Fig 2
Fig 1

CHIMNEY PIECES.

Plate 46.

Fig. 1, a truss chimney-piece, for either wood or marble. *Fig.* 2, profile, showing the projections of the different parts. *Fig.* 3, plan of the pilaster, jamb, &c. *Fig.* 4, elevation of an architrave piece. *Fig.* 5, profile of Fig. 4. *Fig.* 6, plan of Fig. 4.

Fig 2

Fig 1

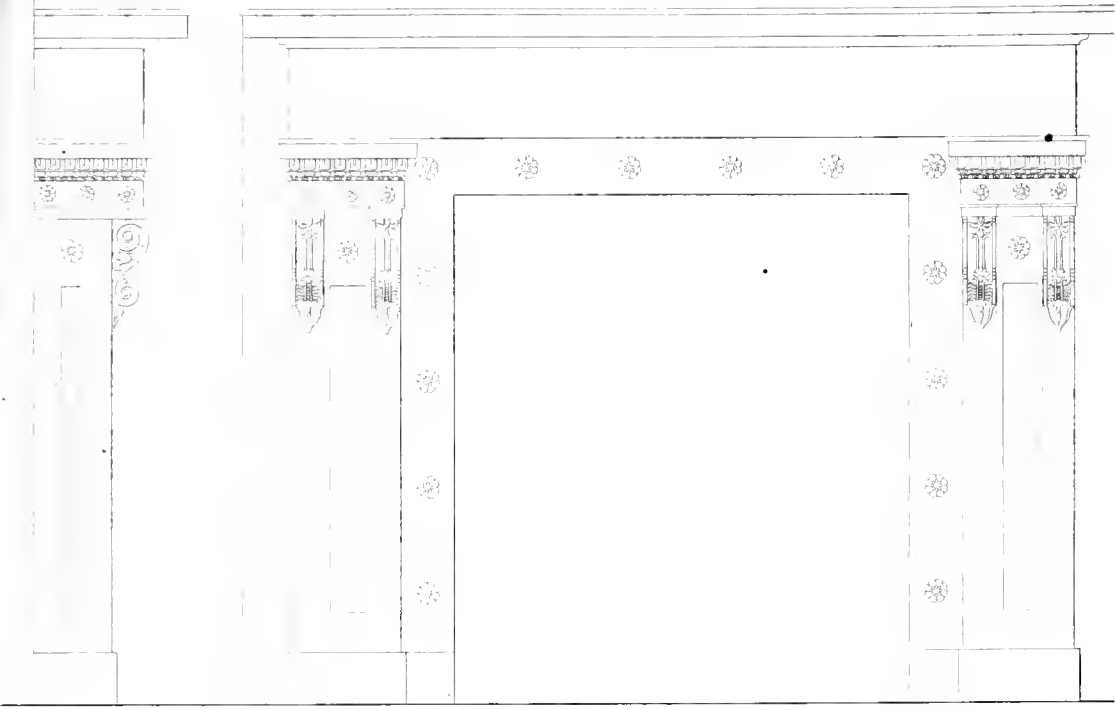


Fig 3

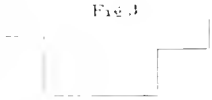


Fig 5

Fig 4

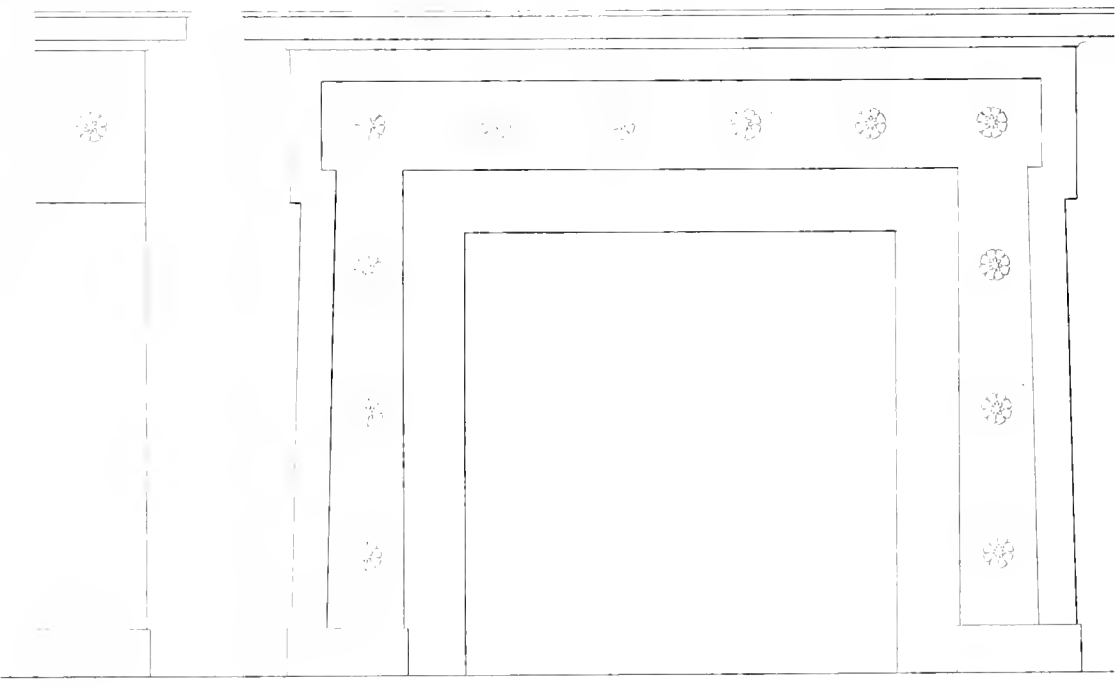
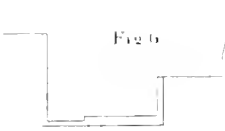


Fig 6



PULPIT.

Plate 47.

Fig. 1, plan of Pulpit; *Fig.* 2, elevation; *Fig.* 3, caping, half full size; *Fig.* 4, base, half full size.

PL. 17

Fig. 2

Fig. 3

Fig. 4

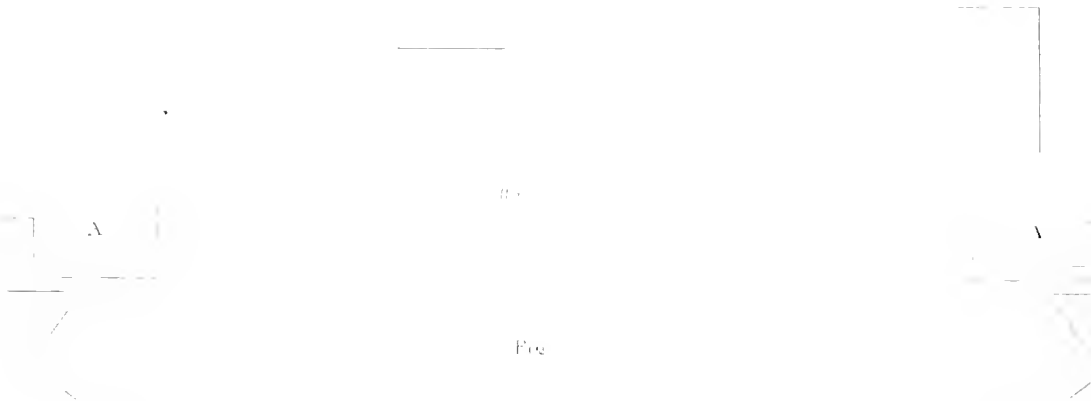


Fig.

GALLERY FRONT.

Plate 48.

Fig. 1 elevation of gallery front, showing all the parts of the gallery, and one capital of a column. *Fig.* 2, section of Fig. 1. *Fig.* 3, elevation of two pews.

Fig 1

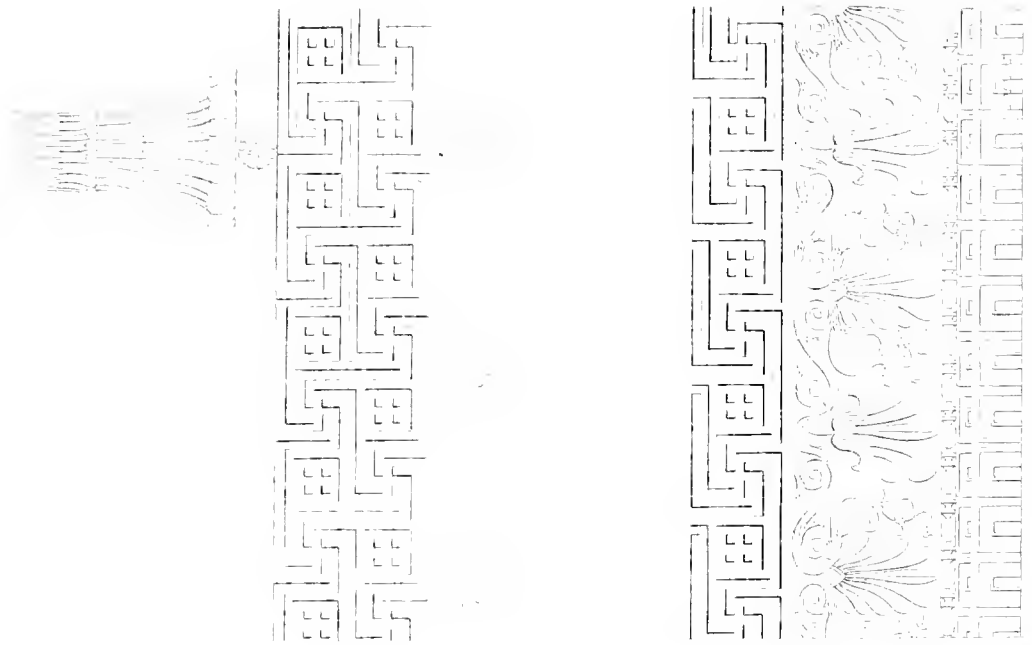


Fig 2

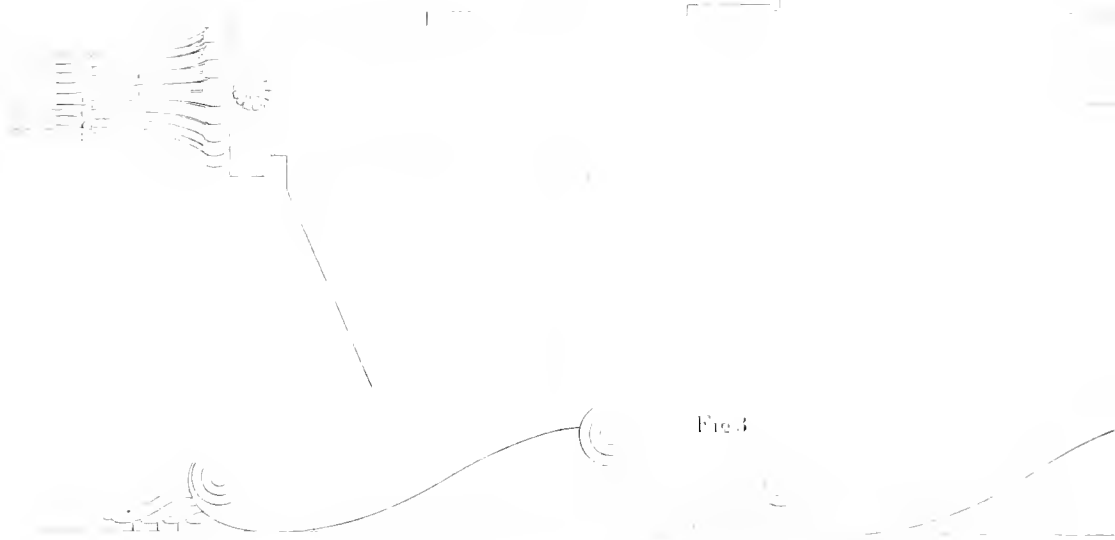


Fig 3