

# RUSKIN JOHN

THE STONES OF VENICE,  
VOLUME 1 (OF 3)

**John Ruskin**  
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The Stones of Venice, Volume 1 (of 3):*

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# **John Ruskin**

## **The Stones of Venice,**

### **Volume 1 (of 3)**

#### **PREFACE**

In the course of arranging the following essay, I put many things aside in my thoughts to be said in the Preface, things which I shall now put aside altogether, and pass by; for when a book has been advertised a year and a half, it seems best to present it with as little preface as possible.

Thus much, however, it is necessary for the reader to know, that, when I planned the work, I had materials by me, collected at different times of sojourn in Venice during the last seventeen years, which it seemed to me might be arranged with little difficulty, and which I believe to be of value as illustrating the history of Southern Gothic. Requiring, however, some clearer assurance respecting certain points of chronology, I went to Venice finally in the autumn of 1849, not doubting but that the dates of the principal edifices of the ancient city were either ascertained, or ascertainable without extraordinary research. To my consternation, I found that the Venetian antiquaries were not agreed within a century as to the date of the building of the

façades of the Ducal Palace, and that nothing was known of any other civil edifice of the early city, except that at some time or other it had been fitted up for somebody's reception, and been thereupon fresh painted. Every date in question was determinable only by internal evidence, and it became necessary for me to examine not only every one of the older palaces, stone by stone, but every fragment throughout the city which afforded any clue to the formation of its styles. This I did as well as I could, and I believe there will be found, in the following pages, the only existing account of the details of early Venetian architecture on which dependence can be placed, as far as it goes. I do not care to point out the deficiencies of other works on this subject; the reader will find, if he examines them, either that the buildings to which I shall specially direct his attention have been hitherto undescribed, or else that there are great discrepancies between previous descriptions and mine: for which discrepancies I may be permitted to give this single and sufficient reason, that my account of every building is based on personal examination and measurement of it, and that my taking the pains so to examine what I had to describe, was a subject of grave surprise to my Italian friends. The work of the Marchese Selvatico is, however, to be distinguished with respect; it is clear in arrangement, and full of useful, though vague, information; and I have found cause to adopt, in great measure, its views of the chronological succession of the edifices of Venice. I shall have cause hereafter to quarrel with it on other grounds, but not without expression of

gratitude for the assistance it has given me. Fontana's "Fabbriche di Venezia" is also historically valuable, but does not attempt to give architectural detail. Cicognara, as is now generally known, is so inaccurate as hardly to deserve mention.

Indeed, it is not easy to be accurate in an account of anything, however simple. Zoologists often disagree in their descriptions of the curve of a shell, or the plumage of a bird, though they may lay their specimen on the table, and examine it at their leisure; how much greater becomes the likelihood of error in the description of things which must be in many parts observed from a distance, or under unfavorable circumstances of light and shade; and of which many of the distinctive features have been worn away by time. I believe few people have any idea of the cost of truth in these things; of the expenditure of time necessary to make sure of the simplest facts, and of the strange way in which separate observations will sometimes falsify each other, incapable of reconciliation, owing to some imperceptible inadvertency. I am ashamed of the number of times in which I have had to say, in the following pages, "I am not sure," and I claim for them no authority, as if they were thoroughly sifted from error, even in what they more confidently state. Only, as far as my time, and strength, and mind served me, I have endeavored down to the smallest matters, to ascertain and speak the truth.

Nor was the subject without many and most discouraging difficulties, peculiar to itself. As far as my inquiries have extended, there is not a building in Venice, raised prior to the

sixteenth century, which has not sustained essential change in one or more of its most important features. By far the greater number present examples of three or four different styles, it may be successive, it may be accidentally associated; and, in many instances, the restorations or additions have gradually replaced the entire structure of the ancient fabric, of which nothing but the name remains, together with a kind of identity, exhibited in the anomalous association of the modernized portions: the Will of the old building asserted through them all, stubbornly, though vainly, expressive; superseded by codicils, and falsified by misinterpretation; yet animating what would otherwise be a mere group of fantastic masque, as embarrassing to the antiquary, as to the mineralogist, the epigene crystal, formed by materials of one substance modelled on the perished crystals of another. The church of St. Mark's itself, harmonious as its structure may at first sight appear, is an epitome of the changes of Venetian architecture from the tenth to the nineteenth century. Its crypt, and the line of low arches which support the screen, are apparently the earliest portions; the lower stories of the main fabric are of the eleventh and twelfth centuries, with later Gothic interpolations; the pinnacles are of the earliest fully developed Venetian Gothic (fourteenth century); but one of them, that on the projection at the eastern extremity of the Piazzetta de Leoni, is of far finer, and probably earlier workmanship than all the rest. The southern range of pinnacles is again inferior to the northern and western, and visibly of later date. Then the screen,

which most writers have described as part of the original fabric, bears its date inscribed on its architrave, 1394, and with it are associated a multitude of small screens, balustrades, decorations of the interior building, and probably the rose window of the south transept. Then come the interpolated traceries of the front and sides; then the crocketings of the upper arches, extravagances of the incipient Renaissance: and, finally, the figures which carry the waterspouts on the north side—utterly barbarous seventeenth or eighteenth century work—connect the whole with the plastered restorations of the year 1844 and 1845. Most of the palaces in Venice have sustained interpolations hardly less numerous; and those of the Ducal Palace are so intricate, that a year's labor would probably be insufficient altogether to disentangle and define them. I therefore gave up all thoughts of obtaining a perfectly clear chronological view of the early architecture; but the dates necessary to the main purposes of the book the reader will find well established; and of the evidence brought forward for those of less importance, he is himself to judge. Doubtful estimates are never made grounds of argument; and the accuracy of the account of the buildings themselves, for which alone I pledge myself, is of course entirely independent of them.

In like manner, as the statements briefly made in the chapters on construction involve questions so difficult and so general, that I cannot hope that every expression referring to them will be found free from error: and as the conclusions to which I have

endeavored to lead the reader are thrown into a form the validity of which depends on that of each successive step, it might be argued, if fallacy or weakness could be detected in one of them, that all the subsequent reasonings were valueless. The reader may be assured, however, that it is not so; the method of proof used in the following essay being only one out of many which were in my choice, adopted because it seemed to me the shortest and simplest, not as being the strongest. In many cases, the conclusions are those which men of quick feeling would arrive at instinctively; and I then sought to discover the reasons of what so strongly recommended itself as truth. Though these reasons could every one of them, from the beginning to the end of the book, be proved insufficient, the truth of its conclusions would remain the same. I should only regret that I had dishonored them by an ill-grounded defence; and endeavor to repair my error by a better one.

I have not, however, written carelessly; nor should I in any wise have expressed doubt of the security of the following argument, but that it is physically impossible for me, being engaged quite as much with mountains, and clouds, and trees, and criticism of painting, as with architecture, to verify, as I should desire, the expression of every sentence bearing upon empirical and technical matters. Life is not long enough; nor does a day pass by without causing me to feel more bitterly the impossibility of carrying out to the extent which I should desire, the separate studies which general criticism continually

forces me to undertake. I can only assure the reader, that he will find the certainty of every statement I permit myself to make, increase with its importance; and that, for the security of the final conclusions of the following essay, as well as for the resolute veracity of its account of whatever facts have come under my own immediate cognizance, I will pledge myself to the uttermost.

It was necessary, to the accomplishment of the purpose of the work (of which account is given in the First Chapter), that I should establish some canons of judgment, which the general reader should thoroughly understand, and, if it pleased him, accept, before we took cognizance, together, of any architecture whatsoever. It has taken me more time and trouble to do this than I expected; but, if I have succeeded, the thing done will be of use for many other purposes than that to which it is now put. The establishment of these canons, which I have called “the Foundations,” and some account of the connection of Venetian architecture with that of the rest of Europe, have filled the present volume. The second will, I hope, contain all I have to say about Venice itself.

It was of course inexpedient to reduce drawings of crowded details to the size of an octavo volume,—I do not say impossible, but inexpedient; requiring infinite pains on the part of the engraver, with no result except farther pains to the beholder. And as, on the other hand, folio books are not easy reading, I determined to separate the text and the unreduceable plates. I have given, with the principal text, all the illustrations absolutely

necessary to the understanding of it, and, in the detached work, such additional text as has special reference to the larger illustrations.

A considerable number of these larger plates were at first intended to be executed in tinted lithography; but, finding the result unsatisfactory, I have determined to prepare the principal subjects for mezzotinting,—a change of method requiring two new drawings to be made of every subject; one a carefully penned outline for the etcher, and then a finished drawing upon the etching. This work does not proceed fast, while I am also occupied with the completion of the text; but the numbers of it will appear as fast as I can prepare them.

For the illustrations of the body of the work itself, I have used any kind of engraving which seemed suited to the subjects—line and mezzotint, on steel, with mixed lithographs and woodcuts, at considerable loss of uniformity in the appearance of the volume, but, I hope, with advantage, in rendering the character of the architecture it describes. And both in the plates and the text I have aimed chiefly at clear intelligibility; that any one, however little versed in the subject, might be able to take up the book, and understand what it meant forthwith. I have utterly failed of my purpose, if I have not made all the essential parts of the essay intelligible to the least learned, and easy to the most desultory readers, who are likely to take interest in the matter at all. There are few passages which even require so much as an acquaintance with the elements of Euclid, and these may be missed, without

harm to the sense of the rest, by every reader to whom they may appear mysterious; and the architectural terms necessarily employed (which are very few) are explained as they occur, or in a note; so that, though I may often be found trite or tedious, I trust that I shall not be obscure. I am especially anxious to rid this essay of ambiguity, because I want to gain the ear of all kinds of persons. Every man has, at some time of his life, personal interest in architecture. He has influence on the design of some public building; or he has to buy, or build, or alter his own house. It signifies less whether the knowledge of other arts be general or not; men may live without buying pictures or statues: but, in architecture, all must in some way commit themselves; they *must* do mischief, and waste their money, if they do not know how to turn it to account. Churches, and shops, and warehouses, and cottages, and small row, and place, and terrace houses, must be built, and lived in, however joyless or inconvenient. And it is assuredly intended that all of us should have knowledge, and act upon our knowledge, in matters with which we are daily concerned, and not to be left to the caprice of architects or mercy of contractors. There is not, indeed, anything in the following essay bearing on the special forms and needs of modern buildings; but the principles it inculcates are universal; and they are illustrated from the remains of a city which should surely be interesting to the men of London, as affording the richest existing examples of architecture raised by a mercantile community, for civil uses, and domestic magnificence.

*Denmark Hill, February, 1851.*

# CHAPTER I.

## THE QUARRY

§ I. Since the first dominion of men was asserted over the ocean, three thrones, of mark beyond all others, have been set upon its sands: the thrones of Tyre, Venice, and England. Of the First of these great powers only the memory remains; of the Second, the ruin; the Third, which inherits their greatness, if it forget their example, may be led through prouder eminence to less pitied destruction.

The exaltation, the sin, and the punishment of Tyre have been recorded for us, in perhaps the most touching words ever uttered by the Prophets of Israel against the cities of the stranger. But we read them as a lovely song; and close our ears to the sternness of their warning: for the very depth of the Fall of Tyre has blinded us to its reality, and we forget, as we watch the bleaching of the rocks between the sunshine and the sea, that they were once “as in Eden, the garden of God.”

Her successor, like her in perfection of beauty, though less in endurance of dominion, is still left for our beholding in the final period of her decline: a ghost upon the sands of the sea, so weak—so quiet,—so bereft of all but her loveliness, that we might well doubt, as we watched her faint reflection in the mirage of the lagoon, which was the City, and which the Shadow.

I would endeavor to trace the lines of this image before it be for ever lost, and to record, as far as I may, the warning which seems to me to be uttered by every one of the fast-gaining waves, that beat, like passing bells, against the Stones of Venice.

§ II. It would be difficult to overrate the value of the lessons which might be derived from a faithful study of the history of this strange and mighty city: a history which, in spite of the labor of countless chroniclers, remains in vague and disputable outline,—barred with brightness and shade, like the far away edge of her own ocean, where the surf and the sand-bank are mingled with the sky. The inquiries in which we have to engage will hardly render this outline clearer, but their results will, in some degree, alter its aspect; and, so far as they bear upon it at all, they possess an interest of a far higher kind than that usually belonging to architectural investigations. I may, perhaps, in the outset, and in few words, enable the general reader to form a clearer idea of the importance of every existing expression of Venetian character through Venetian art, and of the breadth of interest which the true history of Venice embraces, than he is likely to have gleaned from the current fables of her mystery or magnificence.

§ III. Venice is usually conceived as an oligarchy: She was so during a period less than the half of her existence, and that including the days of her decline; and it is one of the first questions needing severe examination, whether that decline was owing in any wise to the change in the form of her government, or altogether, as assuredly in great part, to changes, in the character

of the persons of whom it was composed.

The state of Venice existed Thirteen Hundred and Seventy-six years, from the first establishment of a consular government on the island of the Rialto,<sup>1</sup> to the moment when the General-in-chief of the French army of Italy pronounced the Venetian republic a thing of the past. Of this period, Two Hundred and Seventy-six<sup>2</sup> years were passed in a nominal subjection to the cities of old Venetia, especially to Padua, and in an agitated form of democracy, of which the executive appears to have been entrusted to tribunes,<sup>3</sup> chosen, one by the inhabitants of each of the principal islands. For six hundred years,<sup>4</sup> during which the power of Venice was continually on the increase, her government was an elective monarchy, her King or doge possessing, in early times at least, as much independent authority as any other European sovereign, but an authority gradually subjected to limitation, and shortened almost daily of its prerogatives, while it increased in a spectral and incapable magnificence. The final government of the nobles, under the image of a king, lasted for five hundred years, during which Venice reaped the fruits of her former energies, consumed them,—and expired.

§ IV. Let the reader therefore conceive the existence of the Venetian state as broadly divided into two periods: the first of

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<sup>1</sup> [Appendix 1](#), “Foundation of Venice.”

<sup>2</sup> [Appendix 2](#), “Power of the Doges.”

<sup>3</sup> Sismondi, *Hist. des Rép. Ital.*, vol. i. ch. v.

<sup>4</sup> [Appendix 3](#), “Serrar del Consiglio.”

nine hundred, the second of five hundred years, the separation being marked by what was called the “Serrar del Consiglio;” that is to say, the final and absolute distinction of the nobles from the commonalty, and the establishment of the government in their hands to the exclusion alike of the influence of the people on the one side, and the authority of the doge on the other.

Then the first period, of nine hundred years, presents us with the most interesting spectacle of a people struggling out of anarchy into order and power; and then governed, for the most part, by the worthiest and noblest man whom they could find among them,<sup>5</sup> called their Doge or Leader, with an aristocracy gradually and resolutely forming itself around him, out of which, and at last by which, he was chosen; an aristocracy owing its origin to the accidental numbers, influence, and wealth of some among the families of the fugitives from the older Venetia, and gradually organizing itself, by its unity and heroism, into a separate body.

This first period includes the rise of Venice, her noblest achievements, and the circumstances which determined her character and position among European powers; and within its range, as might have been anticipated, we find the names of all her hero princes,—of Pietro Urseolo, Ordalafo Falier, Domenico Michieli, Sebastiano Ziani, and Enrico Dandolo.

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<sup>5</sup> “Ha saputo trovar modo che non uno, non pochi, non molti, signoreggiano, ma molti buoni, pochi migliori, e insieme, *un ottimo solo.*” (*Sansovino.*) Ah, well done, Venice! Wisdom this, indeed.

§ V. The second period opens with a hundred and twenty years, the most eventful in the career of Venice—the central struggle of her life—stained with her darkest crime, the murder of Carrara—disturbed by her most dangerous internal sedition, the conspiracy of Falier—oppressed by her most fatal war, the war of Chiozza—and distinguished by the glory of her two noblest citizens (for in this period the heroism of her citizens replaces that of her monarchs), Vittor Pisani and Carlo Zeno.

I date the commencement of the Fall of Venice from the death of Carlo Zeno, 8th May, 1418;<sup>6</sup> the *visible* commencement from that of another of her noblest and wisest children, the Doge Tomaso Mocenigo, who expired five years later. The reign of Foscari followed, gloomy with pestilence and war; a war in which large acquisitions of territory were made by subtle or fortunate policy in Lombardy, and disgrace, significant as irreparable, sustained in the battles on the Po at Cremona, and in the marshes of Caravaggio. In 1454, Venice, the first of the states of Christendom, humiliated herself to the Turk: in the same year was established the Inquisition of State,<sup>7</sup> and from this period her government takes the perfidious and mysterious form under which it is usually conceived. In 1477, the great Turkish invasion spread terror to the shores of the lagoons; and in 1508 the league of Cambrai marks the period usually assigned

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<sup>6</sup> Daru, liv. xii. ch. xii.

<sup>7</sup> Daru, liv. xvi. cap. xx. We owe to this historian the discovery of the statutes of the tribunal and date of its establishment.

as the commencement of the decline of the Venetian power;<sup>8</sup> the commercial prosperity of Venice in the close of the fifteenth century blinding her historians to the previous evidence of the diminution of her internal strength.

§ VI. Now there is apparently a significative coincidence between the establishment of the aristocratic and oligarchical powers, and the diminution of the prosperity of the state. But this is the very question at issue; and it appears to me quite undetermined by any historian, or determined by each in accordance with his own prejudices. It is a triple question: first, whether the oligarchy established by the efforts of individual ambition was the cause, in its subsequent operation, of the Fall of Venice; or (secondly) whether the establishment of the oligarchy itself be not the sign and evidence, rather than the cause, of national enervation; or (lastly) whether, as I rather think, the history of Venice might not be written almost without reference to the construction of her senate or the prerogatives of her Doge. It is the history of a people eminently at unity in itself, descendants of Roman race, long disciplined by adversity, and compelled by its position either to live nobly or to perish:—for a thousand years they fought for life; for three hundred they invited death: their battle was rewarded, and their call was heard.

§ VII. Throughout her career, the victories of Venice, and,

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<sup>8</sup> Ominously signified by their humiliation to the Papal power (as before to the Turkish) in 1509, and their abandonment of their right of appointing the clergy of their territories.

at many periods of it, her safety, were purchased by individual heroism; and the man who exalted or saved her was sometimes (oftenest) her king, sometimes a noble, sometimes a citizen. To him no matter, nor to her: the real question is, not so much what names they bore, or with what powers they were entrusted, as how they were trained; how they were made masters of themselves, servants of their country, patient of distress, impatient of dishonor; and what was the true reason of the change from the time when she could find saviours among those whom she had cast into prison, to that when the voices of her own children commanded her to sign covenant with Death.<sup>9</sup>

§ VIII. On this collateral question I wish the reader's mind to be fixed throughout all our subsequent inquiries. It will give double interest to every detail: nor will the interest be profitless; for the evidence which I shall be able to deduce from the arts of Venice will be both frequent and irrefragable, that the decline of her political prosperity was exactly coincident with that of domestic and individual religion.

I say domestic and individual; for—and this is the second point which I wish the reader to keep in mind—the most curious phenomenon in all Venetian history is the vitality of religion in private life, and its deadness in public policy. Amidst the enthusiasm, chivalry, or fanaticism of the other states of Europe, Venice stands, from first to last, like a masked statue; her

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<sup>9</sup> The senate voted the abdication of their authority by a majority of 512 to 14. (Alison, ch. xxiii.)

coldness impenetrable, her exertion only aroused by the touch of a secret spring. That spring was her commercial interest,—this the one motive of all her important political acts, or enduring national animosities. She could forgive insults to her honor, but never rivalry in her commerce; she calculated the glory of her conquests by their value, and estimated their justice by their facility. The fame of success remains, when the motives of attempt are forgotten; and the casual reader of her history may perhaps be surprised to be reminded, that the expedition which was commanded by the noblest of her princes, and whose results added most to her military glory, was one in which while all Europe around her was wasted by the fire of its devotion, she first calculated the highest price she could exact from its piety for the armament she furnished, and then, for the advancement of her own private interests, at once broke her faith<sup>10</sup> and betrayed her religion.

§ IX. And yet, in the midst of this national criminality, we shall be struck again and again by the evidences of the most noble individual feeling. The tears of Dandolo were not shed in hypocrisy, though they could not blind him to the importance of the conquest of Zara. The habit of assigning to religion a direct influence over all *his own* actions, and all the affairs of *his own* daily life, is remarkable in every great Venetian during the times of the prosperity of the state; nor are instances wanting

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<sup>10</sup> By directing the arms of the Crusaders against a Christian prince. (Daru, liv. iv. ch. iv. viii.)

in which the private feeling of the citizens reaches the sphere of their policy, and even becomes the guide of its course where the scales of expediency are doubtfully balanced. I sincerely trust that the inquirer would be disappointed who should endeavor to trace any more immediate reasons for their adoption of the cause of Alexander III. against Barbarossa, than the piety which was excited by the character of their suppliant, and the noble pride which was provoked by the insolence of the emperor. But the heart of Venice is shown only in her hastiest councils; her worldly spirit recovers the ascendancy whenever she has time to calculate the probabilities of advantage, or when they are sufficiently distinct to need no calculation; and the entire subjection of private piety to national policy is not only remarkable throughout the almost endless series of treacheries and tyrannies by which her empire was enlarged and maintained, but symbolised by a very singular circumstance in the building of the city itself. I am aware of no other city of Europe in which its cathedral was not the principal feature. But the principal church in Venice was the chapel attached to the palace of her prince, and called the "Chiesa Ducale." The patriarchal church,<sup>11</sup> inconsiderable in size and mean in decoration, stands on the outermost islet of the Venetian group, and its name, as well as its site, is probably unknown to the greater number of travellers passing hastily through the city. Nor is it less worthy of remark, that the two most important temples of Venice, next to the ducal chapel, owe their

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<sup>11</sup> [Appendix 4](#), "San Pietro di Castello."

size and magnificence, not to national effort, but to the energy of the Franciscan and Dominican monks, supported by the vast organization of those great societies on the mainland of Italy, and countenanced by the most pious, and perhaps also, in his generation, the most wise, of all the princes of Venice,<sup>12</sup> who now rests beneath the roof of one of those very temples, and whose life is not satirized by the images of the Virtues which a Tuscan sculptor has placed around his tomb.

§ X. There are, therefore, two strange and solemn lights in which we have to regard almost every scene in the fitful history of the Rivo Alto. We find, on the one hand, a deep and constant tone of individual religion characterising the lives of the citizens of Venice in her greatness; we find this spirit influencing them in all the familiar and immediate concerns of life, giving a peculiar dignity to the conduct even of their commercial transactions, and confessed by them with a simplicity of faith that may well put to shame the hesitation with which a man of the world at present admits (even if it be so in reality) that religious feeling has any influence over the minor branches of his conduct. And we find as the natural consequence of all this, a healthy serenity of mind and energy of will expressed in all their actions, and a habit of heroism which never fails them, even when the immediate motive of action ceases to be praiseworthy. With the fulness of this spirit the prosperity of the state is exactly correspondent, and with its failure her decline, and that with a closeness and

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<sup>12</sup> Tomaso Mocenigo, above named, § V.

precision which it will be one of the collateral objects of the following essay to demonstrate from such accidental evidence as the field of its inquiry presents. And, thus far, all is natural and simple. But the stopping short of this religious faith when it appears likely to influence national action, correspondent as it is, and that most strikingly, with several characteristics of the temper of our present English legislature, is a subject, morally and politically, of the most curious interest and complicated difficulty; one, however, which the range of my present inquiry will not permit me to approach, and for the treatment of which I must be content to furnish materials in the light I may be able to throw upon the private tendencies of the Venetian character.

§ XI. There is, however, another most interesting feature in the policy of Venice which will be often brought before us; and which a Romanist would gladly assign as the reason of its irreligion; namely, the magnificent and successful struggle which she maintained against the temporal authority of the Church of Rome. It is true that, in a rapid survey of her career, the eye is at first arrested by the strange drama to which I have already alluded, closed by that ever memorable scene in the portico of St. Mark's,<sup>13</sup> the central expression in most men's thoughts of

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<sup>13</sup> "In that temple porch, (The brass is gone, the porphyry remains,) Did Barbarossa fling his mantle off, And kneeling, on his neck receive the foot Of the proud Pontiff — thus at last consoled For flight, disguise, and many an aguish shake On his stone pillow." I need hardly say whence the lines are taken: Rogers' "Italy" has, I believe, now a place in the best beloved compartment of all libraries, and will never be removed from it. There is more true expression of the spirit of Venice in the passages devoted

the unendurable elevation of the pontifical power; it is true that the proudest thoughts of Venice, as well as the insignia of her prince, and the form of her chief festival, recorded the service thus rendered to the Roman Church. But the enduring sentiment of years more than balanced the enthusiasm of a moment; and the bull of Clement V., which excommunicated the Venetians and their doge, likening them to Dathan, Abiram, Absalom, and Lucifer, is a stronger evidence of the great tendencies of the Venetian government than the umbrella of the doge or the ring of the Adriatic. The humiliation of Francesco Dandolo blotted out the shame of Barbarossa, and the total exclusion of ecclesiastics from all share in the councils of Venice became an enduring mark of her knowledge of the spirit of the Church of Rome, and of her defiance of it.

To this exclusion of Papal influence from her councils, the Romanist will attribute their irreligion, and the Protestant their success.<sup>14</sup> The first may be silenced by a reference to the character of the policy of the Vatican itself; and the second by his own shame, when he reflects that the English legislature sacrificed their principles to expose themselves to the very danger which the Venetian senate sacrificed theirs to avoid.

§ XII. One more circumstance remains to be noted respecting the Venetian government, the singular unity of the families composing it,—unity far from sincere or perfect, but still

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to her in that poem, than in all else that has been written of her.

<sup>14</sup> At least, such success as they had. Vide [Appendix 5](#), “The Papal Power in Venice.”

admirable when contrasted with the fiery feuds, the almost daily revolutions, the restless successions of families and parties in power, which fill the annals of the other states of Italy. That rivalry should sometimes be ended by the dagger, or enmity conducted to its ends under the mask of law, could not but be anticipated where the fierce Italian spirit was subjected to so severe a restraint: it is much that jealousy appears usually unmingled with illegitimate ambition, and that, for every instance in which private passion sought its gratification through public danger, there are a thousand in which it was sacrificed to the public advantage. Venice may well call upon us to note with reverence, that of all the towers which are still seen rising like a branchless forest from her islands, there is but one whose office was other than that of summoning to prayer, and that one was a watch-tower only: from first to last, while the palaces of the other cities of Italy were lifted into sullen fortitudes of rampart, and fringed with forked battlements for the javelin and the bow, the sands of Venice never sank under the weight of a war tower, and her roof terraces were wreathed with Arabian imagery, of golden globes suspended on the leaves of lilies.<sup>15</sup>

§ XIII. These, then, appear to me to be the points of chief general interest in the character and fate of the Venetian people. I would next endeavor to give the reader some idea of the manner

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<sup>15</sup> The inconsiderable fortifications of the arsenal are no exception to this statement, as far as it regards the city itself. They are little more than a semblance of precaution against the attack of a foreign enemy.

in which the testimony of Art bears upon these questions, and of the aspect which the arts themselves assume when they are regarded in their true connexion with the history of the state.

1st. Receive the witness of Painting.

It will be remembered that I put the commencement of the Fall of Venice as far back as 1418.

Now, John Bellini was born in 1423, and Titian in 1480. John Bellini, and his brother Gentile, two years older than he, close the line of the sacred painters of Venice. But the most solemn spirit of religious faith animates their works to the last. There is no religion in any work of Titian's: there is not even the smallest evidence of religious temper or sympathies either in himself, or in those for whom he painted. His larger sacred subjects are merely themes for the exhibition of pictorial rhetoric,—composition and color. His minor works are generally made subordinate to purposes of portraiture. The Madonna in the church of the Frari is a mere lay figure, introduced to form a link of connexion between the portraits of various members of the Pesaro family who surround her.

Now this is not merely because John Bellini was a religious man and Titian was not. Titian and Bellini are each true representatives of the school of painters contemporary with them; and the difference in their artistic feeling is a consequence not so much of difference in their own natural characters as in their early education: Bellini was brought up in faith; Titian in formalism. Between the years of their births the vital religion of

Venice had expired.

§ XIV. The *vital* religion, observe, not the formal. Outward observance was as strict as ever; and doge and senator still were painted, in almost every important instance, kneeling before the Madonna or St. Mark; a confession of faith made universal by the pure gold of the Venetian sequin. But observe the great picture of Titian's in the ducal palace, of the Doge Antonio Grimani kneeling before Faith: there is a curious lesson in it. The figure of Faith is a coarse portrait of one of Titian's least graceful female models: Faith had become carnal. The eye is first caught by the flash of the Doge's armor. The heart of Venice was in her wars, not in her worship.

The mind of Tintoret, incomparably more deep and serious than that of Titian, casts the solemnity of its own tone over the sacred subjects which it approaches, and sometimes forgets itself into devotion; but the principle of treatment is altogether the same as Titian's: absolute subordination of the religious subject to purposes of decoration or portraiture.

The evidence might be accumulated a thousandfold from the works of Veronese, and of every succeeding painter,—that the fifteenth century had taken away the religious heart of Venice.

§ XV. Such is the evidence of Painting. To collect that of Architecture will be our task through many a page to come; but I must here give a general idea of its heads.

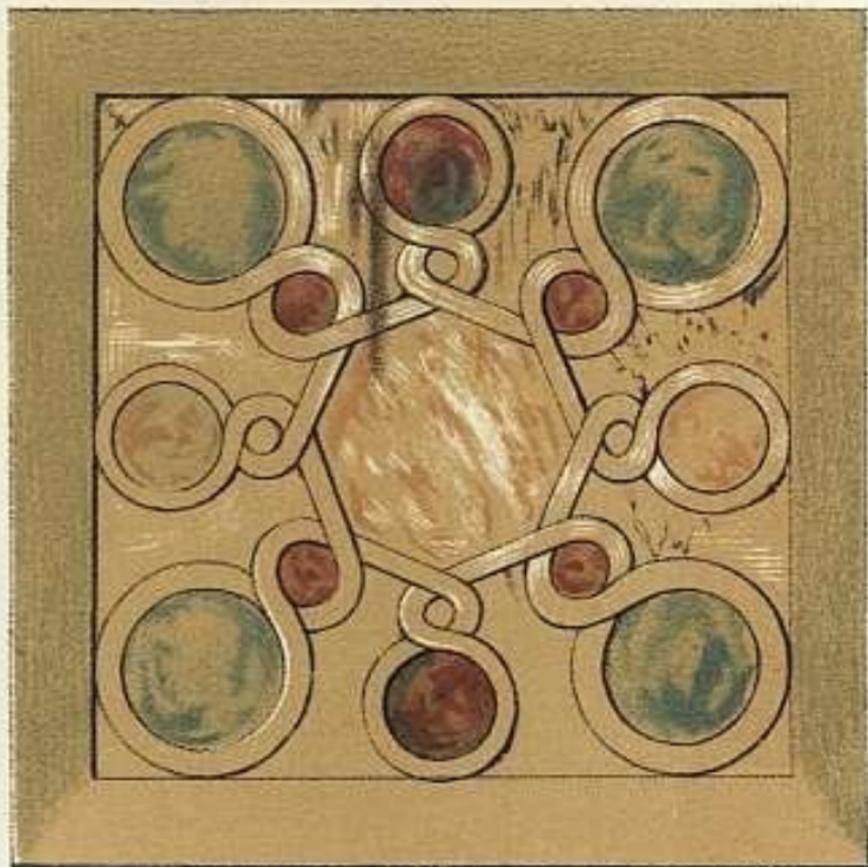
Philippe de Commynes, writing of his entry into Venice in 1495, says,—

“Chascun me feit seoir au meillieu de ces deux ambassadeurs qui est l’honneur d’Italie que d’estre au meillieu; et me menerent au long de la grant rue, qu’ilz appellent le Canal Grant, et est bien large. Les gallees y passent à travers et y ay ven navire de quatre cens tonneaux ou plus pres des maisons: et est la plus belle rue que je croy qui soit en tout le monde, et la mieulx maisonnee, et va le long de la ville. Les maisons sont fort grandes et haultes, et de bonne pierre, et les anciennes toutes painctes; les aultres faictes depuis cent ans: toutes ont le devant de marbre blanc, qui leur vient d’Istrie, à cent mils de là, et encores maincte grant piece de porphire et de sarpentine sur le devant.... C’est la plus triumpante cité que j’aye jamais vene et qui plus faict d’honneur à ambassadeurs et estrangiers, et qui plus saigement se gouverne, et où le service de Dieu est le plus sollempnellement faict: et encores qu’il y peust bien avoir d’aultres faultes, si je croy que Dieu les a en ayde pour la reverence qu’ilz portent au service de l’Eglise.”<sup>16</sup>

## I.

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<sup>16</sup> Mémoires de Commynes, liv. vii. ch. xviii.



§ XVI. This passage is of peculiar interest, for two reasons. Observe, first, the impression of Commynes respecting the religion of Venice: of which, as I have above said, the forms still remained with some glimmering of life in them, and were the evidence of what the real life had been in former times. But observe, secondly, the impression instantly made on Commynes' mind by the distinction between the elder palaces and those built "within this last hundred years; which all have their fronts of white marble brought from Istria, a hundred miles away, and besides, many a large piece of porphyry and serpentine upon their fronts."

On the opposite page I have given two of the ornaments of the palaces which so struck the French ambassador.<sup>17</sup> He was right in his notice of the distinction. There had indeed come a change over Venetian architecture in the fifteenth century; and a change of some importance to us moderns: we English owe to it our St. Paul's Cathedral, and Europe in general owes to it the utter degradation or destruction of her schools of architecture, never since revived. But that the reader may understand this, it is necessary that he should have some general idea of the connexion of the architecture of Venice with that of the rest of Europe, from its origin forwards.

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<sup>17</sup> [Appendix 6](#), "Renaissance Ornaments."

§ XVII. All European architecture, bad and good, old and new, is derived from Greece through Rome, and colored and perfected from the East. The history of architecture is nothing but the tracing of the various modes and directions of this derivation. Understand this, once for all: if you hold fast this great connecting clue, you may string all the types of successive architectural invention upon it like so many beads. The Doric and the Corinthian orders are the roots, the one of all Romanesque, massy-capitaled buildings—Norman, Lombard, Byzantine, and what else you can name of the kind; and the Corinthian of all Gothic, Early English, French, German, and Tuscan. Now observe: those old Greeks gave the shaft; Rome gave the arch; the Arabs pointed and foliated the arch. The shaft and arch, the frame-work and strength of architecture, are from the race of Japheth: the spirituality and sanctity of it from Ismael, Abraham, and Shem.

§ XVIII. There is high probability that the Greek received his shaft system from Egypt; but I do not care to keep this earlier derivation in the mind of the reader. It is only necessary that he should be able to refer to a fixed point of origin, when the form of the shaft was first perfected. But it may be incidentally observed, that if the Greeks did indeed receive their Doric from Egypt, then the three families of the earth have each contributed their part to its noblest architecture: and Ham, the servant of the others, furnishes the sustaining or bearing member, the shaft; Japheth the arch; Shem the spiritualisation of both.

§ XIX. I have said that the two orders, Doric and Corinthian, are the roots of all European architecture. You have, perhaps, heard of five orders; but there are only two real orders, and there never can be any more until doomsday. On one of these orders the ornament is convex: those are Doric, Norman, and what else you recollect of the kind. On the other the ornament is concave: those are Corinthian, Early English, Decorated, and what else you recollect of that kind. The transitional form, in which the ornamental line is straight, is the centre or root of both. All other orders are varieties of those, or phantasms and grotesques altogether indefinite in number and species.<sup>18</sup>

§ XX. This Greek architecture, then, with its two orders, was clumsily copied and varied by the Romans with no particular result, until they began to bring the arch into extensive practical service; except only that the Doric capital was spoiled in endeavors to mend it, and the Corinthian much varied and enriched with fanciful, and often very beautiful imagery. And in this state of things came Christianity: seized upon the arch as her own; decorated it, and delighted in it; invented a new Doric capital to replace the spoiled Roman one: and all over the Roman empire set to work, with such materials as were nearest at hand, to express and adorn herself as best she could. This Roman Christian architecture is the exact expression of the Christianity of the time, very fervid and beautiful—but very imperfect; in many respects ignorant, and yet radiant with a

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<sup>18</sup> [Appendix 7](#), “Varieties of the Orders.”

strong, childlike light of imagination, which flames up under Constantine, illumines all the shores of the Bosphorus and the Ægean and the Adriatic Sea, and then gradually, as the people give themselves up to idolatry, becomes Corpse-light. The architecture sinks into a settled form—a strange, gilded, and embalmed repose: it, with the religion it expressed; and so would have remained for ever,—so *does* remain, where its languor has been undisturbed.<sup>19</sup> But rough wakening was ordained for it.

§ XXI. This Christian art of the declining empire is divided into two great branches, western and eastern; one centred at Rome, the other at Byzantium, of which the one is the early Christian Romanesque, properly so called, and the other, carried to higher imaginative perfection by Greek workmen, is distinguished from it as Byzantine. But I wish the reader, for the present, to class these two branches of art together in his mind, they being, in points of main importance, the same; that is to say, both of them a true continuance and sequence of the art of old Rome itself, flowing uninterruptedly down from the fountain-head, and entrusted always to the best workmen who could be found—Latins in Italy and Greeks in Greece; and thus both branches may be ranged under the general term of Christian Romanesque, an architecture which had lost the refinement of Pagan art in the degradation of the empire, but

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<sup>19</sup> The reader will find the *weak* points of Byzantine architecture shrewdly seized, and exquisitely sketched, in the opening chapter of the most delightful book of travels I ever opened,—Curzon's "Monasteries of the Levant."

which was elevated by Christianity to higher aims, and by the fancy of the Greek workmen endowed with brighter forms. And this art the reader may conceive as extending in its various branches over all the central provinces of the empire, taking aspects more or less refined, according to its proximity to the seats of government; dependent for all its power on the vigor and freshness of the religion which animated it; and as that vigor and purity departed, losing its own vitality, and sinking into nerveless rest, not deprived of its beauty, but benumbed and incapable of advance or change.

§ XXII. Meantime there had been preparation for its renewal. While in Rome and Constantinople, and in the districts under their immediate influence, this Roman art of pure descent was practised in all its refinement, an impure form of it—a patois of Romanesque—was carried by inferior workmen into distant provinces; and still ruder imitations of this patois were executed by the barbarous nations on the skirts of the empire. But these barbarous nations were in the strength of their youth; and while, in the centre of Europe, a refined and purely descended art was sinking into graceful formalism, on its confines a barbarous and borrowed art was organising itself into strength and consistency. The reader must therefore consider the history of the work of the period as broadly divided into two great heads: the one embracing the elaborately languid succession of the Christian art of Rome; and the other, the imitations of it executed by nations in every conceivable phase of early organisation, on the edges of

the empire, or included in its now merely nominal extent.

§ XXIII. Some of the barbaric nations were, of course, not susceptible of this influence; and when they burst over the Alps, appear, like the Huns, as scourges only, or mix, as the Ostrogoths, with the enervated Italians, and give physical strength to the mass with which they mingle, without materially affecting its intellectual character. But others, both south and north of the empire, had felt its influence, back to the beach of the Indian Ocean on the one hand, and to the ice creeks of the North Sea on the other. On the north and west the influence was of the Latins; on the south and east, of the Greeks. Two nations, pre-eminent above all the rest, represent to us the force of derived mind on either side. As the central power is eclipsed, the orbs of reflected light gather into their fulness; and when sensuality and idolatry had done their work, and the religion of the empire was laid asleep in a glittering sepulchre, the living light rose upon both horizons, and the fierce swords of the Lombard and Arab were shaken over its golden paralysis.

§ XXIV. The work of the Lombard was to give hardihood and system to the enervated body and enfeebled mind of Christendom; that of the Arab was to punish idolatry, and to proclaim the spirituality of worship. The Lombard covered every church which he built with the sculptured representations of bodily exercises—hunting and war.<sup>20</sup> The Arab banished all imagination of creature form from his temples, and proclaimed

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<sup>20</sup> [Appendix 8](#), “The Northern Energy.”

from their minarets, "There is no god but God." Opposite in their character and mission, alike in their magnificence of energy, they came from the North and from the South, the glacier torrent and the lava stream: they met and contended over the wreck of the Roman empire; and the very centre of the struggle, the point of pause of both, the dead water of the opposite eddies, charged with embayed fragments of the Roman wreck, is Venice.

The Ducal palace of Venice contains the three elements in exactly equal proportions—the Roman, Lombard, and Arab. It is the central building of the world.

§ XXV. The reader will now begin to understand something of the importance of the study of the edifices of a city which includes, within the circuit of some seven or eight miles, the field of contest between the three pre-eminent architectures of the world:—each architecture expressing a condition of religion; each an erroneous condition, yet necessary to the correction of the others, and corrected by them.

§ XXVI. It will be part of my endeavor, in the following work, to mark the various modes in which the northern and southern architectures were developed from the Roman: here I must pause only to name the distinguishing characteristics of the great families. The Christian Roman and Byzantine work is round-arched, with single and well-proportioned shafts; capitals imitated from classical Roman; mouldings more or less so; and large surfaces of walls entirely covered with imagery, mosaic, and paintings, whether of scripture history or of sacred symbols.

The Arab school is at first the same in its principal features, the Byzantine workmen being employed by the caliphs; but the Arab rapidly introduces characters half Persepolitan, half Egyptian, into the shafts and capitals: in his intense love of excitement he points the arch and writhes it into extravagant foliations; he banishes the animal imagery, and invents an ornamentation of his own (called Arabesque) to replace it: this not being adapted for covering large surfaces, he concentrates it on features of interest, and bars his surfaces with horizontal lines of color, the expression of the level of the Desert. He retains the dome, and adds the minaret. All is done with exquisite refinement.

§ XXVII. The changes effected by the Lombard are more curious still, for they are in the anatomy of the building, more than its decoration. The Lombard architecture represents, as I said, the whole of that of the northern barbaric nations. And this I believe was, at first, an imitation in wood of the Christian Roman churches or basilicas. Without staying to examine the whole structure of a basilica, the reader will easily understand thus much of it: that it had a nave and two aisles, the nave much higher than the aisles; that the nave was separated from the aisles by rows of shafts, which supported, above, large spaces of flat or dead wall, rising above the aisles, and forming the upper part of the nave, now called the clerestory, which had a gabled wooden roof.

These high dead walls were, in Roman work, built of stone;

but in the wooden work of the North, they must necessarily have been made of horizontal boards or timbers attached to uprights on the top of the nave pillars, which were themselves also of wood.<sup>21</sup> Now, these uprights were necessarily thicker than the rest of the timbers, and formed vertical square pilasters above the nave piers. As Christianity extended and civilisation increased, these wooden structures were changed into stone; but they were literally petrified, retaining the form which had been made necessary by their being of wood. The upright pilaster above the nave pier remains in the stone edifice, and is the first form of the great distinctive feature of Northern architecture—the vaulting shaft. In that form the Lombards brought it into Italy, in the seventh century, and it remains to this day in St. Ambrogio of Milan, and St. Michele of Pavia.

§ XXVIII. When the vaulting shaft was introduced in the clerestory walls, additional members were added for its support to the nave piers. Perhaps two or three pine trunks, used for a single pillar, gave the first idea of the grouped shaft. Be that as it may, the arrangement of the nave pier in the form of a cross accompanies the superimposition of the vaulting shaft; together with corresponding grouping of minor shafts in doorways and apertures of windows. Thus, the whole body of the Northern architecture, represented by that of the Lombards, may be described as rough but majestic work, round-arched, with grouped shafts, added vaulting shafts, and endless imagery of

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<sup>21</sup> [Appendix 9](#), “Wooden Churches of the North.”

active life and fantastic superstitions.

§ XXIX. The glacier stream of the Lombards, and the following one of the Normans, left their erratic blocks, wherever they had flowed; but without influencing, I think, the Southern nations beyond the sphere of their own presence. But the lava stream of the Arab, even after it ceased to flow, warmed the whole of the Northern air; and the history of Gothic architecture is the history of the refinement and spiritualisation of Northern work under its influence. The noblest buildings of the world, the Pisan-Romanesque, Tuscan (Giottesque) Gothic, and Veronese Gothic, are those of the Lombard schools themselves, under its close and direct influence; the various Gothics of the North are the original forms of the architecture which the Lombards brought into Italy, changing under the less direct influence of the Arab.

§ XXX. Understanding thus much of the formation of the great European styles, we shall have no difficulty in tracing the succession of architectures in Venice herself. From what I said of the central character of Venetian art, the reader is not, of course, to conclude that the Roman, Northern, and Arabian elements met together and contended for the mastery at the same period. The earliest element was the pure Christian Roman; but few, if any, remains of this art exist at Venice; for the present city was in the earliest times only one of many settlements formed on the chain of marshy islands which extend from the mouths of the Isonzo to those of the Adige, and it was not until

the beginning of the ninth century that it became the seat of government; while the cathedral of Torcello, though Christian Roman in general form, was rebuilt in the eleventh century, and shows evidence of Byzantine workmanship in many of its details. This cathedral, however, with the church of Santa Fosca at Torcello, San Giacomo di Rialto at Venice, and the crypt of St. Mark's, forms a distinct group of buildings, in which the Byzantine influence is exceedingly slight; and which is probably very sufficiently representative of the earliest architecture on the islands.

§ XXXI. The Ducal residence was removed to Venice in 809, and the body of St. Mark was brought from Alexandria twenty years later. The first church of St. Mark's was, doubtless, built in imitation of that destroyed at Alexandria, and from which the relics of the saint had been obtained. During the ninth, tenth, and eleventh centuries, the architecture of Venice seems to have been formed on the same model, and is almost identical with that of Cairo under the caliphs,<sup>22</sup> it being quite immaterial whether the reader chooses to call both Byzantine or both Arabic; the workmen being certainly Byzantine, but forced to the invention of new forms by their Arabian masters, and bringing these forms into use in whatever other parts of the world they were employed.

To this first manner of Venetian architecture, together with vestiges as remain of the Christian Roman, I shall devote the first division of the following inquiry. The examples remaining of it

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<sup>22</sup> [Appendix 10](#), "Church of Alexandria."

consist of three noble churches (those of Torcello, Murano, and the greater part of St. Mark's), and about ten or twelve fragments of palaces.

§ XXXII. To this style succeeds a transitional one, of a character much more distinctly Arabian: the shafts become more slender, and the arches consistently pointed, instead of round; certain other changes, not to be enumerated in a sentence, taking place in the capitals and mouldings. This style is almost exclusively secular. It was natural for the Venetians to imitate the beautiful details of the Arabian dwelling-house, while they would with reluctance adopt those of the mosque for Christian churches.

I have not succeeded in fixing limiting dates for this style. It appears in part contemporary with the Byzantine manner, but outlives it. Its position is, however, fixed by the central date, 1180, that of the elevation of the granite shafts of the Piazzetta, whose capitals are the two most important pieces of detail in this transitional style in Venice. Examples of its application to domestic buildings exist in almost every street of the city, and will form the subject of the second division of the following essay.

§ XXXIII. The Venetians were always ready to receive lessons in art from their enemies (else had there been no Arab work in Venice). But their especial dread and hatred of the Lombards appears to have long prevented them from receiving the influence of the art which that people had introduced on the mainland of

Italy. Nevertheless, during the practice of the two styles above distinguished, a peculiar and very primitive condition of pointed Gothic had arisen in ecclesiastical architecture. It appears to be a feeble reflection of the Lombard-Arab forms, which were attaining perfection upon the continent, and would probably, if left to itself, have been soon merged in the Venetian-Arab school, with which it had from the first so close a fellowship, that it will be found difficult to distinguish the Arabian ogives from those which seem to have been built under this early Gothic influence. The churches of San Giacomo dell'Orio, San Giovanni in Bragora, the Carmine, and one or two more, furnish the only important examples of it. But, in the thirteenth century, the Franciscans and Dominicans introduced from the continent their morality and their architecture, already a distinct Gothic, curiously developed from Lombardic and Northern (German?) forms; and the influence of the principles exhibited in the vast churches of St. Paul and the Frari began rapidly to affect the Venetian-Arab school. Still the two systems never became united; the Venetian policy repressed the power of the church, and the Venetian artists resisted its example; and thenceforward the architecture of the city becomes divided into ecclesiastical and civil: the one an ungraceful yet powerful form of the Western Gothic, common to the whole peninsula, and only showing Venetian sympathies in the adoption of certain characteristic mouldings; the other a rich, luxuriant, and entirely original Gothic, formed from the Venetian-Arab by the influence of the

Dominican and Franciscan architecture, and especially by the engrafting upon the Arab forms of the most novel feature of the Franciscan work, its traceries. These various forms of Gothic, the *distinctive* architecture of Venice, chiefly represented by the churches of St. John and Paul, the Frari, and San Stefano, on the ecclesiastical side, and by the Ducal palace, and the other principal Gothic palaces, on the secular side, will be the subject of the third division of the essay.

§ XXXIV. Now observe. The transitional (or especially Arabic) style of the Venetian work is centralised by the date 1180, and is transformed gradually into the Gothic, which extends in its purity from the middle of the thirteenth to the beginning of the fifteenth century; that is to say, over the precise period which I have described as the central epoch of the life of Venice. I dated her decline from the year 1418; Foscari became doge five years later, and in his reign the first marked signs appear in architecture of that mighty change which Philippe de Commines notices as above, the change to which London owes St. Paul's, Rome St. Peter's, Venice and Vicenza the edifices commonly supposed to be their noblest, and Europe in general the degradation of every art she has since practised.

§ XXXV. This change appears first in a loss of truth and vitality in existing architecture all over the world. (Compare "Seven Lamps," chap. ii.) All the Gothics in existence, southern or northern, were corrupted at once: the German and French lost themselves in every species of extravagance; the English

Gothic was confined, in its insanity, by a strait-waistcoat of perpendicular lines; the Italian effloresced on the mainland into the meaningless ornamentation of the Certosa of Pavia and the Cathedral of Como (a style sometimes ignorantly called Italian Gothic), and at Venice into the insipid confusion of the Porta della Carta and wild crockets of St. Mark's. This corruption of all architecture, especially ecclesiastical, corresponded with, and marked the state of religion over all Europe,—the peculiar degradation of the Romanist superstition, and of public morality in consequence, which brought about the Reformation.

§ XXXVI. Against the corrupted papacy arose two great divisions of adversaries, Protestants in Germany and England, Rationalists in France and Italy; the one requiring the purification of religion, the other its destruction. The Protestant kept the religion, but cast aside the heresies of Rome, and with them her arts, by which last rejection he injured his own character, cramped his intellect in refusing to it one of its noblest exercises, and materially diminished his influence. It may be a serious question how far the Pausing of the Reformation has been a consequence of this error.

The Rationalist kept the arts and cast aside the religion. This rationalistic art is the art commonly called Renaissance, marked by a return to pagan systems, not to adopt them and hallow them for Christianity, but to rank itself under them as an imitator and pupil. In Painting it is headed by Giulio Romano and Nicolo Poussin; in Architecture by Sansovino and Palladio.

§ XXXVII. Instant degradation followed in every direction,—a flood of folly and hypocrisy. Mythologies ill understood at first, then perverted into feeble sensualities, take the place of the representations of Christian subjects, which had become blasphemous under the treatment of men like the Caracci. Gods without power, satyrs without rusticity, nymphs without innocence, men without humanity, gather into idiot groups upon the polluted canvas, and scenic affectations encumber the streets with preposterous marble. Lower and lower declines the level of abused intellect; the base school of landscape<sup>23</sup> gradually usurps the place of the historical painting, which had sunk into prurient pedantry,—the Alsatian sublimities of Salvator, the confectionery idealities of Claude, the dull manufacture of Gaspar and Canaletto, south of the Alps, and on the north the patient devotion of besotted lives to delineation of bricks and fogs, fat cattle and ditchwater. And thus Christianity and morality, courage, and intellect, and art all crumbling together into one wreck, we are hurried on to the fall of Italy, the revolution in France, and the condition of art in England (saved by her Protestantism from severer penalty) in the time of George II.

§ XXXVIII. I have not written in vain if I have heretofore done anything towards diminishing the reputation of the Renaissance landscape painting. But the harm which has been done by Claude and the Poussins is as nothing when compared to the

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<sup>23</sup> [Appendix 11](#), “Renaissance Landscape.”

mischief effected by Palladio, Scamozzi, and Sansovino. Claude and the Poussins were weak men, and have had no serious influence on the general mind. There is little harm in their works being purchased at high prices: their real influence is very slight, and they may be left without grave indignation to their poor mission of furnishing drawing-rooms and assisting stranded conversation. Not so the Renaissance architecture. Raised at once into all the magnificence of which it was capable by Michael Angelo, then taken up by men of real intellect and imagination, such as Scamozzi, Sansovino, Inigo Jones, and Wren, it is impossible to estimate the extent of its influence on the European mind; and that the more, because few persons are concerned with painting, and, of those few, the larger number regard it with slight attention; but all men are concerned with architecture, and have at some time of their lives serious business with it. It does not much matter that an individual loses two or three hundred pounds in buying a bad picture, but it is to be regretted that a nation should lose two or three hundred thousand in raising a ridiculous building. Nor is it merely wasted wealth or distempered conception which we have to regret in this Renaissance architecture: but we shall find in it partly the root, partly the expression, of certain dominant evils of modern times—over-sophistication and ignorant classicalism; the one destroying the healthfulness of general society, the other rendering our schools and universities useless to a large number of the men who pass through them.

Now Venice, as she was once the most religious, was in her fall the most corrupt, of European states; and as she was in her strength the centre of the pure currents of Christian architecture, so she is in her decline the source of the Renaissance. It was the originality and splendor of the palaces of Vicenza and Venice which gave this school its eminence in the eyes of Europe; and the dying city, magnificent in her dissipation, and graceful in her follies, obtained wider worship in her decrepitude than in her youth, and sank from the midst of her admirers into the grave.

§ XXXIX. It is in Venice, therefore, and in Venice only that effectual blows can be struck at this pestilent art of the Renaissance. Destroy its claims to admiration there, and it can assert them nowhere else. This, therefore, will be the final purpose of the following essay. I shall not devote a fourth section to Palladio, nor weary the reader with successive chapters of vituperation; but I shall, in my account of the earlier architecture, compare the forms of all its leading features with those into which they were corrupted by the Classicalists; and pause, in the close, on the edge of the precipice of decline, so soon as I have made its depths discernible. In doing this I shall depend upon two distinct kinds of evidence:—the first, the testimony borne by particular incidents and facts to a want of thought or of feeling in the builders; from which we may conclude that their architecture must be bad:—the second, the sense, which I doubt not I shall be able to excite in the reader, of a systematic ugliness in the architecture itself. Of the first kind of testimony I shall here give

two instances, which may be immediately useful in fixing in the readers mind the epoch above indicated for the commencement of decline.

§ XL. I must again refer to the importance which I have above attached to the death of Carlo Zeno and the doge Tomaso Mocenigo. The tomb of that doge is, as I said, wrought by a Florentine; but it is of the same general type and feeling as all the Venetian tombs of the period, and it is one of the last which retains it. The classical element enters largely into its details, but the feeling of the whole is as yet unaffected. Like all the lovely tombs of Venice and Verona, it is a sarcophagus with a recumbent figure above, and this figure is a faithful but tender portrait, wrought as far as it can be without painfulness, of the doge as he lay in death. He wears his ducal robe and bonnet—his head is laid slightly aside upon his pillow—his hands are simply crossed as they fall. The face is emaciated, the features large, but so pure and lordly in their natural chiselling, that they must have looked like marble even in their animation. They are deeply worn away by thought and death; the veins on the temples branched and starting; the skin gathered in sharp folds; the brow high-arched and shaggy; the eye-ball magnificently large; the curve of the lips just veiled by the light mustache at the side; the beard short, double, and sharp-pointed: all noble and quiet; the white sepulchral dust marking like light the stern angles of the cheek and brow.

This tomb was sculptured in 1424, and is thus described by

one of the most intelligent of the recent writers who represent the popular feeling respecting Venetian art.

“Of the Italian school is also the rich but ugly (*ricco ma non bel*) sarcophagus in which repose the ashes of Tomaso Mocenigo. It may be called one of the last links which connect the declining art of the Middle Ages with that of the Renaissance, which was in its rise. We will not stay to particularise the defects of each of the seven figures of the front and sides, which represent the cardinal and theological virtues; nor will we make any remarks upon those which stand in the niches above the pavilion, because we consider them unworthy both of the age and reputation of the Florentine school, which was then with reason considered the most notable in Italy.”<sup>24</sup>

It is well, indeed, not to pause over these defects; but it might have been better to have paused a moment beside that noble image of a king’s mortality.

§ XLI. In the choir of the same church, St. Giov. and Paolo, is another tomb, that of the Doge Andrea Vendramin. This doge died in 1478, after a short reign of two years, the most disastrous in the annals of Venice. He died of a pestilence which followed the ravage of the Turks, carried to the shores of the lagoons. He died, leaving Venice disgraced by sea and land, with the smoke of hostile devastation rising in the blue distances of Friuli; and there was raised to him the most costly tomb ever bestowed on

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<sup>24</sup> Selvatico, “Architettura di Venezia,” p. 147.

her monarchs.

§ XLII. If the writer above quoted was cold beside the statue of one of the fathers of his country, he atones for it by his eloquence beside the tomb of the Vendramin. I must not spoil the force of Italian superlative by translation.

“Quando si guarda a quella corretta eleganza di profili e di proporzioni, a quella squisitezza d’ornamenti, a quel certo sapore antico che senza ombra d’imitazione traspare da tutta l’opera”—&c. “Sopra ornatissimo zoccolo fornito di squisiti intagli s’alza uno stylobate”—&c. “Sotto le colonne, il predetto stilobate si muta leggiadramente in piedistallo, poi con bella novità di pensiero e di effetto va coronato da un fregio il più gentile che veder si possa”—&c. “Non puossi lasciar senza un cenno l’*arca dove* sta chiuso il doge; capo lavoro di pensiero e di esecuzione,” &c.

There are two pages and a half of closely printed praise, of which the above specimens may suffice; but there is not a word of the statue of the dead from beginning to end. I am myself in the habit of considering this rather an important part of a tomb, and I was especially interested in it here, because Selvatico only echoes the praise of thousands. It is unanimously declared the chef d’œuvre of Renaissance sepulchral work, and pronounced by Cicognara (also quoted by Selvatico)

“Il vertice a cui l’arti Veneziene si spinsero col ministero del scalpello,”—“The very culminating point to which the Venetian arts attained by ministry of the chisel.”

To this culminating point, therefore, covered with dust and cobwebs, I attained, as I did to every tomb of importance in Venice, by the ministry of such ancient ladders as were to be found in the sacristan's keeping. I was struck at first by the excessive awkwardness and want of feeling in the fall of the hand towards the spectator, for it is thrown off the middle of the body in order to show its fine cutting. Now the Mocenigo hand, severe and even stiff in its articulations, has its veins finely drawn, its sculptor having justly felt that the delicacy of the veining expresses alike dignity and age and birth. The Vendramin hand is far more laboriously cut, but its blunt and clumsy contour at once makes us feel that all the care has been thrown away, and well it may be, for it has been entirely bestowed in cutting gouty wrinkles about the joints. Such as the hand is, I looked for its fellow. At first I thought it had been broken off, but, on clearing away the dust, I saw the wretched effigy had only *one* hand, and was a mere block on the inner side. The face, heavy and disagreeable in its features, is made monstrous by its semi-sculpture. One side of the forehead is wrinkled elaborately, the other left smooth; one side only of the doge's cap is chased; one cheek only is finished, and the other blocked out and distorted besides; finally, the ermine robe, which is elaborately imitated to its utmost lock of hair and of ground hair on the one side, is blocked out only on the other: it having been supposed throughout the work that the effigy was only to be seen from below, and from one side.

§ XLIII. It was indeed to be so seen by nearly every one; and I do not blame—I should, on the contrary, have praised—the sculptor for regulating his treatment of it by its position; if that treatment had not involved, first, dishonesty, in giving only half a face, a monstrous mask, when we demanded true portraiture of the dead; and, secondly, such utter coldness of feeling, as could only consist with an extreme of intellectual and moral degradation: Who, with a heart in his breast, could have stayed his hand as he drew the dim lines of the old man's countenance—unmajestic once, indeed, but at least sanctified by the solemnities of death—could have stayed his hand, as he reached the bend of the grey forehead, and measured out the last veins of it at so much the zecchin?

I do not think the reader, if he has feeling, will expect that much talent should be shown in the rest of his work, by the sculptor of this base and senseless lie. The whole monument is one wearisome aggregation of that species of ornamental flourish, which, when it is done with a pen, is called penmanship, and when done with a chisel, should be called chiselmanship; the subject of it being chiefly fat-limbed boys sprawling on dolphins, dolphins incapable of swimming, and dragged along the sea by expanded pocket-handkerchiefs.

But now, reader, comes the very gist and point of the whole matter. This lying monument to a dishonored doge, this culminating pride of the Renaissance art of Venice, is at least veracious, if in nothing else, in its testimony to the character of

its sculptor. *He was banished from Venice for forgery* in 1487.<sup>25</sup>

§ XLIV. I have more to say about this convict's work hereafter; but I pass at present, to the second, slighter, but yet more interesting piece of evidence, which I promised.

The ducal palace has two principal façades; one towards the sea, the other towards the Piazzetta. The seaward side, and, as far as the seventh main arch inclusive, the Piazzetta side, is work of the early part of the fourteenth century, some of it perhaps even earlier; while the rest of the Piazzetta side is of the fifteenth. The difference in age has been gravely disputed by the Venetian antiquaries, who have examined many documents on the subject, and quoted some which they never examined. I have myself collated most of the written documents, and one document more, to which the Venetian antiquaries never thought of referring,—the masonry of the palace itself.

§ XLV. That masonry changes at the centre of the eighth arch from the sea angle on the Piazzetta side. It has been of comparatively small stones up to that point; the fifteenth century work instantly begins with larger stones, “brought from Istria, a hundred miles away.”<sup>26</sup> The ninth shaft from the sea in the lower arcade, and the seventeenth, which is above it, in the upper arcade, commence the series of fifteenth century shafts. These two are somewhat thicker than the others, and carry the party-wall of the Sala del Scrutinio. Now observe, reader. The face of

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<sup>25</sup> Selvatico, p. 221.

<sup>26</sup> The older work is of Istrian stone also, but of different quality.

the palace, from this point to the Porta della Carta, was built at the instance of that noble Doge Mocenigo beside whose tomb you have been standing; at his instance, and in the beginning of the reign of his successor, Foscari; that is to say, circa 1424. This is not disputed; it is only disputed that the sea façade is earlier; of which, however, the proofs are as simple as they are incontrovertible: for not only the masonry, but the sculpture, changes at the ninth lower shaft, and that in the capitals of the shafts both of the upper and lower arcade: the costumes of the figures introduced in the sea façade being purely Giottesque, correspondent with Giotto's work in the Arena Chapel at Padua, while the costume on the other capitals is Renaissance-Classic: and the lions' heads between the arches change at the same point. And there are a multitude of other evidences in the statues of the angels, with which I shall not at present trouble the reader.

§ XLVI. Now, the architect who built under Foscari, in 1424 (remember my date for the decline of Venice, 1418), was obliged to follow the principal forms of the older palace. But he had not the wit to invent new capitals in the same style; he therefore clumsily copied the old ones. The palace has seventeen main arches on the sea façade, eighteen on the Piazzetta side, which in all are of course carried by thirty-six pillars; and these pillars I shall always number from right to left, from the angle of the palace at the Ponte della Paglia to that next the Porta della Carta. I number them in this succession, because I thus have the earliest shafts first numbered. So counted, the 1st, the 18th, and the 36th,

are the great supports of the angles of the palace; and the first of the fifteenth century series, being, as above stated, the 9th from the sea on the Piazzetta side, is the 26th of the entire series, and will always in future be so numbered, so that all numbers above twenty-six indicate fifteenth century work, and all below it, fourteenth century, with some exceptional cases of restoration.

Then the copied capitals are: the 28th, copied from the 7th; the 29th, from the 9th; the 30th, from the 10th; the 31st, from the 8th; the 33rd, from the 12th; and the 34th, from the 11th; the others being dull inventions of the 15th century, except the 36th, which is very nobly designed.

§ XLVII. The capitals thus selected from the earlier portion of the palace for imitation, together with the rest, will be accurately described hereafter; the point I have here to notice is in the copy of the ninth capital, which was decorated (being, like the rest, octagonal) with figures of the eight Virtues:—Faith, Hope, Charity, Justice, Temperance, Prudence, Humility (the Venetian antiquaries call it Humanity!), and Fortitude. The Virtues of the fourteenth century are somewhat hard-featured; with vivid and living expression, and plain every-day clothes of the time. Charity has her lap full of apples (perhaps loaves), and is giving one to a little child, who stretches his arm for it across a gap in the leafage of the capital. Fortitude tears open a lion's jaws; Faith lays her hand on her breast, as she beholds the Cross; and Hope is praying, while above her a hand is seen emerging from sunbeams—the hand of God (according to that of Revelations,

“The Lord God giveth them light”); and the inscription above is, “Spes optima in Deo.”

§ XLVIII. This design, then, is, rudely and with imperfect chiselling, imitated by the fifteenth century workmen: the Virtues have lost their hard features and living expression; they have now all got Roman noses, and have had their hair curled. Their actions and emblems are, however, preserved until we come to Hope: she is still praying, but she is praying to the sun only: *The hand of God is gone.*

Is not this a curious and striking type of the spirit which had then become dominant in the world, forgetting to see God’s hand in the light He gave; so that in the issue, when that light opened into the Reformation, on the one side, and into full knowledge of ancient literature on the other, the one was arrested and the other perverted?

§ XLIX. Such is the nature of the accidental evidence on which I shall depend for the proof of the inferiority of character in the Renaissance workmen. But the proof of the inferiority of the work itself is not so easy, for in this I have to appeal to judgments which the Renaissance work has itself distorted. I felt this difficulty very forcibly as I read a slight review of my former work, “The Seven Lamps,” in “The Architect:” the writer noticed my constant praise of St. Mark’s: “Mr. Ruskin thinks it a very beautiful building! We,” said the Architect, “think it a very ugly building.” I was not surprised at the difference of opinion, but at the thing being considered so completely a

subject of opinion. My opponents in matters of painting always assume that there *is* such a thing as a law of right, and that I do not understand it: but my architectural adversaries appeal to no law, they simply set their opinion against mine; and indeed there is no law at present to which either they or I can appeal. No man can speak with rational decision of the merits or demerits of buildings: he may with obstinacy; he may with resolved adherence to previous prejudices; but never as if the matter could be otherwise decided than by a majority of votes, or pertinacity of partizanship. I had always, however, a clear conviction that there *was* a law in this matter: that good architecture might be indisputably discerned and divided from the bad; that the opposition in their very nature and essence was clearly visible; and that we were all of us just as unwise in disputing about the matter without reference to principle, as we should be for debating about the genuineness of a coin, without ringing it. I felt also assured that this law must be universal if it were conclusive; that it must enable us to reject all foolish and base work, and to accept all noble and wise work, without reference to style or national feeling; that it must sanction the design of all truly great nations and times, Gothic or Greek or Arab; that it must cast off and reprobate the design of all foolish nations and times, Chinese or Mexican, or modern European: and that it must be easily applicable to all possible architectural inventions of human mind. I set myself, therefore, to establish such a law, in full belief that men are intended, without excessive difficulty, and by use

of their general common sense, to know good things from bad; and that it is only because they will not be at the pains required for the discernment, that the world is so widely encumbered with forgeries and basenesses. I found the work simpler than I had hoped; the reasonable things ranged themselves in the order I required, and the foolish things fell aside, and took themselves away so soon as they were looked in the face. I had then, with respect to Venetian architecture, the choice, either to establish each division of law in a separate form, as I came to the features with which it was concerned, or else to ask the reader's patience, while I followed out the general inquiry first, and determined with him a code of right and wrong, to which we might together make retrospective appeal. I thought this the best, though perhaps the dullest way; and in these first following pages I have therefore endeavored to arrange those foundations of criticism, on which I shall rest in my account of Venetian architecture, in a form clear and simple enough to be intelligible even to those who never thought of architecture before. To those who have, much of what is stated in them will be well known or self-evident; but they must not be indignant at a simplicity on which the whole argument depends for its usefulness. From that which appears a mere truism when first stated, they will find very singular consequences sometimes following,—consequences altogether unexpected, and of considerable importance; I will not pause here to dwell on their importance, nor on that of the thing itself to be done; for I believe most readers will at once admit

the value of a criterion of right and wrong in so practical and costly an art as architecture, and will be apt rather to doubt the possibility of its attainment than dispute its usefulness if attained. I invite them, therefore, to a fair trial, being certain that even if I should fail in my main purpose, and be unable to induce in my reader the confidence of judgment I desire, I shall at least receive his thanks for the suggestion of consistent reasons, which may determine hesitating choice, or justify involuntary preference. And if I should succeed, as I hope, in making the Stones of Venice touchstones, and detecting, by the mouldering of her marble, poison more subtle than ever was betrayed by the rending of her crystal; and if thus I am enabled to show the baseness of the schools of architecture and nearly every other art, which have for three centuries been predominant in Europe, I believe the result of the inquiry may be serviceable for proof of a more vital truth than any at which I have hitherto hinted. For observe: I said the Protestant had despised the arts, and the Rationalist corrupted them. But what has the Romanist done meanwhile? He boasts that it was the papacy which raised the arts; why could it not support them when it was left to its own strength? How came it to yield to Classicalism which was based on infidelity, and to oppose no barrier to innovations, which have reduced the once faithfully conceived imagery of its worship to stage decoration? Shall we not rather find that Romanism, instead of being a promoter of the arts, has never shown itself capable of a single great conception since the separation of

Protestantism from its side?<sup>27</sup> So long as, corrupt though it might be, no clear witness had been borne against it, so that it still included in its ranks a vast number of faithful Christians, so long its arts were noble. But the witness was borne—the error made apparent; and Rome, refusing to hear the testimony or forsake the falsehood, has been struck from that instant with an intellectual palsy, which has not only incapacitated her from any further use of the arts which once were her ministers, but has made her worship the shame of its own shrines, and her worshippers their destroyers. Come, then, if truths such as these are worth our thoughts; come, and let us know, before we enter the streets of the Sea city, whether we are indeed to submit ourselves to their undistinguished enchantment, and to look upon the last changes which were wrought on the lifted forms of her palaces, as we should on the capricious towering of summer clouds in the sunset, ere they sank into the deep of night; or whether, rather, we shall not behold in the brightness of their accumulated marble, pages on which the sentence of her luxury was to be written until the waves should efface it, as they fulfilled—“God has numbered thy kingdom, and finished it.”

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<sup>27</sup> [Appendix 12](#), “Romanist Modern Art.”

# CHAPTER II.

## THE VIRTUES OF ARCHITECTURE

§ I. We address ourselves, then, first to the task of determining some law of right which we may apply to the architecture of all the world and of all time; and by help of which, and judgment according to which, we may easily pronounce whether a building is good or noble, as, by applying a plumb-line, whether it be perpendicular.

The first question will of course be: What are the possible Virtues of architecture?

In the main, we require from buildings, as from men, two kinds of goodness: first, the doing their practical duty well: then that they be graceful and pleasing in doing it; which last is itself another form of duty.

Then the practical duty divides itself into two branches,—acting and talking:—acting, as to defend us from weather or violence; talking, as the duty of monuments or tombs, to record facts and express feelings; or of churches, temples, public edifices, treated as books of history, to tell such history clearly and forcibly.

We have thus, altogether, three great branches of architectural virtue, and we require of any building,—

1. That it act well, and do the things it was intended to do in the best way.
2. That it speak well, and say the things it was intended to say in the best words.
3. That it look well, and please us by its presence, whatever it has to do or say.<sup>28</sup>

§ II. Now, as regards the second of these virtues, it is evident that we can establish no general laws. First, because it is not a virtue required in all buildings; there are some which are only for covert or defence, and from which we ask no conversation. Secondly, because there are countless methods of expression, some conventional, some natural: each conventional mode has its own alphabet, which evidently can be no subject of general laws. Every natural mode is instinctively employed and instinctively understood, wherever there is true feeling; and this instinct is above law. The choice of conventional methods depends on circumstances out of calculation, and that of natural methods on sensations out of control; so that we can only say that the choice is right, when we feel that the means are effective; and we cannot always say that it is wrong when they are not so.

A building which recorded the Bible history by means of a series of sculptural pictures, would be perfectly useless to a person unacquainted with the Bible beforehand; on the other hand, the text of the Old and New Testaments might be written on its walls, and yet the building be a very inconvenient kind of

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<sup>28</sup> [Appendix 13](#), “Mr. Fergusson’s System.”

book, not so useful as if it had been adorned with intelligible and vivid sculpture. So, again, the power of exciting emotion must vary or vanish, as the spectator becomes thoughtless or cold; and the building may be often blamed for what is the fault of its critic, or endowed with a charm which is of its spectator's creation. It is not, therefore, possible to make expressional character any fair criterion of excellence in buildings, until we can fully place ourselves in the position of those to whom their expression was originally addressed, and until we are certain that we understand every symbol, and are capable of being touched by every association which its builders employed as letters of their language. I shall continually endeavor to put the reader into such sympathetic temper, when I ask for his judgment of a building; and in every work I may bring before him I shall point out, as far as I am able, whatever is peculiar in its expression; nay, I must even depend on such peculiarities for much of my best evidence respecting the character of the builders. But I cannot legalize the judgment for which I plead, nor insist upon it if it be refused. I can neither force the reader to feel this architectural rhetoric, nor compel him to confess that the rhetoric is powerful, if it have produced no impression on his own mind.

§ III. I leave, therefore, the expression of buildings for incidental notice only. But their other two virtues are proper subjects of law,—their performance of their common and necessary work, and their conformity with universal and divine canons of loveliness: respecting these there can be no doubt,

no ambiguity. I would have the reader discern them so quickly that, as he passes along a street, he may, by a glance of the eye, distinguish the noble from the ignoble work. He can do this, if he permit free play to his natural instincts; and all that I have to do for him is to remove from those instincts the artificial restraints which prevent their action, and to encourage them to an unaffected and unbiassed choice between right and wrong.

§ IV. We have, then, two qualities of buildings for subjects of separate inquiry: their action, and aspect, and the sources of virtue in both; that is to say, Strength and Beauty, both of these being less admired in themselves, than as testifying the intelligence or imagination of the builder.

For we have a worthier way of looking at human than at divine architecture: much of the value both of construction and decoration, in the edifices of men, depends upon our being led by the thing produced or adorned, to some contemplation of the powers of mind concerned in its creation or adornment. We are not so led by divine work, but are content to rest in the contemplation of the thing created. I wish the reader to note this especially: we take pleasure, or *should* take pleasure, in architectural construction altogether as the manifestation of an admirable human intelligence; it is not the strength, not the size, not the finish of the work which we are to venerate: rocks are always stronger, mountains always larger, all natural objects more finished; but it is the intelligence and resolution of man in overcoming physical difficulty which are to be the source of our

pleasure and subject of our praise. And again, in decoration or beauty, it is less the actual loveliness of the thing produced, than the choice and invention concerned in the production, which are to delight us; the love and the thoughts of the workman more than his work: his work must always be imperfect, but his thoughts and affections may be true and deep.

§ V. This origin of our pleasure in architecture I must insist upon at somewhat greater length, for I would fain do away with some of the ungrateful coldness which we show towards the good builders of old time. In no art is there closer connection between our delight in the work, and our admiration of the workman's mind, than in architecture, and yet we rarely ask for a builder's name. The patron at whose cost, the monk through whose dreaming, the foundation was laid, we remember occasionally; never the man who verily did the work. Did the reader ever hear of William of Sens as having had anything to do with Canterbury Cathedral? or of Pietro Basegio as in anywise connected with the Ducal Palace of Venice? There is much ingratitude and injustice in this; and therefore I desire my reader to observe carefully how much of his pleasure in building is derived, or should be derived, from admiration of the intellect of men whose names he knows not.

§ VI. The two virtues of architecture which we can justly weigh, are, we said, its strength or good construction, and its beauty or good decoration. Consider first, therefore, what you mean when you say a building is well constructed or well built;

you do not merely mean that it answers its purpose,—this is much, and many modern buildings fail of this much; but if it be verily well built, it must answer this purpose in the simplest way, and with no over-expenditure of means. We require of a lighthouse, for instance, that it shall stand firm and carry a light; if it do not this, assuredly it has been ill built; but it may do it to the end of time, and yet not be well built. It may have hundreds of tons of stone in it more than were needed, and have cost thousands of pounds more than it ought. To pronounce it well or ill built, we must know the utmost forces it can have to resist, and the best arrangements of stone for encountering them, and the quickest ways of effecting such arrangements: then only, so far as such arrangements have been chosen, and such methods used, is it well built. Then the knowledge of all difficulties to be met, and of all means of meeting them, and the quick and true fancy or invention of the modes of applying the means to the end, are what we have to admire in the builder, even as he is seen through this first or inferior part of his work. Mental power, observe: not muscular nor mechanical, nor technical, nor empirical,—pure, precious, majestic, massy intellect; not to be had at vulgar price, nor received without thanks, and without asking from whom.

§ VII. Suppose, for instance, we are present at the building of a bridge: the bricklayers or masons have had their centring erected for them, and that centring was put together by a carpenter, who had the line of its curve traced for him by the architect: the masons are dexterously handling and fitting their bricks, or,

by the help of machinery, carefully adjusting stones which are numbered for their places. There is probably in their quickness of eye and readiness of hand something admirable; but this is not what I ask the reader to admire: not the carpentering, nor the bricklaying, nor anything that he can presently see and understand, but the choice of the curve, and the shaping of the numbered stones, and the appointment of that number; there were many things to be known and thought upon before these were decided. The man who chose the curve and numbered the stones, had to know the times and tides of the river, and the strength of its floods, and the height and flow of them, and the soil of the banks, and the endurance of it, and the weight of the stones he had to build with, and the kind of traffic that day by day would be carried on over his bridge,—all this specially, and all the great general laws of force and weight, and their working; and in the choice of the curve and numbering of stones are expressed not only his knowledge of these, but such ingenuity and firmness as he had, in applying special means to overcome the special difficulties about his bridge. There is no saying how much wit, how much depth of thought, how much fancy, presence of mind, courage, and fixed resolution there may have gone to the placing of a single stone of it. This is what we have to admire,—this grand power and heart of man in the thing; not his technical or empirical way of holding the trowel and laying mortar.

§ VIII. Now there is in everything properly called art this concernment of the intellect, even in the province of the art

which seems merely practical. For observe: in this bridge-building I suppose no reference to architectural principles; all that I suppose we want is to get safely over the river; the man who has taken us over is still a mere bridge-builder,—a *builder*, not an architect: he may be a rough, artless, feelingless man, incapable of doing any one truly fine thing all his days. I shall call upon you to despise him presently in a sort, but not as if he were a mere smoother of mortar; perhaps a great man, infinite in memory, indefatigable in labor, exhaustless in expedient, unsurpassable in quickness of thought. Take good heed you understand him before you despise him.

§ IX. But why is he to be in anywise despised? By no means despise him, unless he happen to be without a soul,<sup>29</sup> or at least to show no signs of it; which possibly he may not in merely carrying you across the river. He may be merely what Mr. Carlyle rightly calls a human beaver after all; and there may be nothing in all that ingenuity of his greater than a complication of animal faculties, an intricate bestiality,—nest or hive building in its highest development. You need something more than this, or the man is despicable; you need that virtue of building through which he may show his affections and delights; you need its beauty or decoration.

§ X. Not that, in reality, one division of the man is more human than another. Theologists fall into this error very fatally and continually; and a man from whom I have learned much,

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<sup>29</sup> [Appendix 14](#), “Divisions of Humanity.”

Lord Lindsay, has hurt his noble book by it, speaking as if the spirit of the man only were immortal, and were opposed to his intellect, and the latter to the senses; whereas all the divisions of humanity are noble or brutal, immortal or mortal, according to the degree of their sanctification; and there is no part of the man which is not immortal and divine when it is once given to God, and no part of him which is not mortal by the second death, and brutal before the first, when it is withdrawn from God. For to what shall we trust for our distinction from the beasts that perish? To our higher intellect?—yet are we not bidden to be wise as the serpent, and to consider the ways of the ant?—or to our affections? nay; these are more shared by the lower animals than our intelligence. Hamlet leaps into the grave of his beloved, and leaves it,—a dog had stayed. Humanity and immortality consist neither in reason, nor in love; not in the body, nor in the animation of the heart of it, nor in the thoughts and stirrings of the brain of it,—but in the dedication of them all to Him who will raise them up at the last day.

§ XI. It is not, therefore, that the signs of his affections, which man leaves upon his work, are indeed more ennobling than the signs of his intelligence; but it is the balance of both whose expression we need, and the signs of the government of them all by Conscience; and Discretion, the daughter of Conscience. So, then, the intelligent part of man being eminently, if not chiefly, displayed in the structure of his work, his affectionate part is to be shown in its decoration; and, that decoration may be indeed

lovely, two things are needed: first, that the affections be vivid, and honestly shown; secondly, that they be fixed on the right things.

§ XII. You think, perhaps, I have put the requirements in wrong order. Logically I have; practically I have not: for it is necessary first to teach men to speak out, and say what they like, truly; and, in the second place, to teach them which of their likings are ill set, and which justly. If a man is cold in his likings and dislikings, or if he will not tell you what he likes, you can make nothing of him. Only get him to feel quickly and to speak plainly, and you may set him right. And the fact is, that the great evil of all recent architectural effort has not been that men liked wrong things: but that they either cared nothing about any, or pretended to like what they did not. Do you suppose that any modern architect likes what he builds, or enjoys it? Not in the least. He builds it because he has been told that such and such things are fine, and that he *should* like them. He pretends to like them, and gives them a false relish of vanity. Do you seriously imagine, reader, that any living soul in London likes triglyphs?<sup>30</sup>—or gets any hearty enjoyment out of pediments?<sup>31</sup> You are much mistaken. Greeks did: English people never did,—never will. Do you fancy that the architect of old Burlington

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<sup>30</sup> Triglyph. Literally, “Three Cut.” The awkward upright ornament with two notches in it, and a cut at each side, to be seen everywhere at the tops of Doric colonnades, ancient and modern.

<sup>31</sup> Pediment. The triangular space above Greek porticoes, as on the Mansion House or Royal Exchange.

Mews, in Regent Street, had any particular satisfaction in putting the blank triangle over the archway, instead of a useful garret window? By no manner of means. He had been told it was right to do so, and thought he should be admired for doing it. Very few faults of architecture are mistakes of honest choice: they are almost always hypocrisies.

§ XIII. So, then, the first thing we have to ask of the decoration is that it should indicate strong liking, and that honestly. It matters not so much what the thing is, as that the builder should really love it and enjoy it, and say so plainly. The architect of Bourges Cathedral liked hawthorns; so he has covered his porch with hawthorn,—it is a perfect Niobe of May. Never was such hawthorn; you would try to gather it forthwith, but for fear of being pricked. The old Lombard architects liked hunting; so they covered their work with horses and hounds, and men blowing trumpets two yards long. The base Renaissance architects of Venice liked masquing and fiddling; so they covered their work with comic masks and musical instruments. Even that was better than our English way of liking nothing, and professing to like triglyphs.

§ XIV. But the second requirement in decoration, is a sign of our liking the right thing. And the right thing to be liked is God's work, which He made for our delight and contentment in this world. And all noble ornamentation is the expression of man's delight in God's work.

§ XV. So, then, these are the two virtues of building: first,

the signs of man's own good work; secondly, the expression of man's delight in better work than his own. And these are the two virtues of which I desire my reader to be able quickly to judge, at least in some measure; to have a definite opinion up to a certain point. Beyond a certain point he cannot form one. When the science of the building is great, great science is of course required to comprehend it; and, therefore, of difficult bridges, and light-houses, and harbor walls, and river dykes, and railway tunnels, no judgment may be rapidly formed. But of common buildings, built in common circumstances, it is very possible for every man, or woman, or child, to form judgment both rational and rapid. Their necessary, or even possible, features are but few; the laws of their construction are as simple as they are interesting. The labor of a few hours is enough to render the reader master of their main points; and from that moment he will find in himself a power of judgment which can neither be escaped nor deceived, and discover subjects of interest where everything before had appeared barren. For though the laws are few and simple, the modes of obedience to them are not so. Every building presents its own requirements and difficulties; and every good building has peculiar appliances or contrivances to meet them. Understand the laws of structure, and you will feel the special difficulty in every new building which you approach; and you will know also, or feel instinctively,<sup>32</sup> whether it has been wisely met or otherwise. And an enormous number of buildings,

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<sup>32</sup> [Appendix 15](#): "Instinctive Judgments."

and of styles of buildings, you will be able to cast aside at once, as at variance with these constant laws of structure, and therefore unnatural and monstrous.

§ XVI. Then, as regards decoration, I want you only to consult your own natural choice and liking. There is a right and wrong in it; but you will assuredly like the right if you suffer your natural instinct to lead you. Half the evil in this world comes from people not knowing what they do like, not deliberately setting themselves to find out what they really enjoy. All people enjoy giving away money, for instance: they don't know *that*,—they rather think they like keeping it; and they *do* keep it under this false impression, often to their great discomfort. Every body likes to do good; but not one in a hundred finds *this* out. Multitudes think they like to do evil; yet no man ever really enjoyed doing evil since God made the world.

So in this lesser matter of ornament. It needs some little care to try experiments upon yourself: it needs deliberate question and upright answer. But there is no difficulty to be overcome, no abstruse reasoning to be gone into; only a little watchfulness needed, and thoughtfulness, and so much honesty as will enable you to confess to yourself and to all men, that you enjoy things, though great authorities say you should not.

§ XVII. This looks somewhat like pride; but it is true humility, a trust that you have been so created as to enjoy what is fitting for you, and a willingness to be pleased, as it was intended you should be. It is the child's spirit, which we are then most happy when

we most recover; only wiser than children in that we are ready to think it subject of thankfulness that we can still be pleased with a fair color or a dancing light. And, above all, do not try to make all these pleasures reasonable, nor to connect the delight which you take in ornament with that which you take in construction or usefulness. They have no connection; and every effort that you make to reason from one to the other will blunt your sense of beauty, or confuse it with sensations altogether inferior to it. You were made for enjoyment, and the world was filled with things which you will enjoy, unless you are too proud to be pleased by them, or too grasping to care for what you cannot turn to other account than mere delight. Remember that the most beautiful things in the world are the most useless; peacocks and lilies for instance; at least I suppose this quill I hold in my hand writes better than a peacock's would, and the peasants of Vevay, whose fields in spring time are as white with lilies as the Dent du Midi is with its snow, told me the hay was none the better for them.

§ XVIII. Our task therefore divides itself into two branches, and these I shall follow in succession. I shall first consider the construction of buildings, dividing them into their really necessary members or features; and I shall endeavor so to lead the reader forward from the foundation upwards, as that he may find out for himself the best way of doing everything, and having so discovered it, never forget it. I shall give him stones, and bricks, and straw, chisels, and trowels, and the ground, and then ask him to build; only helping him, as I can, if I find him puzzled. And

when he has built his house or church, I shall ask him to ornament it, and leave it to him to choose the ornaments as I did to find out the construction: I shall use no influence with him whatever, except to counteract previous prejudices, and leave him, as far as may be, free. And when he has thus found out how to build, and chosen his forms of decoration, I shall do what I can to confirm his confidence in what he has done. I shall assure him that no one in the world could, so far, have done better, and require him to condemn, as futile or fallacious, whatever has no resemblance to his own performances.

# CHAPTER III.

## THE SIX DIVISIONS OF ARCHITECTURE

§ I. The practical duties of buildings are twofold.

They have either (1), to hold and protect something; or (2), to place or carry something.

1. Architecture of Protection. This is architecture intended to protect men or their possessions from violence of any kind, whether of men or of the elements. It will include all churches, houses, and treasuries; fortresses, fences, and ramparts; the architecture of the hut and sheepfold; of the palace and the citadel: of the dyke, breakwater, and sea-wall. And the protection, when of living creatures, is to be understood as including commodiousness and comfort of habitation, wherever these are possible under the given circumstances.

2. Architecture of Position. This is architecture intended to carry men or things to some certain places, or to hold them there. This will include all bridges, aqueducts, and road architecture; light-houses, which have to hold light in appointed places; chimneys to carry smoke or direct currents of air; staircases; towers, which are to be watched from or cried from, as in mosques, or to hold bells, or to place men in positions of offence, as ancient moveable

attacking towers, and most fortress towers.

§ II. Protective architecture has to do one or all of three things: to wall a space, to roof it, and to give access to it, of persons, light, and air; and it is therefore to be considered under the three divisions of walls, roofs, and apertures.

We will take, first, a short, general view of the connection of these members, and then examine them in detail: endeavoring always to keep the simplicity of our first arrangement in view; for protective architecture has indeed no other members than these, unless flooring and paving be considered architecture, which it is only when the flooring is also a roof; the laying of the stones or timbers for footing being pavior's or carpenter's work, rather than architect's; and, at all events, work respecting the well or ill doing of which we shall hardly find much difference of opinion, except in points of æsthetics. We shall therefore concern ourselves only with the construction of walls, roofs, and apertures.

§ III. 1. *Walls*.—A wall is an even and united fence, whether of wood, earth, stone, or metal. When meant for purposes of mere partition or enclosure, it remains a wall proper: but it has generally also to sustain a certain vertical or lateral pressure, for which its strength is at first increased by some general addition to its thickness; but if the pressure becomes very great, it is gathered up into *piers* to resist vertical pressure, and supported by *buttresses* to resist lateral pressure.

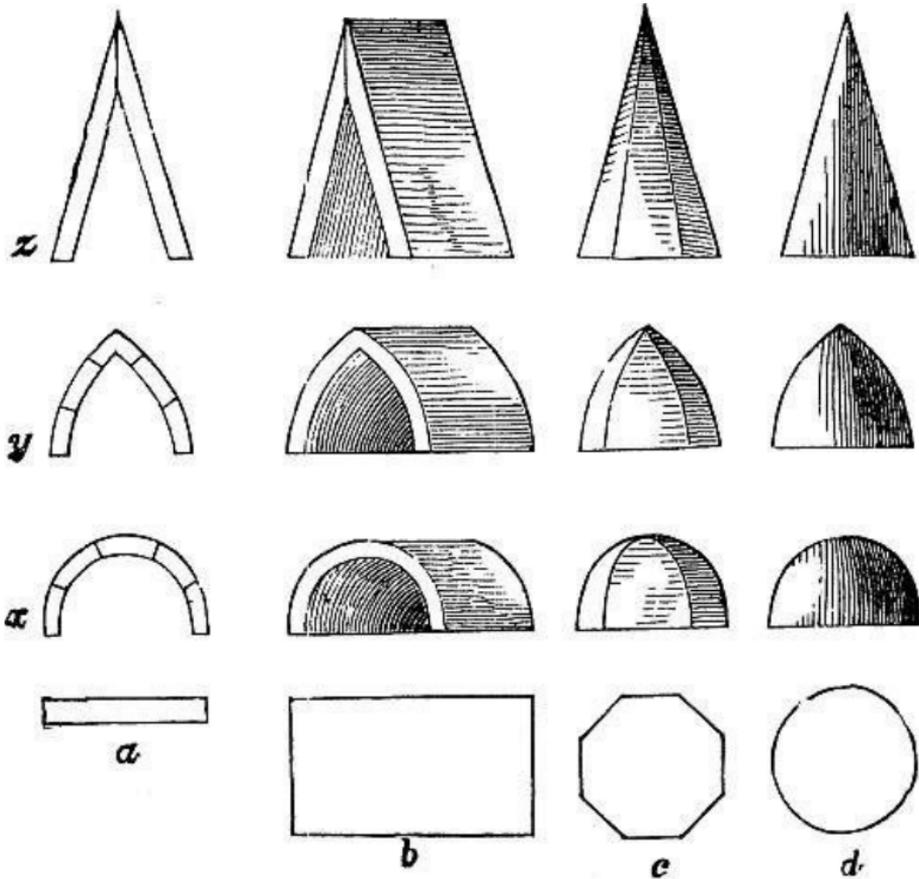
If its functions of partition or enclosure are continued, together with that of resisting vertical pressure, it remains as a

wall veil between the piers into which it has been partly gathered; but if it is required only to resist the vertical or roof pressure, it is gathered up into piers altogether, loses its wall character, and becomes a group or line of piers.

On the other hand, if the lateral pressure be slight, it may retain its character of a wall, being supported against the pressure by buttresses at intervals; but if the lateral pressure be very great, it is supported against such pressure by a continuous buttress, loses its wall character, and becomes a dyke or rampart.

§ IV. We shall have therefore (A) first to get a general idea of a wall, and of right construction of walls; then (B) to see how this wall is gathered into piers; and to get a general idea of piers and the right construction of piers; then (C) to see how a wall is supported by buttresses, and to get a general idea of buttresses and the right construction of buttresses. This is surely very simple, and it is all we shall have to do with walls and their divisions.

Fig. I.



§ V. 2. *Roofs*.—A roof is the covering of a space, narrow or wide. It will be most conveniently studied by first considering the forms in which it may be carried over a narrow space, and then expanding these on a wide plan; only there is some difficulty here in the nomenclature, for an arched roof over a narrow space has (I believe) no name, except that which belongs properly to the

piece of stone or wood composing such a roof, namely, lintel. But the reader will have no difficulty in understanding that he is first to consider roofs on the section only, thinking how best to construct a narrow bar or slice of them, of whatever form; as, for instance,  $x$ ,  $y$ , or  $z$ , over the plan or area  $a$ , [Fig. I](#). Having done this, let him imagine these several divisions, first moved along (or set side by side) over a rectangle,  $b$ , [Fig. I](#), and then revolved round a point (or crossed at it) over a polygon,  $c$ , or circle,  $d$ , and he will have every form of simple roof: the arched section giving successively the vaulted roof and dome, and the gabled section giving the gabled roof and spire.

As we go farther into the subject, we shall only have to add one or two forms to the sections here given, in order to embrace all the *uncombined* roofs in existence; and we shall not trouble the reader with many questions respecting cross-vaulting, and other modes of their combination.

§ VI. Now, it also happens, from its place in buildings, that the sectional roof over a narrow space will need to be considered before we come to the expanded roof over a broad one. For when a wall has been gathered, as above explained, into piers, that it may better bear vertical pressure, it is generally necessary that it should be expanded again at the top into a continuous wall before it carries the true roof. Arches or lintels are, therefore, thrown from pier to pier, and a level preparation for carrying the real roof is made above them. After we have examined the structure of piers, therefore, we shall have to see how lintels or

arches are thrown from pier to pier, and the whole prepared for the superincumbent roof; this arrangement being universal in all good architecture prepared for vertical pressures: and we shall then examine the condition of the great roof itself. And because the structure of the roof very often introduces certain lateral pressures which have much to do with the placing of buttresses, it will be well to do all this before we examine the nature of buttresses, and, therefore, between parts (B) and (C) of the above plan, § IV. So now we shall have to study: (A) the construction of walls; (B) that of piers; (C) that of lintels or arches prepared for roofing; (D) that of roofs proper; and (E) that of buttresses.

§ VII. 3. *Apertures*.—There must either be intervals between the piers, of which intervals the character will be determined by that of the piers themselves, or else doors or windows in the walls proper. And, respecting doors or windows, we have to determine three things: first, the proper shape of the entire aperture; secondly, the way in which it is to be filled with valves or glass; and thirdly, the modes of protecting it on the outside, and fitting appliances of convenience to it, as porches or balconies. And this will be our division F; and if the reader will have the patience to go through these six heads, which include every possible feature of protective architecture, and to consider the simple necessities and fitnesses of each, I will answer for it, he shall never confound good architecture with bad any more. For, as to architecture of position, a great part of it involves necessities of construction with which the spectator

cannot become generally acquainted, and of the compliance with which he is therefore never expected to judge,—as in chimneys, light-houses, &c.: and the other forms of it are so closely connected with those of protective architecture, that a few words in [Chap. XIX.](#) respecting staircases and towers, will contain all with which the reader need be troubled on the subject.

## CHAPTER IV.

# THE WALL BASE

§ I. Our first business, then, is with Wall, and to find out wherein lies the true excellence of the “Wittiest Partition.” For it is rather strange that, often as we speak of a “dead” wall, and that with considerable disgust, we have not often, since Snout’s time, heard of a living one. But the common epithet of opprobrium is justly bestowed, and marks a right feeling. A wall has no business to be dead. It ought to have members in its make, and purposes in its existence, like an organized creature, and to answer its ends in a living and energetic way; and it is only when we do not choose to put any strength nor organization into it, that it offends us by its deadness. Every wall ought to be a “sweet and lovely wall.” I do not care about its having ears; but, for instruction and exhortation, I would often have it to “hold up its fingers.” What its necessary members and excellences are, it is our present business to discover.

§ II. A wall has been defined to be an even and united fence of wood, earth, stone, or metal. Metal fences, however, seldom, if ever, take the form of walls, but of railings; and, like all other metal constructions, must be left out of our present investigation; as may be also walls composed merely of light planks or laths for purposes of partition or inclosure. Substantial walls, whether

of wood or earth (I use the word earth as including clay, baked or unbaked, and stone), have, in their perfect form, three distinct members;—the Foundation, Body or Veil, and Cornice.

§ III. The foundation is to the wall what the paw is to an animal. It is a long foot, wider than the wall, on which the wall is to stand, and which keeps it from settling into the ground. It is most necessary that this great element of security should be visible to the eye, and therefore made a part of the structure above ground. Sometimes, indeed, it becomes incorporated with the entire foundation of the building, a vast table on which walls or piers are alike set: but even then, the eye, taught by the reason, requires some additional preparation or foot for the wall, and the building is felt to be imperfect without it. This foundation we shall call the Base of the wall.

§ IV. The body of the wall is of course the principal mass of it, formed of mud or clay, of bricks or stones, of logs or hewn timber; the condition of structure being, that it is of equal thickness everywhere, below and above. It may be half a foot thick, or six feet thick, or fifty feet thick; but if of equal thickness everywhere, it is still a wall proper: if to its fifty feet of proper thickness there be added so much as an inch of thickness in particular parts, that added thickness is to be considered as some form of buttress or pier, or other appliance.<sup>33</sup>

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<sup>33</sup> Many walls are slightly sloped or curved towards their tops, and have buttresses added to them (that of the Queen's Bench Prison is a curious instance of the vertical buttress and inclined wall); but in all such instances the slope of the wall is properly to be considered a condition of incorporated buttress.

In perfect architecture, however, the walls are generally kept of moderate thickness, and strengthened by piers or buttresses; and the part of the wall between these, being generally intended only to secure privacy, or keep out the slighter forces of weather, may be properly called a Wall Veil. I shall always use this word "Veil" to signify the even portion of a wall, it being more expressive than the term Body.

§ V. When the materials with which this veil is built are very loose, or of shapes which do not fit well together, it sometimes becomes necessary, or at least adds to security, to introduce courses of more solid material. Thus, bricks alternate with rolled pebbles in the old walls of Verona, and hewn stones with brick in its Lombard churches. A banded structure, almost a stratification of the wall, is thus produced; and the courses of more solid material are sometimes decorated with carving. Even when the wall is not thus banded through its whole height, it frequently becomes expedient to lay a course of stone, or at least of more carefully chosen materials, at regular heights; and such belts or bands we may call String courses. These are a kind of epochs in the wall's existence; something like periods of rest and reflection in human life, before entering on a new career. Or else, in the building, they correspond to the divisions of its stories within, express its internal structure, and mark off some portion of the ends of its existence already attained.

§ VI. Finally, on the top of the wall some protection from the weather is necessary, or some preparation for the reception of

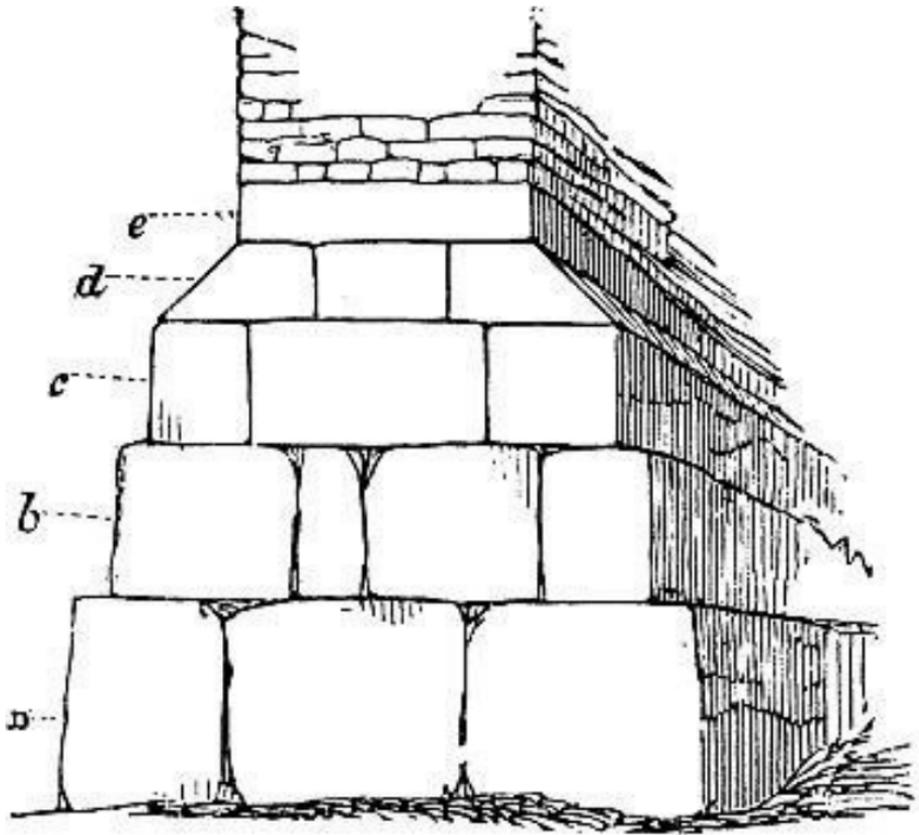
superincumbent weight, called a coping, or Cornice. I shall use the word Cornice for both; for, in fact, a coping is a roof to the wall itself, and is carried by a small cornice as the roof of the building by a large one. In either case, the cornice, small or large, is the termination of the wall's existence, the accomplishment of its work. When it is meant to carry some superincumbent weight, the cornice may be considered as its hand, opened to carry something above its head; as the base was considered its foot: and the three parts should grow out of each other and form one whole, like the root, stalk, and bell of a flower.

These three parts we shall examine in succession; and, first, the Base.

§ VII. It may be sometimes in our power, and it is always expedient, to prepare for the whole building some settled foundation, level and firm, out of sight. But this has not been done in some of the noblest buildings in existence. It cannot always be done perfectly, except at enormous expense; and, in reasoning upon the superstructure, we shall never suppose it to be done. The mind of the spectator does not conceive it; and he estimates the merits of the edifice on the supposition of its being built upon the ground. Even if there be a vast table land of foundation elevated for the whole of it, accessible by steps all round, as at Pisa, the surface of this table is always conceived as capable of yielding somewhat to superincumbent weight, and generally is so; and we shall base all our arguments on the widest possible supposition, that is to say, that the building stands on a

surface either of earth, or, at all events, capable of yielding in some degree to its weight.

Fig. II.



§ VIII. Now, let the reader simply ask himself how, on such a surface, he would set about building a substantial wall, that should be able to bear weight and to stand for ages. He would

assuredly look about for the largest stones he had at his disposal, and, rudely levelling the ground, he would lay these well together over a considerably larger width than he required the wall to be (suppose as at *a*, [Fig. II.](#)), in order to equalise the pressure of the wall over a large surface, and form its foot. On the top of these he would perhaps lay a second tier of large stones, *b*, or even the third, *c*, making the breadth somewhat less each time, so as to prepare for the pressure of the wall on the centre, and, naturally or necessarily, using somewhat smaller stones above than below (since we supposed him to look about for the largest first), and cutting them more neatly. His third tier, if not his second, will probably appear a sufficiently secure foundation for finer work; for if the earth yield at all, it will probably yield pretty equally under the great mass of masonry now knit together over it. So he will prepare for the wall itself at once by sloping off the next tier of stones to the right diameter, as at *d*. If there be any joints in this tier within the wall, he may perhaps, for further security, lay a binding stone across them, *e*, and then begin the work of the wall veil itself, whether in bricks or stones.

§ IX. I have supposed the preparation here to be for a large wall, because such a preparation will give us the best general type. But it is evident that the essential features of the arrangement are only two, that is to say, one tier of massy work for foundation, suppose *c*, missing the first two; and the receding tier or real foot of the wall, *d*. The reader will find these members, though only of brick, in most of the considerable and

independent walls in the suburbs of London.

§ X. It is evident, however, that the general type, [Fig. II.](#), will be subject to many different modifications in different circumstances. Sometimes the ledges of the tiers *a* and *b* may be of greater width; and when the building is in a secure place, and of finished masonry, these may be sloped off also like the main foot *d*. In Venetian buildings these lower ledges are exposed to the sea, and therefore left rough hewn; but in fine work and in important positions the lower ledges may be bevelled and decorated like the upper, or another added above *d*; and all these parts may be in different proportions, according to the disposition of the building above them. But we have nothing to do with any of these variations at present, they being all more or less dependent upon decorative considerations, except only one of very great importance, that is to say, the widening of the lower ledge into a stone seat, which may be often done in buildings of great size with most beautiful effect: it looks kind and hospitable, and preserves the work above from violence. In St. Mark's at Venice, which is a small and low church, and needing no great foundation for the wall veils of it, we find only the three members, *b*, *c*, and *d*. Of these the first rises about a foot above the pavement of St. Mark's Place, and forms an elevated dais in some of the recesses of the porches, chequered red and white; *c* forms a seat which follows the line of the walls, while its basic character is marked by its also carrying certain shafts with which we have here no concern; *d* is of white marble; and

all are enriched and decorated in the simplest and most perfect manner possible, as we shall see in [Chap. XXV](#). And thus much may serve to fix the type of wall bases, a type oftener followed in real practice than any other we shall hereafter be enabled to determine: for wall bases of necessity must be solidly built, and the architect is therefore driven into the adoption of the right form; or if he deviate from it, it is generally in meeting some necessity of peculiar circumstances, as in obtaining cellars and underground room, or in preparing for some grand features or particular parts of the wall, or in some mistaken idea of decoration,—into which errors we had better not pursue him until we understand something more of the rest of the building: let us therefore proceed to consider the wall veil.

## CHAPTER V.

# THE WALL VEIL

§ I. The summer of the year 1849 was spent by the writer in researches little bearing upon his present subject, and connected chiefly with proposed illustrations of the mountain forms in the works of J. M. W. Turner. But there are sometimes more valuable lessons to be learned in the school of nature than in that of Vitruvius, and a fragment of building among the Alps is singularly illustrative of the chief feature which I have at present to develop as necessary to the perfection of the wall veil.

It is a fragment of some size; a group of broken walls, one of them overhanging; crowned with a cornice, nodding some hundred and fifty feet over its massy flank, three thousand above its glacier base, and fourteen thousand above the sea,—a wall truly of some majesty, at once the most precipitous and the strongest mass in the whole chain of the Alps, the Mont Cervin.

§ II. It has been falsely represented as a peak or tower. It is a vast ridged promontory, connected at its western root with the Dent d'Erin, and lifting itself like a rearing horse with its face to the east. All the way along the flank of it, for half a day's journey on the Zmutt glacier, the grim black terraces of its foundations range almost without a break; and the clouds, when their day's work is done, and they are weary, lay themselves down on those

foundation steps, and rest till dawn, each with his leagues of grey mantle stretched along the grisly ledge, and the cornice of the mighty wall gleaming in the moonlight, three thousand feet above.

§ III. The eastern face of the promontory is hewn down, as if by the single sweep of a sword, from the crest of it to the base; hewn concave and smooth, like the hollow of a wave: on each flank of it there is set a buttress, both of about equal height, their heads sloped out from the main wall about seven hundred feet below its summit. That on the north is the most important; it is as sharp as the frontal angle of a bastion, and sloped sheer away to the north-east, throwing out spur beyond spur, until it terminates in a long low curve of russet precipice, at whose foot a great bay of the glacier of the Col de Cervin lies as level as a lake. This spur is one of the few points from which the mass of the Mont Cervin is in anywise approachable. It is a continuation of the masonry of the mountain itself, and affords us the means of examining the character of its materials.

§ IV. Few architects would like to build with them. The slope of the rocks to the north-west is covered two feet deep with their ruins, a mass of loose and slaty shale, of a dull brick-red color, which yields beneath the foot like ashes, so that, in running down, you step one yard, and slide three. The rock is indeed hard beneath, but still disposed in thin courses of these cloven shales, so finely laid that they look in places more like a heap of crushed autumn leaves than a rock; and the first sensation is

one of unmitigated surprise, as if the mountain were upheld by miracle; but surprise becomes more intelligent reverence for the great builder, when we find, in the middle of the mass of these dead leaves, a course of living rock, of quartz as white as the snow that encircles it, and harder than a bed of steel.

§ V. It is one only of a thousand iron bands that knit the strength of the mighty mountain. Through the buttress and the wall alike, the courses of its varied masonry are seen in their successive order, smooth and true as if laid by line and plummet,<sup>34</sup> but of thickness and strength continually varying, and with silver cornices glittering along the edge of each, laid by the snowy winds and carved by the sunshine,—stainless ornaments of the eternal temple, by which “neither the hammer nor the axe, nor any tool, was heard while it was in building.”

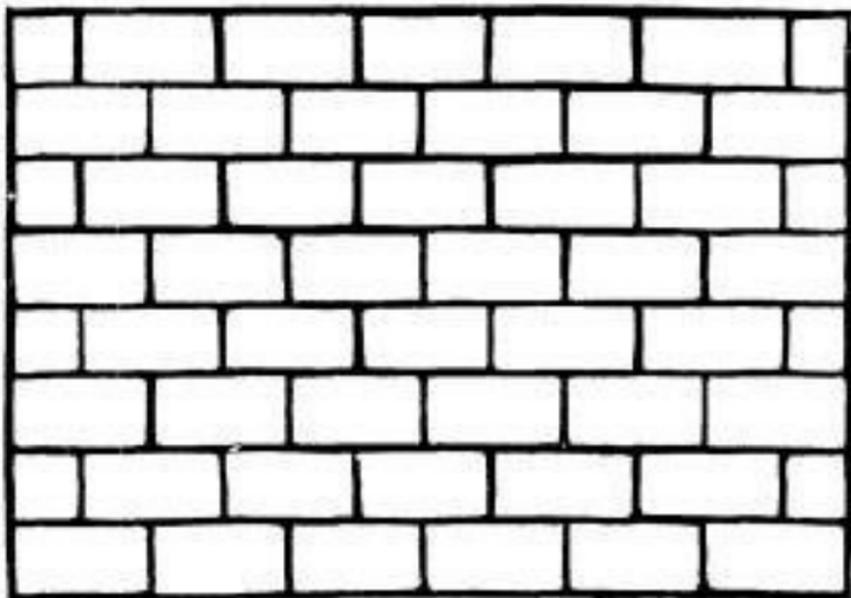
§ VI. I do not, however, bring this forward as an instance of any universal law of natural building; there are solid as well as coursed masses of precipice, but it is somewhat curious that the most noble cliff in Europe, which this eastern front of the Cervin is, I believe, without dispute, should be to us an example of the utmost possible stability of precipitousness attained with materials of imperfect and variable character; and, what is more, there are very few cliffs which do not display alternations between compact and friable conditions of their material, marked in their contours by bevelled slopes when the bricks are soft, and vertical steps when they are harder. And,

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<sup>34</sup> On the eastern side: violently contorted on the northern and western.

although we are not hence to conclude that it is well to introduce courses of bad materials when we can get perfect material, I believe we may conclude with great certainty that it is better and easier to strengthen a wall necessarily of imperfect substance, as of brick, by introducing carefully laid courses of stone, than by adding to its thickness; and the first impression we receive from the unbroken aspect of a wall veil, unless it be of hewn stone throughout, is that it must be both thicker and weaker than it would have been, had it been properly coursed. The decorative reasons for adopting the coursed arrangement, which we shall notice hereafter, are so weighty, that they would alone be almost sufficient to enforce it; and the constructive ones will apply universally, except in the rare cases in which the choice of perfect or imperfect material is entirely open to us, or where the general system of the decoration of the building requires absolute unity in its surface.

Fig. III.



§ VII. As regards the arrangement of the intermediate parts themselves, it is regulated by certain conditions of bonding and fitting the stones or bricks, which the reader need hardly be troubled to consider, and which I wish that bricklayers themselves were always honest enough to observe. But I hardly know whether to note under the head of æsthetic or constructive law, this important principle, that masonry is always bad which appears to have arrested the attention of the architect more than absolute conditions of strength require. Nothing is more contemptible in any work than an appearance of the slightest desire on the part of the builder to *direct attention* to the way its

stones are put together, or of any trouble taken either to show or to conceal it more than was rigidly necessary: it may sometimes, on the one hand, be necessary to conceal it as far as may be, by delicate and close fitting, when the joints would interfere with lines of sculpture or of mouldings; and it may often, on the other hand, be delightful to show it, as it is delightful in places to show the anatomy even of the most delicate human frame: but *studiously* to conceal it is the error of vulgar painters, who are afraid to show that their figures have bones; and studiously to display it is the error of the base pupils of Michael Angelo, who turned heroes' limbs into surgeons' diagrams,—but with less excuse than theirs, for there is less interest in the anatomy displayed. Exhibited masonry is in most cases the expedient of architects who do not know how to fill up blank spaces, and many a building, which would have been decent enough if let alone, has been scrawled over with straight lines, as in [Fig. III.](#), on exactly the same principles, and with just the same amount of intelligence as a boy's in scrawling his copy-book when he cannot write. The device was thought ingenious at one period of architectural history; St. Paul's and Whitehall are covered with it, and it is in this I imagine that some of our modern architects suppose the great merit of those buildings to consist. There is, however, no excuse for errors in disposition of masonry, for there is but one law upon the subject, and that easily complied with, to avoid all affectation and all unnecessary expense, either in showing or concealing. Every one knows a building is built of

separate stones; nobody will ever object to seeing that it is so, but nobody wants to count them. The divisions of a church are much like the divisions of a sermon; they are always right so long as they are necessary to edification, and always wrong when they are thrust upon the attention as divisions only. There may be neatness in carving when there is richness in feasting; but I have heard many a discourse, and seen many a church wall, in which it was all carving and no meat.

# CHAPTER VI.

## THE WALL CORNICE

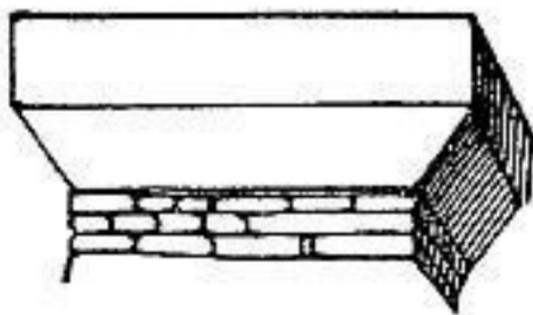
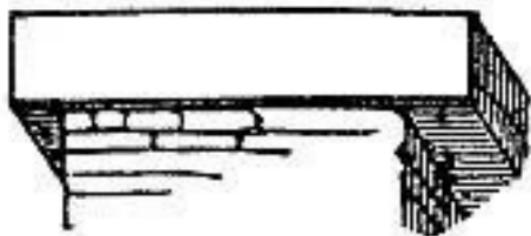
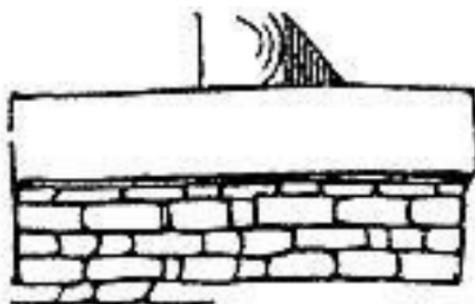
§ I. We have lastly to consider the close of the wall's existence, or its cornice. It was above stated, that a cornice has one of two offices: if the wall have nothing to carry, the cornice is its roof, and defends it from the weather; if there is weight to be carried above the wall, the cornice is its hand, and is expanded to carry the said weight.

There are several ways of roofing or protecting independent walls, according to the means nearest at hand: sometimes the wall has a true roof all to itself; sometimes it terminates in a small gabled ridge, made of bricks set slanting, as constantly in the suburbs of London; or of hewn stone, in stronger work; or in a single sloping face, inclined to the outside. We need not trouble ourselves at present about these small roofings, which are merely the diminutions of large ones; but we must examine the important and constant member of the wall structure, which prepares it either for these small roofs or for weights above, and is its true cornice.

§ II. The reader will, perhaps, as heretofore, be kind enough to think for himself, how, having carried up his wall veil as high as it may be needed, he will set about protecting it from weather, or preparing it for weight. Let him imagine the top of the unfinished

wall, as it would be seen from above with all the joints, perhaps uncemented, or imperfectly filled up with cement, open to the sky; and small broken materials filling gaps between large ones, and leaving cavities ready for the rain to soak into, and loosen and dissolve the cement, and split, as it froze, the whole to pieces. I am much mistaken if his first impulse would not be to take a great flat stone and lay it on the top; or rather a series of such, side by side, projecting well over the edge of the wall veil. If, also, he proposed to lay a weight (as, for instance, the end of a beam) on the wall, he would feel at once that the pressure of this beam on, or rather among, the small stones of the wall veil, might very possibly dislodge or disarrange some of them; and the first impulse would be, in this case, also to lay a large flat stone on the top of all to receive the beam, or any other weight, and distribute it equally among the small stones below, as at *a*, [Fig. IV.](#)

Fig. IV.

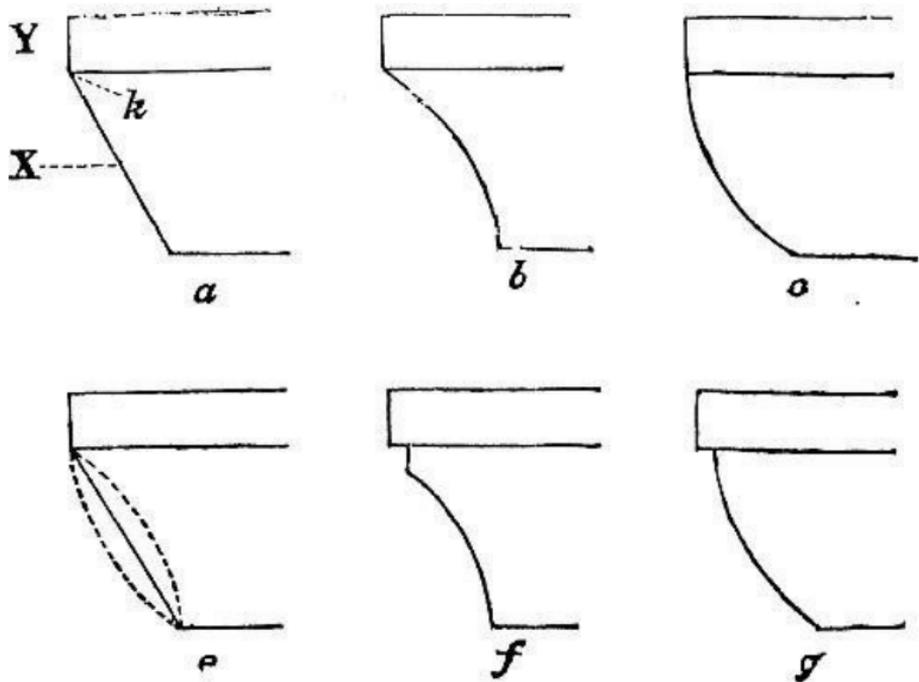


§ III. We must therefore have our flat stone in either case; and let *b*, [Fig. IV.](#), be the section or side of it, as it is set across the wall. Now, evidently, if by any chance this weight happen to be thrown more on the edges of this stone than the centre, there will be a chance of these edges breaking off. Had we not better, therefore, put another stone, sloped off to the wall, beneath the projecting one, as at *c*. But now our cornice looks somewhat too heavy for the wall; and as the upper stone is evidently of needless thickness, we will thin it somewhat, and we have the form *d*. Now observe: the lower or bevelled stone here at *d* corresponds to *d* in the base ([Fig. II.](#), page 59). That was the foot of the wall; this is its hand. And the top stone here, which is a constant member of cornices, corresponds to the under stone *c*, in [Fig. II.](#), which is a constant member of bases. The reader has no idea at present of the enormous importance of these members; but as we shall have to refer to them perpetually, I must ask him to compare them, and fix their relations well in his mind: and, for convenience, I shall call the bevelled or sloping stone, X, and the upright edged stone, Y. The reader may remember easily which is which; for X is an intersection of two slopes, and may therefore properly mean either of the two sloping stones; and Y is a figure with a perpendicular line and two slopes, and may therefore fitly stand for the upright stone in relation to each of the sloping ones; and as we shall have to say much more about cornices than about bases, let X and Y stand for the stones of the cornice, and Xb and Yb

for those of the base, when distinction is needed.

§ IV. Now the form at *d*, [Fig. IV.](#), is the great root and primal type of all cornices whatsoever. In order to see what forms may be developed from it, let us take its profile a little larger—*a*, [Fig. V.](#), with X and Y duly marked. Now this form, being the root of all cornices, may either have to finish the wall and so keep off rain; or, as so often stated, to carry weight. If the former, it is evident that, in its present profile, the rain will run back down the slope of X; and if the latter, that the sharp angle or edge of X, at *k*, may be a little too weak for its work, and run a chance of giving way. To avoid the evil in the first case, suppose we hollow the slope of X inwards, as at *b*; and to avoid it in the second case, suppose we strengthen X by letting it bulge outwards, as at *c*.

Fig. V.



§ V. These (*b* and *c*) are the profiles of two vast families of cornices, springing from the same root, which, with a third arising from their combination (owing its origin to æsthetic considerations, and inclining sometimes to the one, sometimes to the other), have been employed, each on its third part of the architecture of the whole world throughout all ages, and must continue to be so employed through such time as is yet to come. We do not at present speak of the third or combined group; but the relation of the two main branches to each other, and to the line of origin, is given at *e*, [Fig. V.](#); where the dotted

lines are the representatives of the two families, and the straight line of the root. The slope of this right line, as well as the nature of the curves, here drawn as segments of circles, we leave undetermined: the slope, as well as the proportion of the depths of X and Y to each other, vary according to the weight to be carried, the strength of the stone, the size of the cornice, and a thousand other accidents; and the nature of the curves according to æsthetic laws. It is in these infinite fields that the invention of the architect is permitted to expatiate, but not in the alteration of primitive forms.

§ VI. But to proceed. It will doubtless appear to the reader, that, even allowing for some of these permissible variations in the curve or slope of X, neither the form at *b*, nor any approximation to that form, would be sufficiently undercut to keep the rain from running back upon it. This is true; but we have to consider that the cornice, as the close of the wall's life, is of all its features that which is best fitted for honor and ornament. It has been esteemed so by almost all builders, and has been lavishly decorated in modes hereafter to be considered. But it is evident that, as it is high above the eye, the fittest place to receive the decoration is the slope of X, which is inclined towards the spectator; and if we cut away or hollow out this slope more than we have done at *b*, all decoration will be hid in the shadow. If, therefore, the climate be fine, and rain of long continuance not to be dreaded, we shall not hollow the stone X further, adopting the curve at *b* merely as the most protective in our power. But if the climate be

one in which rain is frequent and dangerous, as in alternations with frost, we may be compelled to consider the cornice in a character distinctly protective, and to hollow out *X* farther, so as to enable it thoroughly to accomplish its purpose. A cornice thus treated loses its character as the crown or honor of the wall, takes the office of its protector, and is called a DRIPSTONE. The dripstone is naturally the attribute of Northern buildings, and therefore especially of Gothic architecture; the true cornice is the attribute of Southern buildings, and therefore of Greek and Italian architecture; and it is one of their peculiar beauties, and eminent features of superiority.

§ VII. Before passing to the dripstone, however, let us examine a little farther into the nature of the true cornice. We cannot, indeed, render either of the forms *b* or *c*, [Fig. V.](#), perfectly protective from rain, but we can help them a little in their duty by a slight advance of their upper ledge. This, with the form *b*, we can best manage by cutting off the sharp upper point of its curve, which is evidently weak and useless; and we shall have the form *f*. By a slight advance of the upper stone *c*, we shall have the parallel form *g*.

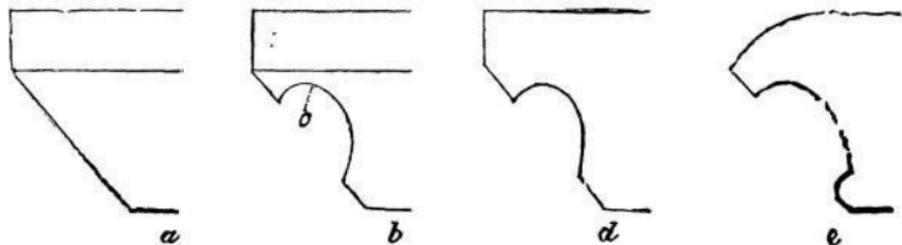
These two cornices, *f* and *g*, are characteristic of early Byzantine work, and are found on all the most lovely examples of it in Venice. The type *a* is rarer, but occurs pure in the most exquisite piece of composition in Venice—the northern portico of St. Mark's; and will be given in due time.

§ VIII. Now the reader has doubtless noticed that these forms

of cornice result, from considerations of fitness and necessity, far more neatly and decisively than the forms of the base, which we left only very generally determined. The reason is, that there are many ways of building foundations, and many *good* ways, dependent upon the peculiar accidents of the ground and nature of accessible materials. There is also room to spare in width, and a chance of a part of the arrangement being concealed by the ground, so as to modify height. But we have no room to spare in width on the top of a wall, and all that we do must be thoroughly visible; and we can but have to deal with bricks, or stones of a certain degree of fineness, and not with mere gravel, or sand, or clay,—so that as the conditions are limited, the forms become determined; and our steps will be more clear and certain the farther we advance. The sources of a river are usually half lost among moss and pebbles, and its first movements doubtful in direction; but, as the current gathers force, its banks are determined, and its branches are numbered.

§ IX. So far of the true cornice: we have still to determine the form of the dripstone.

Fig. VI.



We go back to our primal type or root of cornice, *a* of [Fig. V](#). We take this at *a* in [Fig. VI.](#), and we are to consider it entirely as a protection against rain. Now the only way in which the rain can be kept from running back on the slope of *X* is by a bold hollowing out of it upwards, *b*. But clearly, by thus doing, we shall so weaken the projecting part of it that the least shock would break it at the neck, *c*; we must therefore cut the whole out of one stone, which will give us the form *d*. That the water may not lodge on the upper ledge of this, we had better round it off; and it will better protect the joint at the bottom of the slope if we let the stone project over it in a roll, cutting the recess deeper above. These two changes are made in *e*: *e* is the type of dripstones; the projecting part being, however, more or less rounded into an approximation to the shape of a falcon's beak, and often reaching it completely. But the essential part of the arrangement is the up and under cutting of the curve. Wherever we find this, we are sure that the climate is wet, or that the builders have been *bred* in a wet country, and that the rest of the building will be prepared for rough weather. The up cutting of the curve is sometimes all

the distinction between the mouldings of far-distant countries and utterly strange nations.

Fig. VII.

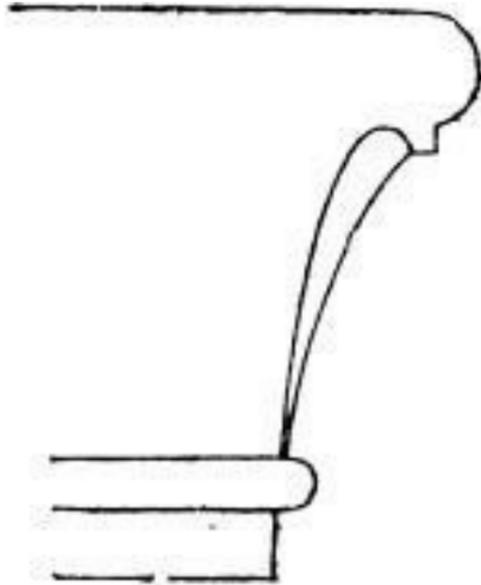
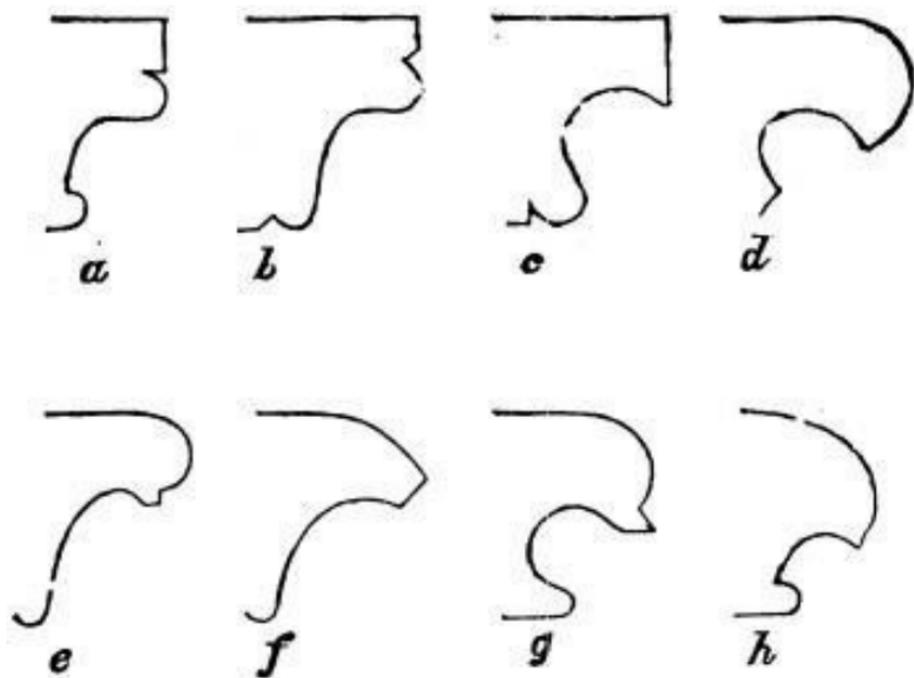


Fig. VII. representing a moulding with an outer and inner curve, the latter undercut. Take the outer line, and this moulding is one constant in Venice, in architecture traceable to Arabian types, and chiefly to the early mosques of Cairo. But take the inner line; it is a dripstone at Salisbury. In that narrow interval between the curves there is, when we read it rightly, an expression of another and mightier curve,—the orb'd sweep of the earth and sea, between the desert of the Pyramids, and the green and

level fields through which the clear streams of Sarum wind so slowly.

Fig. VIII.



And so delicate is the test, that though pure cornices are often found in the north,—borrowed from classical models,—so surely as we find a true dripstone moulding in the South, the influence of Northern builders has been at work; and this will be one of the principal evidences which I shall use in detecting Lombard influence on Arab work; for the true Byzantine and

Arab mouldings are all open to the sky and light, but the Lombards brought with them from the North the fear of rain, and in all the Lombardic Gothic we instantly recognize the shadowy dripstone: *a*, [Fig. VIII.](#), is from a noble fragment at Milan, in the Piazza dei Mercanti; *b*, from the Broletto of Como. Compare them with *c* and *d*; both from Salisbury; *e* and *f* from Lisieux, Normandy; *g* and *h* from Wenlock Abbey, Shropshire.

§ X. The reader is now master of all that he need know about the construction of the general wall cornice, fitted either to become a crown of the wall, or to carry weight above. If, however, the weight above become considerable, it may be necessary to support the cornice at intervals with brackets; especially if it be required to project far, as well as to carry weight; as, for instance, if there be a gallery on top of the wall. This kind of bracket-cornice, deep or shallow, forms a separate family, essentially connected with roofs and galleries; for if there be no superincumbent weight, it is evidently absurd to put brackets to a plain cornice or dripstone (though this is sometimes done in carrying out a style); so that, as soon as we see a bracket put to a cornice, it implies, or should imply, that there is a roof or gallery above it. Hence this family of cornices I shall consider in connection with roofing, calling them "roof cornices," while what we have hitherto examined are proper "wall cornices." The roof cornice and wall cornice are therefore treated in division D.

We are not, however, as yet nearly ready for our roof. We have only obtained that which was to be the object of our first division

(A); we have got, that is to say, a general idea of a wall and of the three essential parts of a wall; and we have next, it will be remembered, to get an idea of a pier and the essential parts of a pier, which were to be the subjects of our second division (B).

# CHAPTER VII.

## THE PIER BASE

§ I. In § III. of [Chap. III.](#), it was stated that when a wall had to sustain an addition of vertical pressure, it was first fitted to sustain it by some addition to its own thickness; but if the pressure became very great, by being gathered up into Piers.

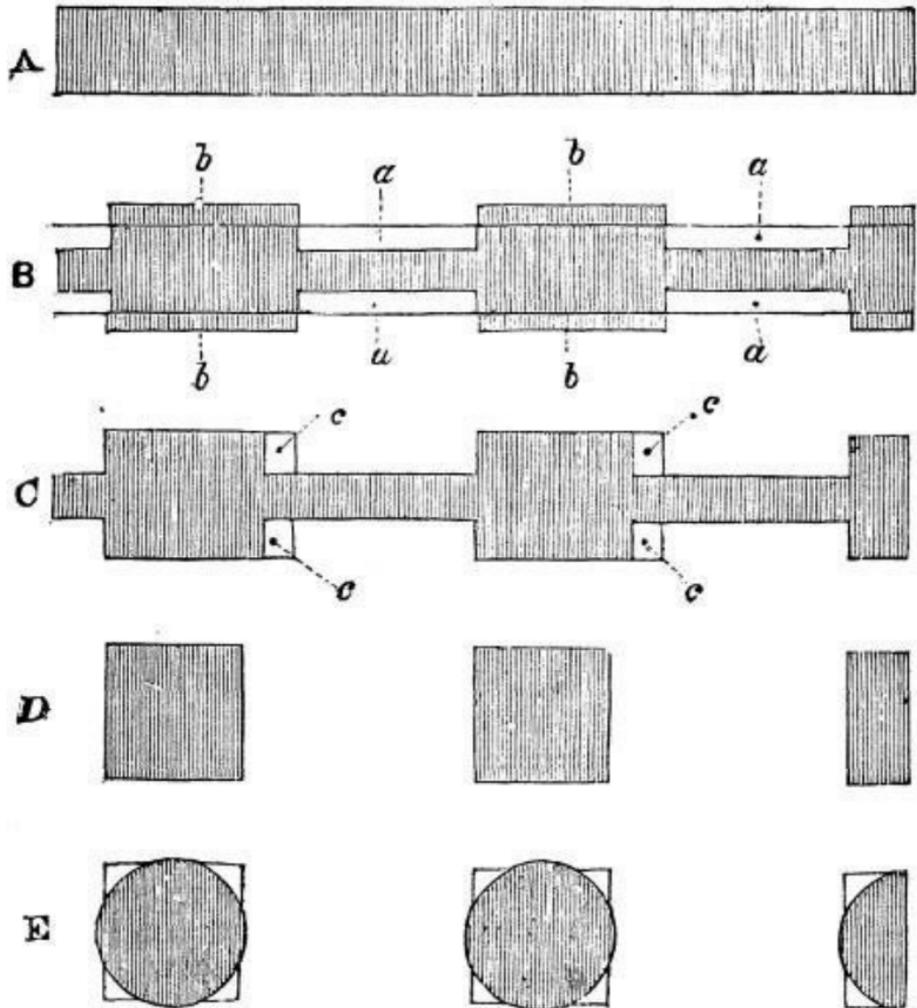
I must first make the reader understand what I mean by a wall's being gathered up. Take a piece of tolerably thick drawing-paper, or thin Bristol board, five or six inches square. Set it on its edge on the table, and put a small octavo book on the edge or top of it, and it will bend instantly. Tear it into four strips all across, and roll up each strip tightly. Set these rolls on end on the table, and they will carry the small octavo perfectly well. Now the thickness or substance of the paper employed to carry the weight is exactly the same as it was before, only it is differently arranged, that is to say, "gathered up."<sup>35</sup> If therefore a wall be gathered up like the Bristol board, it will bear greater weight than it would if it remained a wall veil. The sticks into which you gather it are called *Piers*. A pier is a coagulated wall.

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<sup>35</sup> The experiment is not quite fair in this rude fashion; for the small rolls owe their increase of strength much more to their tubular form than their aggregation of material; but if the paper be cut up into small strips, and tied together firmly in three or four compact bundles, it will exhibit increase of strength enough to show the principle. Vide, however, [Appendix 16](#), "Strength of Shafts."

§ II. Now you cannot quite treat the wall as you did the Bristol board, and twist it up at once; but let us see how you *can* treat it. Let A, [Fig. IX.](#), be the plan of a wall which you have made inconveniently and expensively thick, and which still appears to be slightly too weak for what it must carry: divide it, as at B, into equal spaces, *a, b, a, b, &c.* Cut out a thin slice of it at every *a* on each side, and put the slices you cut out on at every *b* on each side, and you will have the plan at B, with exactly the same quantity of bricks. But your wall is now so much concentrated, that, if it was only slightly too weak before, it will be stronger now than it need be; so you may spare some of your space as well as your bricks by cutting off the corners of the thicker parts, as suppose *c, c, c, c,* at C: and you have now a series of square piers connected by a wall veil, which, on less space and with less materials, will do the work of the wall at A perfectly well.

Fig. IX.



§ III. I do not say *how much* may be cut away in the corners  $c, c,$ —that is a mathematical question with which we need not trouble ourselves: all that we need know is, that out of every slice

we take from the “*b*’s” and put on at the “*a*’s,” we may keep a certain percentage of room and bricks, until, supposing that we do not want the wall veil for its own sake, this latter is thinned entirely away, like the girdle of the Lady of Avenel, and finally breaks, and we have nothing but a row of square piers, D.

§ IV. But have we yet arrived at the form which will spare most room, and use fewest materials. No; and to get farther we must apply the general principle to our wall, which is equally true in morals and mathematics, that the strength of materials, or of men, or of minds, is always most available when it is applied as closely as possible to a single point.

Let the point to which we wish the strength of our square piers to be applied, be chosen. Then we shall of course put them directly under it, and the point will be in their centre. But now some of their materials are not so near or close to this point as others. Those at the corners are farther off than the rest.

Now, if every particle of the pier be brought as near as possible to the centre of it, the form it assumes is the circle.

The circle must be, therefore, the best possible form of plan for a pier, from the beginning of time to the end of it. A circular pier is called a pillar or column, and all good architecture adapted to vertical support is made up of pillars, has always been so, and must ever be so, as long as the laws of the universe hold.

The final condition is represented at E, in its relation to that at D. It will be observed that though each circle projects a little beyond the side of the square out of which it is formed, the space

cut off at the angles is greater than that added at the sides; for, having our materials in a more concentrated arrangement, we can afford to part with some of them in this last transformation, as in all the rest.

§ V. And now, what have the base and the cornice of the wall been doing while we have been cutting the veil to pieces and gathering it together?

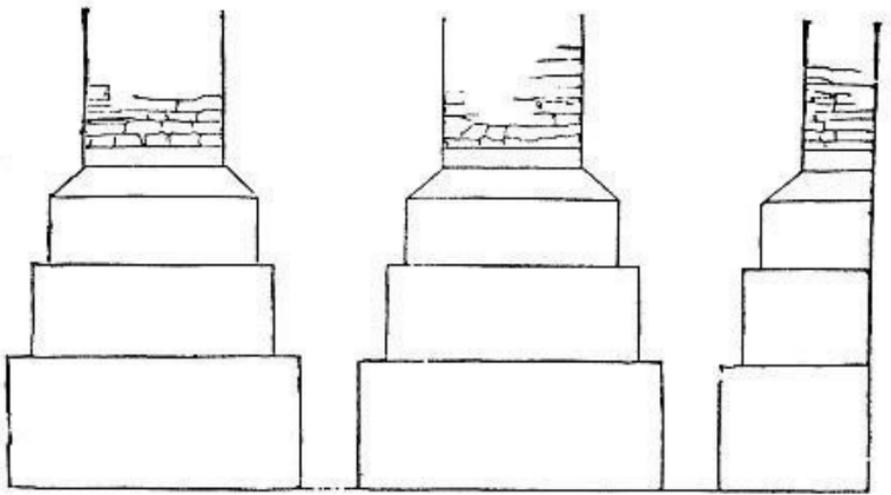
The base is also cut to pieces, gathered together, and becomes the base of the column.

The cornice is cut to pieces, gathered together, and becomes the capital of the column. Do not be alarmed at the new word, it does not mean a new thing; a capital is only the cornice of a column, and you may, if you like, call a cornice the capital of a wall.

We have now, therefore, to examine these three concentrated forms of the base, veil, and cornice: first, the concentrated base, still called the Base of the column; then the concentrated veil, called the Shaft of the column; then the concentrated cornice, called the Capital of the column.

And first the Base:—

Fig. X.

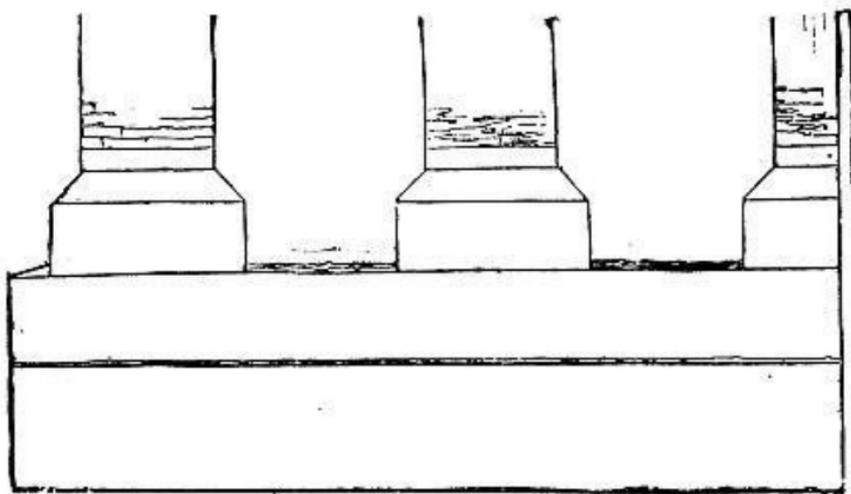


§ VI. Look back to the main type, [Fig. II.](#), page 55, and apply its profiles in due proportion to the feet of the pillars at E in [Fig. IX.](#) p. 72: If each step in [Fig. II.](#) were gathered accurately, the projection of the entire circular base would be less in proportion to its height than it is in [Fig. II.](#); but the approximation to the result in [Fig. X.](#) is quite accurate enough for our purposes. (I pray the reader to observe that I have not made the smallest change, except this necessary expression of a reduction in diameter, in [Fig. II.](#) as it is applied in [Fig. X.](#), only I have not drawn the joints of the stones because these would confuse the outlines of the bases; and I have not represented the rounding of the shafts, because it does not bear at present on the argument.) Now it would hardly be convenient, if we had to pass between the pillars, to have to squeeze ourselves through one of those angular gaps

or brêches de Roland in [Fig. X.](#) Our first impulse would be to cut them open; but we cannot do this, or our piers are unsafe. We have but one other resource, to fill them up until we have a floor wide enough to let us pass easily: this we may perhaps obtain at the first ledge, we are nearly sure to get it at the second, and we may then obtain access to the raised interval, either by raising the earth over the lower courses of foundation, or by steps round the entire building.

[Fig. XI.](#) is the arrangement of [Fig. X.](#) so treated.

Fig. XI.



§ VII. But suppose the pillars are so vast that the lowest chink in [Fig. X.](#) would be quite wide enough to let us pass through it. Is there then any reason for filling it up? Yes. It will be remembered

that in [Chap. IV.](#) § VIII. the chief reason for the wide foundation of the wall was stated to be “that it might equalise its pressure over a large surface;” but when the foundation is cut to pieces as in [Fig. X.](#), the pressure is thrown on a succession of narrowed and detached spaces of that surface. If the ground is in some places more disposed to yield than in others, the piers in those places will sink more than the rest, and this distortion of the system will be probably of more importance in pillars than in a wall, because the adjustment of the weight above is more delicate; we thus actually want the *weight* of the stones between the pillars, in order that the whole foundation may be bonded into one, and sink together if it sink at all: and the more massy the pillars, the more we shall need to fill the intervals of their foundations. In the best form of Greek architecture, the intervals are filled up to the root of the shaft, and the columns have no independent base; they stand on the even floor of their foundation.

§ VIII. Such a structure is not only admissible, but, when the column is of great thickness in proportion to its height, and the sufficient firmness, either of the ground or prepared floor, is evident, it is the best of all, having a strange dignity in its excessive simplicity. It is, or ought to be, connected in our minds with the deep meaning of primeval memorial. “And Jacob took the stone that he had put for his pillow, and set it up for a pillar.” I do not fancy that he put a base for it first. If you try to put a base to the rock-piers of Stonehenge, you will hardly find them improved; and two of the most perfect buildings in the world,

the Parthenon and Ducal palace of Venice, have no bases to their pillars: the latter has them, indeed, to its upper arcade shafts; and had once, it is said, a continuous raised base for its lower ones: but successive elevations of St. Mark's Place have covered this base, and parts of the shafts themselves, with an inundation of paving stones; and yet the building is, I doubt not, as grand as ever. Finally, the two most noble pillars in Venice, those brought from Acre, stand on the smooth marble surface of the Piazzetta, with no independent bases whatever. They are rather broken away beneath, so that you may look under parts of them, and stand (not quite erect, but leaning somewhat) safe by their own massy weight. Nor could any bases possibly be devised that would not spoil them.

§ IX. But it is otherwise if the pillar be so slender as to look doubtfully balanced. It would indeed stand quite as safely without an independent base as it would with one (at least, unless the base be in the form of a socket). But it will not appear so safe to the eye. And here for the first time, I have to express and apply a principle, which I believe the reader will at once grant,—that features necessary to express security to the imagination, are often as essential parts of good architecture as those required for security itself. It was said that the wall base was the foot or paw of the wall. Exactly in the same way, and with clearer analogy, the pier base is the foot or paw of the pier. Let us, then, take a hint from nature. A foot has two offices, to bear up, and to hold firm. As far as it has to bear up, it is uncloven, with slight projection,

—look at an elephant's (the Doric base of animality);<sup>36</sup> but as far as it has to hold firm, it is divided and clawed, with wide projections,—look at an eagle's.

§ X. Now observe. In proportion to the massiness of the column, we require its foot to express merely the power of bearing up; in fact, it can do without a foot, like the Squire in Chevy Chase, if the ground only be hard enough. But if the column be slender, and look as if it might lose its balance, we require it to look as if it had hold of the ground, or the ground hold of it, it does not matter which,—some expression of claw, prop, or socket. Now let us go back to [Fig. XI.](#), and take up one of the bases there, in the state in which we left it. We may leave out the two lower steps (with which we have nothing more to do, as they have become the united floor or foundation of the whole), and, for the sake of greater clearness, I shall not draw the bricks in the shaft, nor the flat stone which carries them, though the reader is to suppose them remaining as drawn in [Fig. XI.](#); but I shall only draw the shaft and its two essential members of base, Xb and Yb, as explained at [p. 65](#), above: and now, expressing the rounding of these numbers on *a* somewhat larger scale, we have the profile *a*, [Fig. XII.](#); *b*, the perspective appearance of such a base seen from above; and *c*, the plan of it.

§ XI. Now I am quite sure the reader is not satisfied of the stability of this form as it is seen at *b*; nor would he ever be so with the main contour of a circular base. Observe, we have taken

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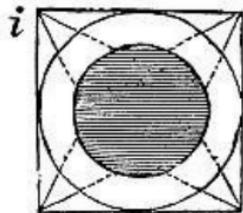
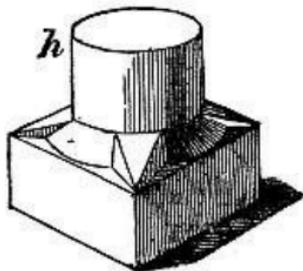
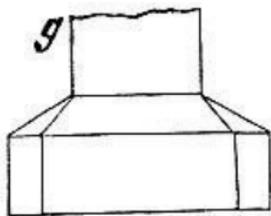
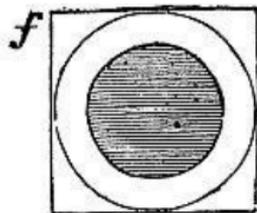
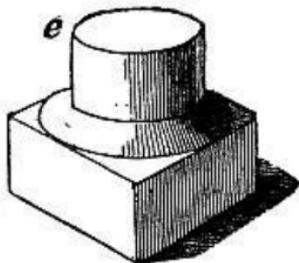
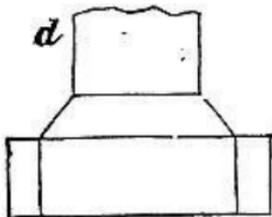
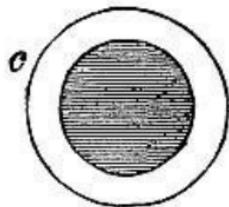
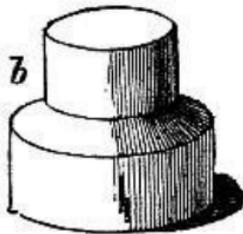
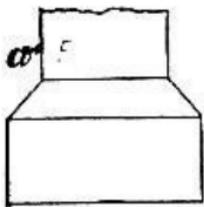
<sup>36</sup> [Appendix 17](#), “Answer to Mr. Garbett.”

some trouble to reduce the member Yb into this round form, and all that we have gained by so doing, is this unsatisfactory and unstable look of the base; of which the chief reason is, that a circle, unless enclosed by right lines, has never an appearance of fixture, or definite place,<sup>37</sup>—we suspect it of motion, like an orb of heaven; and the second is, that the whole base, considered as the foot of the shaft, has no grasp nor hold: it is a club-foot, and looks too blunt for the limb,—it wants at least expansion, if not division.

Fig. XII.

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<sup>37</sup> Yet more so than any other figure enclosed by a curved line: for the circle, in its relations to its own centre, is the curve of greatest stability. Compare § XX. of [Chap. XX.](#)



§ XII. Suppose, then, instead of taking so much trouble with the member Yb, we save time and labor, and leave it a square block. Xb must, however, evidently follow the pillar, as its condition is that it slope to the very base of the wall veil, and of whatever the wall veil becomes. So the corners of Yb will project

beyond the circle of *Xb*, and we shall have ([Fig. XII.](#)) the profile *d*, the perspective appearance *e*, and the plan *f*. I am quite sure the reader likes *e* much better than he did *b*. The circle is now placed, and we are not afraid of its rolling away. The foot has greater expansion, and we have saved labor besides, with little loss of space, for the interval between the bases is just as great as it was before,—we have only filled up the corners of the squares.

But is it not possible to mend the form still further? There is surely still an appearance of separation between *Xb* and *Yb*, as if the one might slip off the other. The foot is expanded enough; but it needs some expression of grasp as well. It has no toes. Suppose we were to put a spur or prop to *Xb* at each corner, so as to hold it fast in the centre of *Yb*. We will do this in the simplest possible form. We will have the spur, or small buttress, sloping straight from the corner of *Yb* up to the top of *Xb*, and as seen from above, of the shape of a triangle. Applying such spurs in [Fig. XII.](#), we have the diagonal profile at *g*, the perspective *h*, and the plan *i*.

§ XIII. I am quite sure the reader likes this last base the best, and feels as if it were the firmest. But he must carefully distinguish between this feeling or imagination of the eye, and the real stability of the structure. That this real stability has been slightly increased by the changes between *b* and *h*, in [Fig. XII.](#), is true. There is in the base *h* somewhat less chance of accidental dislocation, and somewhat greater solidity and weight. But this very slight gain of security is of no importance whatever when

compared with the general requirements of the structure. The pillar must be *perfectly* secure, and more than secure, with the base  $b$ , or the building will be unsafe, whatever other base you put to the pillar. The changes are made, not for the sake of the almost inappreciable increase of security they involve, but in order to convince the eye of the real security which the base  $b$  *appears* to compromise. This is especially the case with regard to the props or spurs, which are absolutely useless in reality, but are of the highest importance as an expression of safety. And this will farther appear when we observe that they have been above quite arbitrarily supposed to be of a triangular form. Why triangular? Why should not the spur be made wider and stronger, so as to occupy the whole width of the angle of the square, and to become a complete expansion of  $Xb$  to the edge of the square? Simply because, whatever its width, it has, in reality, no supporting power whatever; and the *expression* of support is greatest where it assumes a form approximating to that of the spur or claw of an animal. We shall, however, find hereafter, that it ought indeed to be much wider than it is in [Fig. XII.](#), where it is narrowed in order to make its structure clearly intelligible.

§ XIV. If the reader chooses to consider this spur as an æsthetic feature altogether, he is at liberty to do so, and to transfer what we have here said of it to the beginning of [Chap. XXV.](#) I think that its true place is here, as an *expression* of safety, and not a means of beauty; but I will assume only, as established, the form  $e$  of [Fig. XII.](#), which is absolutely, as a construction,

easier, stronger, and more perfect than *b*. A word or two now of its materials. The wall base, it will be remembered, was built of stones more neatly cut as they were higher in place; and the members, Y and X, of the pier base, were the highest members of the wall base gathered. But, exactly in proportion to this gathering or concentration in form, should, if possible, be the gathering or concentration of substance. For as the whole weight of the building is now to rest upon few and limited spaces, it is of the greater importance that it should be there received by solid masonry. Xb and Yb are therefore, if possible, to be each of a single stone; or, when the shaft is small, both cut out of one block, and especially if spurs are to be added to Xb. The reader must not be angry with me for stating things so self-evident, for these are all necessary steps in the chain of argument which I must not break. Even this change from detached stones to a single block is not without significance; for it is part of the real service and value of the member Yb to provide for the reception of the shaft a surface free from joints; and the eye always conceives it as a firm covering over all inequalities or fissures in the smaller masonry of the floor.

§ XV. I have said nothing yet of the proportion of the height of Yb to its width, nor of that of Yb and Xb to each other. Both depend much on the height of shaft, and are besides variable within certain limits, at the architect's discretion. But the limits of the height of Yb may be thus generally stated. If it looks so thin as that the weight of the column above might break it, it is

too low; and if it is higher than its own width, it is too high. The utmost admissible height is that of a cubic block; for if it ever become higher than it is wide, it becomes itself a part of a pier, and not the base of one.

§ XVI. I have also supposed Yb, when expanded from beneath Xb, as always expanded into a square, and four spurs only to be added at the angles. But Yb may be expanded into a pentagon, hexagon, or polygon; and Xb then may have five, six, or many spurs. In proportion, however, as the sides increase in number, the spurs become shorter and less energetic in their effect, and the square is in most cases the best form.

§ XVII. We have hitherto conducted the argument entirely on the supposition of the pillars being numerous, and in a range. Suppose, however, that we require only a single pillar: as we have free space round it, there is no need to fill up the first ranges of its foundations; nor need we do so in order to equalise pressure, since the pressure to be met is its own alone. Under such circumstances, it is well to exhibit the lower tiers of the foundation as well as Yb and Xb. The noble bases of the two granite pillars of the Piazzetta at Venice are formed by the entire series of members given in [Fig. X.](#), the lower courses expanding into steps, with a superb breadth of proportion to the shaft. The member Xb is of course circular, having its proper decorative mouldings, not here considered; Yb is octagonal, but filled up into a square by certain curious groups of figures representing the trades of Venice. The three courses below are octagonal, with

their sides set across the angles of the innermost octagon, Yb. The shafts are 15 feet in circumference, and the lowest octagons of the base 56 (7 feet each side).

§ XVIII. Detached buildings, like our own Monument, are not pillars, but towers built in imitation of Pillars. As towers they are barbarous, being dark, inconvenient, and unsafe, besides lying, and pretending to be what they are not. As shafts they are barbarous, because they were designed at a time when the Renaissance architects had introduced and forced into acceptance, as *de rigueur*, a kind of columnar high-heeled shoe,—a thing which they called a pedestal, and which is to a true base exactly what a Greek actor's cothurnus was to a Greek gentleman's sandal. But the Greek actor knew better, I believe, than to exhibit or to decorate his cork sole; and, with shafts as with heroes, it is rather better to put the sandal off than the cothurnus on. There are, indeed, occasions on which a pedestal may be necessary; it may be better to raise a shaft from a sudden depression of plinth to a level with others, its companions, by means of a pedestal, than to introduce a higher shaft; or it may be better to place a shaft of alabaster, if otherwise too short for our purpose, on a pedestal, than to use a larger shaft of coarser material; but the pedestal is in each case a make-shift, not an additional perfection. It may, in the like manner, be sometimes convenient for men to walk on stilts, but not to keep their stilts on as ornamental parts of dress. The bases of the Nelson Column, the Monument, and the column of the Place Vendôme, are to the

shafts, exactly what highly ornamented wooden legs would be to human beings.

§ XIX. So far of bases of detached shafts. As we do not yet know in what manner shafts are likely to be grouped, we can say nothing of those of grouped shafts until we know more of what they are to support.

Lastly; we have throughout our reasoning upon the base supposed the pier to be circular. But circumstances may occur to prevent its being reduced to this form, and it may remain square or rectangular; its base will then be simply the wall base following its contour, and we have no spurs at the angles. Thus much may serve respecting pier bases; we have next to examine the concentration of the Wall Veil, or the Shaft.

# CHAPTER VIII.

## THE SHAFT

§ I. We have seen in the last Chapter how, in converting the wall into the square or cylindrical shaft, we parted at every change of form with some quantity of material. In proportion to the quantity thus surrendered, is the necessity that what we retain should be good of its kind, and well set together, since everything now depends on it.

It is clear also that the best material, and the closest concentration, is that of the natural crystalline rocks; and that, by having reduced our wall into the shape of shafts, we may be enabled to avail ourselves of this better material, and to exchange cemented bricks for crystallised blocks of stone. Therefore, the general idea of a perfect shaft is that of a single stone hewn into a form more or less elongated and cylindrical. Under this form, or at least under the ruder one of a long stone set upright, the conception of true shafts appears first to have occurred to the human mind; for the reader must note this carefully, once for all, it does not in the least follow that the order of architectural features which is most reasonable in their arrangement, is most probable in their invention. I have theoretically deduced shafts from walls, but shafts were never so reasoned out in architectural practice. The man who first propped a thatched roof with poles

was the discoverer of their principle; and he who first hewed a long stone into a cylinder, the perfecter of their practice.

§ II. It is clearly necessary that shafts of this kind (we will call them, for convenience, *block shafts*) should be composed of stone not liable to flaws or fissures; and therefore that we must no longer continue our argument as if it were always possible to do what is to be done in the best way; for the style of a national architecture may evidently depend, in great measure, upon the nature of the rocks of the country.

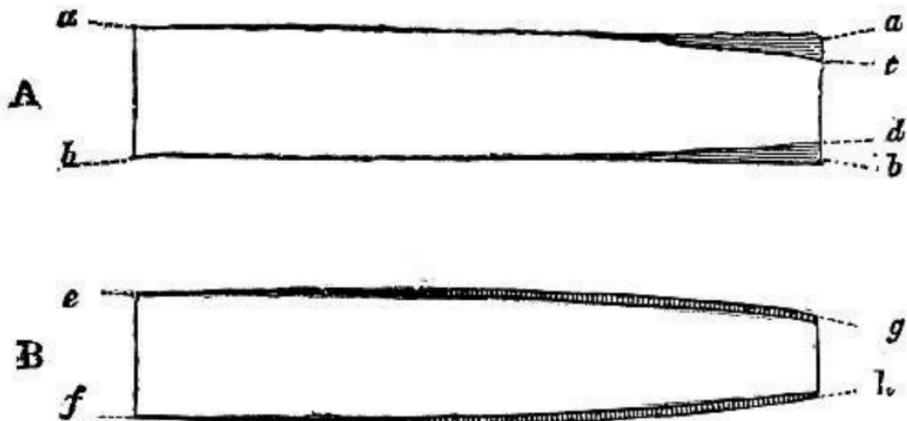
Our own English rocks, which supply excellent building stone from their thin and easily divisible beds, are for the most part entirely incapable of being worked into shafts of any size, except only the granites and whinstones, whose hardness renders them intractable for ordinary purposes;—and English architecture therefore supplies no instances of the block shaft applied on an extensive scale; while the facility of obtaining large masses of marble has in Greece and Italy been partly the cause of the adoption of certain noble types of architectural form peculiar to those countries, or, when occurring elsewhere, derived from them.

We have not, however, in reducing our walls to shafts, calculated on the probabilities of our obtaining better materials than those of which the walls were built; and we shall therefore first consider the form of shaft which will be best when we have the best materials; and then consider how far we can imitate, or how far it will be wise to imitate, this form with any materials

we can obtain.

§ III. Now as I gave the reader the ground, and the stones, that he might for himself find out how to build his wall, I shall give him the block of marble, and the chisel, that he may himself find out how to shape his column. Let him suppose the elongated mass, so given him, rudely hewn to the thickness which he has calculated will be proportioned to the weight it has to carry. The conditions of stability will require that some allowance be made in finishing it for any chance of slight disturbance or subsidence of the ground below, and that, as everything must depend on the uprightness of the shaft, as little chance should be left as possible of its being thrown off its balance. It will therefore be prudent to leave it slightly thicker at the base than at the top. This excess of diameter at the base being determined, the reader is to ask himself how most easily and simply to smooth the column from one extremity to the other. To cut it into a true straight-sided cone would be a matter of much trouble and nicety, and would incur the continual risk of chipping into it too deep. Why not leave some room for a chance stroke, work it slightly, *very* slightly convex, and smooth the curve by the eye between the two extremities? you will save much trouble and time, and the shaft will be all the stronger.

Fig. XIII.



This is accordingly the natural form of a detached block shaft. It is the best. No other will ever be so agreeable to the mind or eye. I do not mean that it is not capable of more refined execution, or of the application of some of the laws of æsthetic beauty, but that it is the best recipient of execution and subject of law; better in either case than if you had taken more pains, and cut it straight.

§ IV. You will observe, however, that the convexity is to be very slight, and that the shaft is not to *bulge* in the centre, but to taper from the root in a curved line; the peculiar character of the curve you will discern better by exaggerating, in a diagram, the conditions of its sculpture.

Let *a, a, b, b*, at A, [Fig. XIII.](#), be the rough block of the shaft, laid on the ground; and as thick as you can by any chance require it to be; you will leave it of this full thickness at its base at A, but

at the other end you will mark off upon it the diameter  $c, d$ , which you intend it to have at the summit; you will then take your mallet and chisel, and working from  $c$  and  $d$  you will roughly knock off the corners, shaded in the figure, so as to reduce the shaft to the figure described by the inside lines in A and the outside lines in B; you then proceed to smooth it, you chisel away the shaded parts in B, and leave your finished shaft of the form of the *inside* lines  $e, g, f, h$ .

The result of this operation will be of course that the shaft tapers faster towards the top than it does near the ground. Observe this carefully; it is a point of great future importance.

§ V. So far of the shape of detached or block shafts. We can carry the type no farther on merely structural considerations: let us pass to the shaft of inferior materials.

Unfortunately, in practice, this step must be soon made. It is alike difficult to obtain, transport, and raise, block shafts more than ten or twelve feet long, except in remarkable positions, and as pieces of singular magnificence. Large pillars are therefore always composed of more than one block of stone. Such pillars are either jointed like basalt columns, and composed of solid pieces of stone set one above another; or they are filled up *towers*, built of small stones cemented into a mass, with more or less of regularity: Keep this distinction carefully in mind, it is of great importance; for the jointed column, every stone composing which, however thin, is (so to speak) a complete *slice* of the shaft, is just as strong as the block pillar of one stone, so long

as no forces are brought into action upon it which would have a tendency to cause horizontal dislocation. But the pillar which is built as a filled-up tower is of course liable to fissure in any direction, if its cement give way.

But, in either case, it is evident that all constructive reason of the curved contour is at once destroyed. Far from being an easy or natural procedure, the fitting of each portion of the curve to its fellow, in the separate stones, would require painful care and considerable masonic skill; while, in the case of the filled-up tower, the curve outwards would be even unsafe; for its greatest strength (and that the more in proportion to its careless building) lies in its bark, or shell of outside stone; and this, if curved outwards, would at once burst outwards, if heavily loaded above.

If, therefore, the curved outline be ever retained in such shafts, it must be in obedience to æsthetic laws only.

§ VI. But farther. Not only the curvature, but even the tapering by straight lines, would be somewhat difficult of execution in the pieced column. Where, indeed, the entire shaft is composed of four or five blocks set one upon another, the diameters may be easily determined at the successive joints, and the stones chiselled to the same slope. But this becomes sufficiently troublesome when the joints are numerous, so that the pillar is like a pile of cheeses; or when it is to be built of small and irregular stones. We should be naturally led, in the one case, to cut all the cheeses to the same diameter; in the other to build by the plumb-line; and in both to give up the tapering altogether.

§ VII. Farther. Since the chance, in the one case, of horizontal dislocation, in the other, of irregular fissure, is much increased by the composition of the shaft out of joints or small stones, a larger bulk of shaft is required to carry the given weight; and, *cæteris paribus*, jointed and cemented shafts must be thicker in proportion to the weight they carry than those which are of one block.

We have here evidently natural causes of a very marked division in schools of architecture: one group composed of buildings whose shafts are either of a single stone or of few joints; the shafts, therefore, being gracefully tapered, and reduced by successive experiments to the narrowest possible diameter proportioned to the weight they carry: and the other group embracing those buildings whose shafts are of many joints or of small stones; shafts which are therefore not tapered, and rather thick and ponderous in proportion to the weight they carry; the latter school being evidently somewhat imperfect and inelegant as compared with the former.

It may perhaps appear, also, that this arrangement of the materials in cylindrical shafts at all would hardly have suggested itself to a people who possessed no large blocks out of which to hew them; and that the shaft built of many pieces is probably derived from, and imitative of the shaft hewn from few or from one.

§ VIII. If, therefore, you take a good geological map of Europe, and lay your finger upon the spots where volcanic

influences supply either travertin or marble in accessible and available masses, you will probably mark the points where the types of the first school have been originated and developed. If, in the next place, you will mark the districts where broken and rugged basalt or whinstone, or slaty sandstone, supply materials on easier terms indeed, but fragmentary and unmanageable, you will probably distinguish some of the birthplaces of the derivative and less graceful school. You will, in the first case, lay your finger on Pæstum, Agrigentum, and Athens; in the second, on Durham and Lindisfarne.

The shafts of the great primal school are, indeed, in their first form, as massy as those of the other, and the tendency of both is to continual diminution of their diameters: but in the first school it is a true diminution in the thickness of the independent pier; in the last, it is an apparent diminution, obtained by giving it the appearance of a group of minor piers. The distinction, however, with which we are concerned is not that of slenderness, but of vertical or curved contour; and we may note generally that while throughout the whole range of Northern work, the perpendicular shaft appears in continually clearer development, throughout every group which has inherited the spirit of the Greek, the shaft retains its curved or tapered form; and the occurrence of the vertical detached shaft may at all times, in European architecture, be regarded as one of the most important collateral evidences of Northern influence.

§ IX. It is necessary to limit this observation to European

architecture, because the Egyptian shaft is often untapered, like the Northern. It appears that the Central Southern, or Greek shaft, was tapered or curved on æsthetic rather than constructive principles; and the Egyptian which precedes, and the Northern which follows it, are both vertical, the one because the best form had not been discovered, the other because it could not be attained. Both are in a certain degree barbaric; and both possess in combination and in their ornaments a power altogether different from that of the Greek shaft, and at least as impressive if not as admirable.

§ X. We have hitherto spoken of shafts as if their number were fixed, and only their diameter variable according to the weight to be borne. But this supposition is evidently gratuitous; for the same weight may be carried either by many and slender, or by few and massy shafts. If the reader will look back to [Fig. IX.](#), he will find the number of shafts into which the wall was reduced to be dependent altogether upon the length of the spaces  $a$ ,  $b$ ,  $a$ ,  $b$ , &c., a length which was arbitrarily fixed. We are at liberty to make these spaces of what length we choose, and, in so doing, to increase the number and diminish the diameter of the shafts, or *vice versâ*.

§ XI. Supposing the materials are in each case to be of the same kind, the choice is in great part at the architect's discretion, only there is a limit on the one hand to the multiplication of the slender shaft, in the inconvenience of the narrowed interval, and on the other, to the enlargement of the massy shaft, in the

loss of breadth to the building.<sup>38</sup> That will be commonly the best proportion which is a natural mean between the two limits; leaning to the side of grace or of grandeur according to the expressional intention of the work. I say, *commonly* the best, because, in some cases, this expressional invention may prevail over all other considerations, and a column of unnecessary bulk or fantastic slightness be adopted in order to strike the spectator with awe or with surprise.<sup>39</sup> The architect is, however, rarely in practice compelled to use one kind of material only; and his choice lies frequently between the employment of a larger number of solid and perfect small shafts, or a less number of pieced and cemented large ones. It is often possible to obtain from quarries near at hand, blocks which might be cut into shafts eight or twelve feet long and four or five feet round, when larger shafts can only be obtained in distant localities; and the question then is between the perfection of smaller features and the imperfection of larger. We shall find numberless instances in Italy in which the first choice has been boldly, and I think most wisely made; and magnificent buildings have been composed of systems of small but perfect shafts, multiplied and superimposed.

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<sup>38</sup> In saying this, it is assumed that the interval is one which is to be traversed by men; and that a certain relation of the shafts and intervals to the size of the human figure is therefore necessary. When shafts are used in the upper stories of buildings, or on a scale which ignores all relation to the human figure, no such relative limits exist either to slenderness or solidity.

<sup>39</sup> Vide the interesting discussion of this point in Mr. Fergusson's account of the Temple of Karnak, "Principles of Beauty in Art," p. 219.

So long as the idea of the symmetry of a perfect shaft remained in the builder's mind, his choice could hardly be directed otherwise, and the adoption of the built and tower-like shaft appears to have been the result of a loss of this sense of symmetry consequent on the employment of intractable materials.

§ XII. But farther: we have up to this point spoken of shafts as always set in ranges, and at equal intervals from each other. But there is no necessity for this; and material differences may be made in their diameters if two or more be grouped so as to do together the work of one large one, and that within, or nearly within, the space which the larger one would have occupied.

§ XIII. Let A, B, C, [Fig. XIV.](#), be three surfaces, of which B and C contain equal areas, and each of them double that of A: then supposing them all loaded to the same height, B or C would receive twice as much weight as A; therefore, to carry B or C loaded, we should need a shaft of twice the strength needed to carry A. Let S be the shaft required to carry A, and S2 the shaft required to carry B or C; then S3 may be divided into two shafts, or S2 into four shafts, as at S3, all equal in area or solid contents;<sup>40</sup> and the mass A might be carried safely by two of them, and the masses B and C, each by four of them.

Fig. XIV.

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<sup>40</sup> I have assumed that the strength of similar shafts of equal height is as the squares of their diameters; which, though not actually a correct expression, is sufficiently so for all our present purposes.



**S**



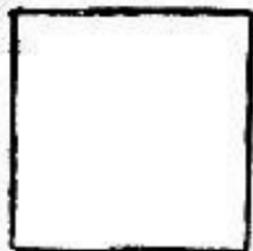
**S<sub>2</sub>**



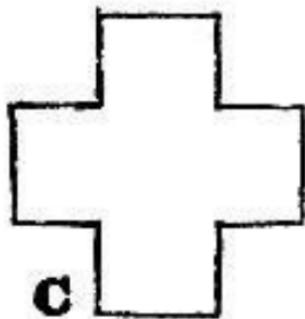
**S<sub>3</sub>**



**A**



**B**



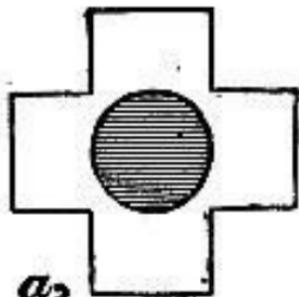
**C**



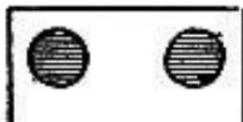
**a**



**a<sub>2</sub>**



**a<sub>3</sub>**



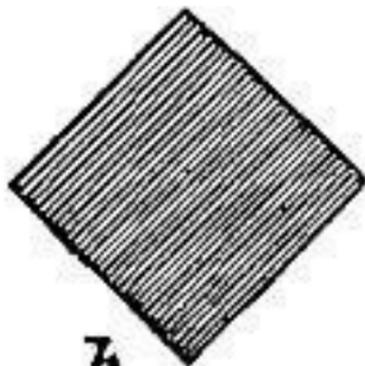
Now if we put the single shafts each under the centre of the mass they have to bear, as represented by the shaded circles at  $a$ ,  $a_2$ ,  $a_3$ , the masses A and C are both of them very ill supported, and even B insufficiently; but apply the four and the two shafts as at  $b$ ,  $b_2$ ,  $b_3$ , and they are supported satisfactorily. Let the weight on each of the masses be doubled, and the shafts doubled in area, then we shall have such arrangements as those at  $c$ ,  $c_2$ ,  $c_3$ ; and if again the shafts and weight be doubled, we shall have  $d$ ,  $d_2$ ,  $d_3$ .

§ XIV. Now it will at once be observed that the arrangement of the shafts in the series of B and C is always exactly the same in their relations to each other; only the group of B is set evenly, and the group of C is set obliquely,—the one carrying a square, the other a cross.

Fig. XV.



*a*



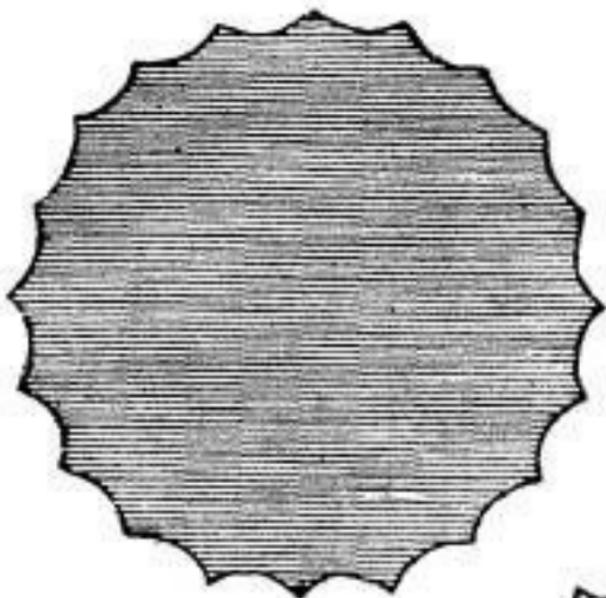
*b*

You have in these two series the primal representations of shaft arrangement in the Southern and Northern schools; while the group *b*, of which *b*<sup>2</sup> is the double, set evenly, and *c*<sup>2</sup> the double, set obliquely, is common to both. The reader will be surprised to find how all the complex and varied forms of shaft arrangement will range themselves into one or other of these groups; and still more surprised to find the oblique or cross set system on the one hand, and the square set system on the other, severally distinctive of Southern and Northern work. The dome of St. Mark's, and the crossing of the nave and transepts of Beauvais, are both carried by square piers; but the piers of St. Mark's are set square to the walls of the church, and those of Beauvais obliquely to them: and this difference is even a more essential one than that between the smooth surface of the one and the reedy complication of the other. The two squares here in the margin ([Fig. XV.](#)) are exactly of the same size, but their expression is altogether different, and in that difference lies one of the most subtle distinctions between the Gothic and Greek spirit,—from the shaft, which bears the building, to the smallest decoration. The Greek square is by preference set evenly, the Gothic square obliquely; and that so constantly, that wherever we find the level or even square occurring as a prevailing form, either in plan or decoration, in early northern work, there we may at least suspect the presence of a southern or Greek influence; and, on the other hand, wherever the oblique square is prominent in the south, we may confidently look for

farther evidence of the influence of the Gothic architects. The rule must not of course be pressed far when, in either school, there has been determined search for every possible variety of decorative figures; and accidental circumstances may reverse the usual system in special cases; but the evidence drawn from this character is collaterally of the highest value, and the tracing it out is a pursuit of singular interest. Thus, the Pisan Romanesque might in an instant be pronounced to have been formed under some measure of Lombardic influence, from the oblique squares set under its arches; and in it we have the spirit of northern Gothic affecting details of the southern;—obliquity of square, in magnificently shafted Romanesque. At Monza, on the other hand, the levelled square is the characteristic figure of the entire decoration of the façade of the Duomo, eminently giving it southern character; but the details are derived almost entirely from the northern Gothic. Here then we have southern spirit and northern detail. Of the cruciform outline of the load of the shaft, a still more positive test of northern work, we shall have more to say in the 28th Chapter; we must at present note certain farther changes in the form of the grouped shaft, which open the way to every branch of its endless combinations, southern or northern.

Fig. XVI.

*a*



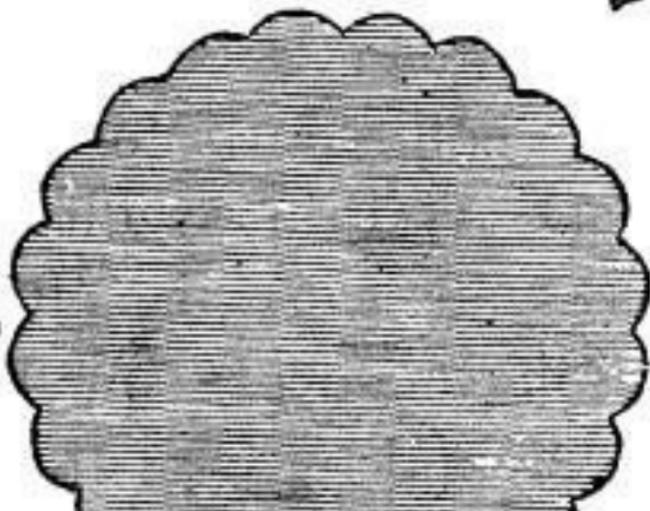
*c*



*d*



*b*



§ XV. 1. If the group at *d*3, [Fig. XIV.](#), be taken from under its loading, and have its centre filled up, it will become a quatrefoil; and it will represent, in their form of most frequent occurrence, a family of shafts, whose plans are foiled figures, trefoils, quatrefoils, cinquefoils, &c.; of which a trefoiled example, from the Frari at Venice, is the third in [Plate II.](#), and a quatrefoil from Salisbury the eighth. It is rare, however, to find in Gothic architecture shafts of this family composed of a large number of foils, because multifoiled shafts are seldom true grouped shafts, but are rather canaliculated conditions of massy piers. The representatives of this family may be considered as the quatrefoil on the Gothic side of the Alps; and the Egyptian multifoiled shaft on the south, approximating to the general type, *b*, [Fig. XVI.](#)

§ XVI. Exactly opposed to this great family is that of shafts which have concave curves instead of convex on each of their sides; but these are not, properly speaking, grouped shafts at all, and their proper place is among decorated piers; only they must be named here in order to mark their exact opposition to the foiled system. In their simplest form, represented by *c*, [Fig. XVI.](#), they have no representatives in good architecture, being evidently weak and meagre; but approximations to them exist in late Gothic, as in the vile cathedral of Orleans, and in modern cast-iron shafts. In their fully developed form they are the Greek Doric, *a*, [Fig. XVI.](#), and occur in caprices of the Romanesque and Italian Gothic: *d*, [Fig. XVI.](#), is from the Duomo of Monza.

§ XVII. 2. Between *c3* and *d3* of [Fig. XIV.](#) there may be evidently another condition, represented at 6, [Plate II.](#), and formed by the insertion of a central shaft within the four external ones. This central shaft we may suppose to expand in proportion to the weight it has to carry. If the external shafts expand in the same proportion, the entire form remains unchanged; but if they do not expand, they may (1) be pushed out by the expanding shaft, or (2) be gradually swallowed up in its expansion, as at 4, [Plate II.](#) If they are pushed out, they are removed farther from each other by every increase of the central shaft; and others may then be introduced in the vacant spaces; giving, on the plan, a central orb with an ever increasing host of satellites, 10, [Plate II.](#); the satellites themselves often varying in size, and perhaps quitting contact with the central shaft. Suppose them in any of their conditions fixed, while the inner shaft expands, and they will be gradually buried in it, forming more complicated conditions of 4, [Plate II.](#) The combinations are thus altogether infinite, even supposing the central shaft to be circular only; but their infinity is multiplied by many other infinities when the central shaft itself becomes square or crosslet on the section, or itself multifoiled (8, [Plate II.](#)) with satellite shafts eddying about its recesses and angles, in every possible relation of attraction. Among these endless conditions of change, the choice of the architect is free, this only being generally noted: that, as the whole value of such piers depends, first, upon their being wisely fitted to the weight above them, and, secondly, upon their all

working together: and one not failing the rest, perhaps to the ruin of all, he must never multiply shafts without visible cause in the disposition of members superimposed:<sup>41</sup> and in his multiplied group he should, if possible, avoid a marked separation between the large central shaft and its satellites; for if this exist, the satellites will either appear useless altogether, or else, which is worse, they will look as if they were meant to keep the central shaft together by wiring or caging it in; like iron rods set round a supple cylinder,—a fatal fault in the piers of Westminster Abbey, and, in a less degree, in the noble nave of the cathedral of Bourges.

§ XVIII. While, however, we have been thus subdividing or assembling our shafts, how far has it been possible to retain their curved or tapered outline? So long as they remain distinct and equal, however close to each other, the independent curvature may evidently be retained. But when once they come in contact, it is equally evident that a column, formed of shafts touching at the base and separate at the top, would appear as if in the very act of splitting asunder. Hence, in all the closely arranged groups, and especially those with a central shaft, the tapering is sacrificed; and with less cause for regret, because it was a provision against subsidence or distortion, which cannot now take place with the separate members of the group. Evidently, the work, if safe

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<sup>41</sup> How far this condition limits the system of shaft grouping we shall see presently. The reader must remember, that we at present reason respecting shafts in the abstract only.

at all, must be executed with far greater accuracy and stability when its supports are so delicately arranged, than would be implied by such precaution. In grouping shafts, therefore, a true perpendicular line is, in nearly all cases, given to the pier; and the reader will anticipate that the two schools, which we have already found to be distinguished, the one by its perpendicular and pieced shafts, and the other by its curved and block shafts, will be found divided also in their employment of grouped shafts;—it is likely that the idea of grouping, however suggested, will be fully entertained and acted upon by the one, but hesitatingly by the other; and that we shall find, on the one hand, buildings displaying sometimes massy piers of small stones, sometimes clustered piers of rich complexity, and on the other, more or less regular succession of block shafts, each treated as entirely independent of those around it.

§ XIX. Farther, the grouping of shafts once admitted, it is probable that the complexity and richness of such arrangements would recommend them to the eye, and induce their frequent, even their unnecessary introduction; so that weight which might have been borne by a single pillar, would be in preference supported by four or five. And if the stone of the country, whose fragmentary character first occasioned the building and piecing of the large pier, were yet in beds consistent enough to supply shafts of very small diameter, the strength and simplicity of such a construction might justify it, as well as its grace. The fact, however, is that the charm which the multiplication of line

possesses for the eye has always been one of the chief ends of the work in the grouped shafts; and that, so far from employing the grouped piers in order to the introduction of very slender block shafts, the most common form in which such piers occur is that of a solid jointed shaft, each joint being separately cut into the contour of the group required.

§ XX. We have hitherto supposed that all grouped or clustered shafts have been the result or the expression of an actual gathering and binding together of detached shafts. This is not, however, always so: for some clustered shafts are little more than solid piers channelled on the surface, and their form appears to be merely the development of some longitudinal furrowing or striation on the original single shaft. That clustering or striation, whichever we choose to call it, is in this case a decorative feature, and to be considered under the head of decoration.

§ XXI. It must be evident to the reader at a glance, that the real serviceableness of any of these grouped arrangements must depend upon the relative shortness of the shafts, and that, when the whole pier is so lofty that its minor members become mere reeds or rods of stone, those minor members can no longer be charged with any considerable weight. And the fact is, that in the most complicated Gothic arrangements, when the pier is tall and its satellites stand clear of it, no real work is given them to do, and they might all be removed without endangering the building. They are merely the *expression* of a great consistent system, and are in architecture what is often found in animal anatomy,

—a bone, or process of a bone, useless, under the ordained circumstances of its life, to the particular animal in which it is found, and slightly developed, but yet distinctly existent, and representing, for the sake of absolute consistency, the same bone in its appointed, and generally useful, place, either in skeletons of all animals, or in the genus to which the animal itself belongs.

§ XXII. Farther: as it is not easy to obtain pieces of stone long enough for these supplementary shafts (especially as it is always unsafe to lay a stratified stone with its beds upright) they have been frequently composed of two or more short shafts set upon each other, and to conceal the unsightly junction, a flat stone has been interposed, carved into certain mouldings, which have the appearance of a ring on the shaft. Now observe: the whole pier was the gathering of the whole wall, the base gathers into base, the veil into the shaft, and the string courses of the veil gather into these rings; and when this is clearly expressed, and the rings do indeed correspond with the string courses of the wall veil, they are perfectly admissible and even beautiful; but otherwise, and occurring, as they do in the shafts of Westminster, in the middle of continuous lines, they are but sorry make-shifts, and of late since gas has been invented, have become especially offensive from their unlucky resemblance to the joints of gas-pipes, or common water-pipes. There are two leaden ones, for instance, on the left hand as one enters the abbey at Poet's Corner, with their solderings and funnels looking exactly like rings and capitals, and most disrespectfully mimicking the shafts of the

abbey, inside.

Thus far we have traced the probable conditions of shaft structure in pure theory; I shall now lay before the reader a brief statement of the facts of the thing in time past and present.

§ XXIII. In the earliest and grandest shaft architecture which we know, that of Egypt, we have no grouped arrangements, properly so called, but either single and smooth shafts, or richly reeded and furrowed shafts, which represent the extreme conditions of a complicated group bound together to sustain a single mass; and are indeed, without doubt, nothing else than imitations of bundles of reeds, or of clusters of lotus:<sup>42</sup> but in these shafts there is merely the idea of a group, not the actual function or structure of a group; they are just as much solid and simple shafts as those which are smooth, and merely by the method of their decoration present to the eye the image of a richly complex arrangement.

§ XXIV. After these we have the Greek shaft, less in scale, and losing all suggestion or purpose of suggestion of complexity, its so-called flutings being, visibly as actually, an external decoration.

§ XXV. The idea of the shaft remains absolutely single in the Roman and Byzantine mind; but true grouping begins in Christian architecture by the placing of two or more separate shafts side by side, each having its own work to do; then three or

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<sup>42</sup> The capitals being formed by the flowers, or by a representation of the bulging out of the reeds at the top, under the weight of the architrave.

four, still with separate work; then, by such steps as those above theoretically pursued, the number of the members increases, while they coagulate into a single mass; and we have finally a shaft apparently composed of thirty, forty, fifty, or more distinct members; a shaft which, in the reality of its service, is as much a single shaft as the old Egyptian one; but which differs from the Egyptian in that all its members, how many soever, have each individual work to do, and a separate rib of arch or roof to carry: and thus the great Christian truth of distinct services of the individual soul is typified in the Christian shaft; and the old Egyptian servitude of the multitudes, the servitude inseparable from the children of Ham, is typified also in that ancient shaft of the Egyptians, which in its gathered strength of the river reeds, seems, as the sands of the desert drift over its ruin, to be intended to remind us for ever of the end of the association of the wicked. “Can the rush grow up without mire, or the flag grow without water?—So are the paths of all that forget God; and the hypocrite’s hope shall perish.”

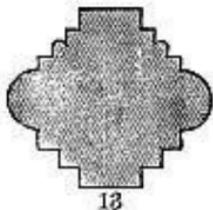
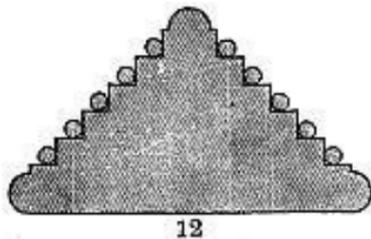
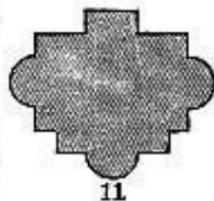
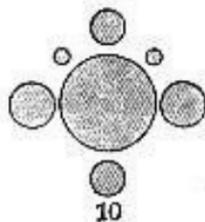
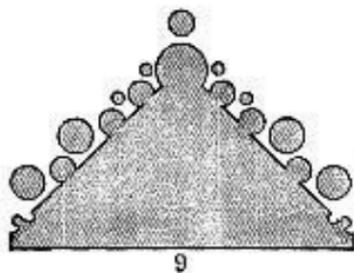
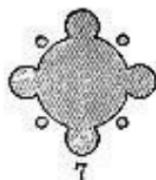
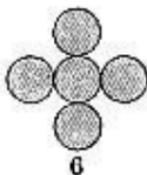
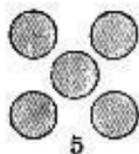
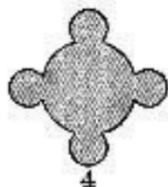
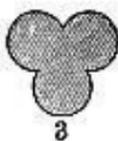
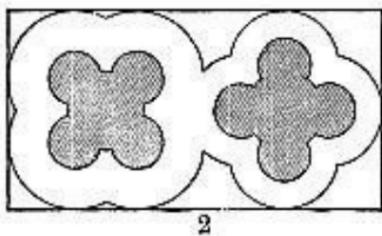
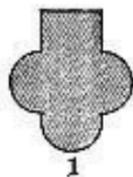
§ XXVI. Let the reader then keep this distinction of the three systems clearly in his mind: Egyptian system, an apparent cluster supporting a simple capital and single weight; Greek and Roman system, single shaft, single weight; Gothic system, divided shafts, divided weight: at first actually and simply divided, at last apparently and infinitely divided; so that the fully formed Gothic shaft is a return to the Egyptian, but the weight is divided in the one and undivided in the other.

§ XXVII. The transition from the actual to the apparent cluster, in the Gothic, is a question of the most curious interest; I have thrown together the shaft sections in [Plate II.](#) to illustrate it, and exemplify what has been generally stated above.<sup>43</sup>

## II.

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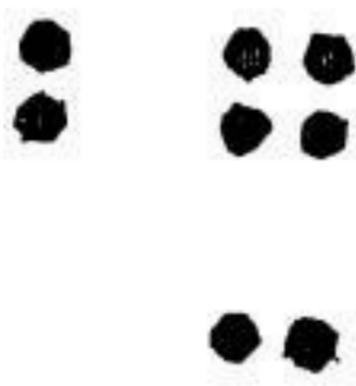
<sup>43</sup> I have not been at the pains to draw the complicated piers in this plate with absolute exactitude to the scale of each: they are accurate enough for their purpose: those of them respecting which we shall have farther question will be given on a much larger scale.



## PLANS OF PIERS.

1. The earliest, the most frequent, perhaps the most beautiful of all the groups, is also the simplest; the two shafts arranged as at *b* or *c*, ([Fig. XIV.](#)) above, bearing an oblong mass, and substituted for the still earlier structure *a*, [Fig. XIV.](#) In [Plate XVII.](#) ([Chap. XXVII.](#)) are three examples of the transition: the one on the left, at the top, is the earliest single-shafted arrangement, constant in the rough Romanesque windows; a huge hammer-shaped capital being employed to sustain the thickness of the wall. It was rapidly superseded by the double shaft, as on the right of it; a very early example from the cloisters of the Duomo, Verona. Beneath, is a most elaborate and perfect one from St. Zeno of Verona, where the group is twice complicated, two shafts being used, both with quatrefoil sections. The plain double shaft, however, is by far the most frequent, both in the Northern and Southern Gothic, but for the most part early; it is very frequent in cloisters, and in the singular one of St. Michael's Mount, Normandy, a small pseudo-arcade runs along between the pairs of shafts, a miniature aisle. The group is employed on a magnificent scale, but ill proportioned, for the main piers of the apse of the cathedral of Coutances, its purpose being to conceal one shaft behind the other, and make it appear to the spectator from the nave as if the apse were sustained by single shafts, of inordinate slenderness. The attempt is ill-judged, and the result unsatisfactory.

Fig. XVII.



§ XXVIII. 2. When these pairs of shafts come near each other, as frequently at the turnings of angles ([Fig. XVII.](#)), the quadruple group results, *b* 2, [Fig. XIV.](#), of which the Lombardic sculptors were excessively fond, usually tying the shafts together in their centre, in a lover's knot. They thus occur in [Plate V.](#), from the Broletto of Como; at the angle of St. Michele of Lucca, [Plate XXI.](#); and in the balustrade of St. Mark's. This is a group, however, which I have never seen used on a large scale.<sup>44</sup>

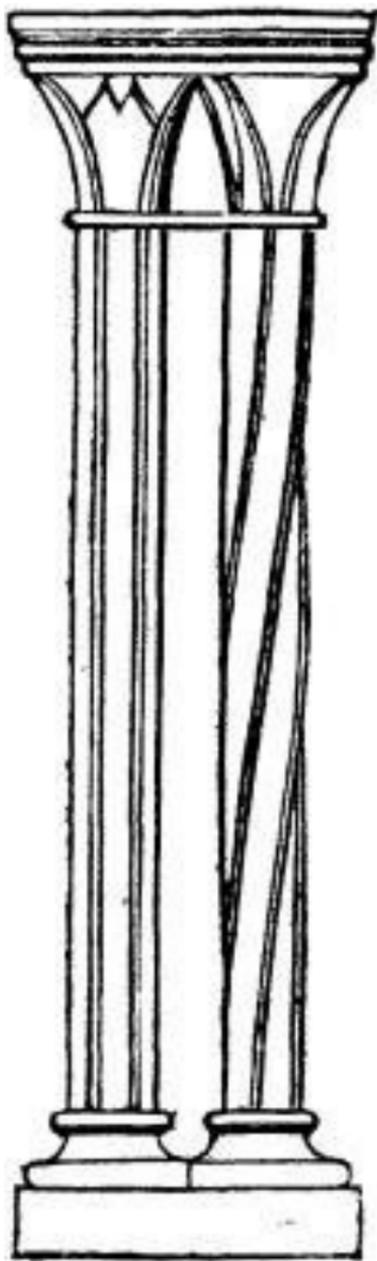
§ XXIX. 3. Such groups, consolidated by a small square in their centre, form the shafts of St. Zeno, just spoken of, and figured in [Plate XVII.](#), which are among the most interesting pieces of work I know in Italy. I give their entire arrangement in [Fig. XVIII.](#): both shafts have the same section, but one receives

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<sup>44</sup> The largest I remember support a monument in St. Zeno of Verona; they are of red marble, some ten or twelve feet high.

a half turn as it ascends, giving it an exquisite spiral contour: the plan of their bases, with their plinth, is given at 2, [Plate II.](#); and note it carefully, for it is an epitome of all that we observed above, respecting the oblique and even square. It was asserted that the oblique belonged to the north, the even to the south: we have here the northern Lombardic nation naturalised in Italy, and, behold, the oblique and even quatrefoil linked together; not confused, but actually linked by a bar of stone, as seen in [Plate XVII.](#), under the capitals.

Fig. XVIII.



4. Next to these, observe the two groups of five shafts each, 5 and 6, [Plate II.](#), one oblique, the other even. Both are from upper stories; the oblique one from the triforium of Salisbury; the even one from the upper range of shafts in the façade of St. Mark's at Venice.<sup>45</sup>

§ XXX. Around these central types are grouped, in [Plate II.](#), four simple examples of the satellitic cluster, all of the Northern Gothic: 4, from the Cathedral of Amiens; 7, from that of Lyons (nave pier); 8, the same from Salisbury; 10, from the porch of Notre Dame, Dijon, having satellites of three magnitudes: 9 is one of the piers between the doors of the same church, with shafts of four magnitudes, and is an instance of the confusion of mind of the Northern architects between piers proper and jamb mouldings (noticed farther in the next chapter, § XXXI.): for this fig. 9, which is an angle at the meeting of two jambs, is treated like a rich independent shaft, and the figure below, 12, which is half of a true shaft, is treated like a meeting of jambs.

All these four examples belonging to the oblique or Northern system, the curious trefoil plan, 3, lies *between* the two, as the double quatrefoil next it *unites* the two. The trefoil is from the Frari, Venice, and has a richly worked capital in the Byzantine manner,—an imitation, I think, of the Byzantine work by the Gothic builders: 1 is to be compared with it, being one of the earliest conditions of the cross shaft, from the atrium of

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<sup>45</sup> The effect of this last is given in [Plate VI.](#) of the folio series.

St. Ambrogio at Milan. 13 is the nave pier of St. Michele at Pavia, showing the same condition more fully developed: and 11 another nave pier from Vienne, on the Rhone, of far more distinct Roman derivation, for the flat pilaster is set to the nave, and is fluted like an antique one. 12 is the grandest development I have ever seen of the cross shaft, with satellite shafts in the nooks of it: it is half of one of the great western piers of the cathedral of Bourges, measuring eight feet each side, thirty-two round.<sup>46</sup> Then the one below (15) is half of a nave pier of Rouen Cathedral, showing the mode in which such conditions as that of Dijon (9) and that of Bourges (12) were fused together into forms of inextricable complexity (inextricable I mean in the irregularity of proportion and projection, for all of them are easily resolvable into simple systems in connexion with the roof ribs). This pier of Rouen is a type of the last condition of the good Gothic; from this point the small shafts begin to lose shape, and run into narrow fillets and ridges, projecting at the same time farther and farther in weak tongue-like sections, as described in the "Seven Lamps." I have only here given one example of this family, an unimportant but sufficiently characteristic one (16) from St. Gervais of Falaise. One side of the nave of that church is Norman, the other Flamboyant, and the two piers 14 and 16

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<sup>46</sup> The entire development of this cross system in connexion with the vaulting ribs, has been most clearly explained by Professor Willis (*Architecture of Mid. Ages*, Chap. IV.); and I strongly recommend every reader who is inclined to take pains in the matter, to read that chapter. I have been contented, in my own text, to pursue the abstract idea of shaft form.

stand opposite each other. It would be useless to endeavor to trace farther the fantasticism of the later Gothic shafts; they become mere aggregations of mouldings very sharply and finely cut, their bases at the same time running together in strange complexity and their capitals diminishing and disappearing. Some of their conditions, which, in their rich striation, resemble crystals of beryl, are very massy and grand; others, meagre, harsh, or effeminate in themselves, are redeemed by richness and boldness of decoration; and I have long had it in my mind to reason out the entire harmony of this French Flamboyant system, and fix its types and possible power. But this inquiry is foreign altogether to our present purpose, and we shall therefore turn back from the Flamboyant to the Norman side of the Falaise aisle, resolute for the future that all shafts of which we may have the ordering, shall be permitted, as with wisdom we may also permit men or cities, to gather themselves into companies, or constellate themselves into clusters, but not to fuse themselves into mere masses of nebulous aggregation.

# CHAPTER IX.

## THE CAPITAL

§ I. The reader will remember that in [Chap. VII.](#) § V. it was said that the cornice of the wall, being cut to pieces and gathered together, formed the capital of the column. We have now to follow it in its transformation.

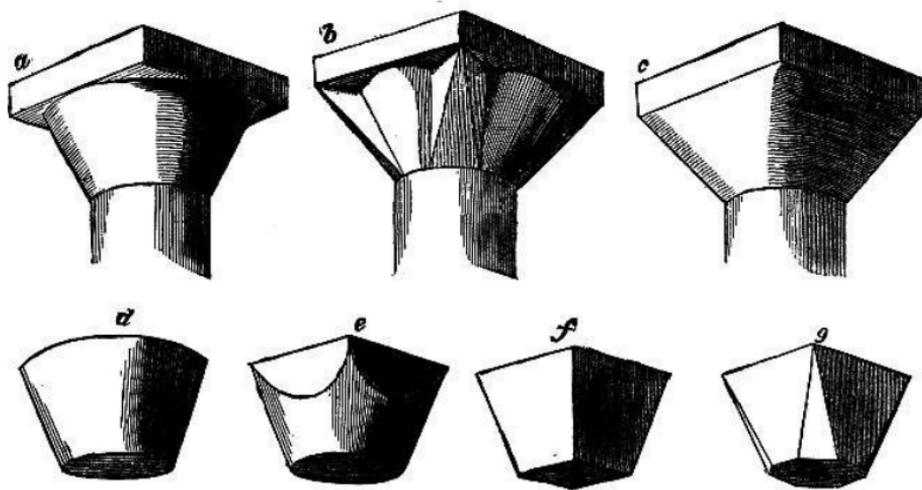
We must, of course, take our simplest form or root of cornices (*a*, in [Fig. V.](#), above). We will take X and Y there, and we must necessarily gather them together as we did Xb and Yb in [Chap. VII.](#) Look back to the tenth paragraph of [Chap. VII.](#), read or glance it over again, substitute X and Y for Xb and Yb, read capital for base, and, as we said that the capital was the hand of the pillar, while the base was its foot, read also fingers for toes; and as you look to the plate, [Fig. XII.](#), turn it upside down. Then *h*, in [Fig. XII.](#), becomes now your best general form of block capital, as before of block base.

§ II. You will thus have a perfect idea of the analogies between base and capital; our farther inquiry is into their differences. You cannot but have noticed that when [Fig. XII.](#) is turned upside down, the square stone (Y) looks too heavy for the supporting stone (X); and that in the profile of cornice (*a* of [Fig. V.](#)) the proportions are altogether different. You will feel the fitness of this in an instant when you consider that the principal function

of the sloping part in [Fig. XII.](#) is as a prop to the pillar to keep it from *slipping aside*; but the function of the sloping stone in the cornice and capital is to *carry weight above*. The thrust of the slope in the one case should therefore be lateral, in the other upwards.

§ III. We will, therefore, take the two figures, *e* and *h* of [Fig. XII.](#), and make this change in them as we reverse them, using now the exact profile of the cornice *a*,—the father of cornices; and we shall thus have *a* and *b*, [Fig. XIX.](#)

Fig. XIX.



Both of these are sufficiently ugly, the reader thinks; so do I; but we will mend them before we have done with them: that at *a* is assuredly the ugliest,—like a tile on a flower-pot. It is,

nevertheless, the father of capitals; being the simplest condition of the gathered father of cornices. But it is to be observed that the diameter of the shaft here is arbitrarily assumed to be small, in order more clearly to show the general relations of the sloping stone to the shaft and upper stone; and this smallness of the shaft diameter is inconsistent with the serviceableness and beauty of the arrangement at *a*, if it were to be realised (as we shall see presently); but it is not inconsistent with its central character, as the representative of every species of possible capital; nor is its tile and flower-pot look to be regretted, as it may remind the reader of the reported origin of the Corinthian capital. The stones of the cornice, hitherto called X and Y, receive, now that they form the capital, each a separate name; the sloping stone is called the Bell of the capital, and that laid above it, the Abacus. Abacus means a board or tile: I wish there were an English word for it, but I fear there is no substitution possible, the term having been long fixed, and the reader will find it convenient to familiarise himself with the Latin one.

§ IV. The form of base, *e* of [Fig. XII.](#), which corresponds to this first form of capital, *a*, was said to be objectionable only because it *looked* insecure; and the spurs were added as a kind of pledge of stability to the eye. But evidently the projecting corners of the abacus at *a*, [Fig. XIX.](#), are *actually* insecure; they may break off, if great weight be laid upon them. This is the chief reason of the ugliness of the form; and the spurs in *b* are now no mere pledges of apparent stability, but have very serious practical

use in supporting the angle of the abacus. If, even with the added spur, the support seems insufficient, we may fill up the crannies between the spurs and the bell, and we have the form *c*

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