

lines that define the profile of the column bend toward the two ends by the same proportion, bending twice as far inward at the top than at the bottom, the upper part being twice as long as the lower part. Monsieur Blondel, in his treatise on the four main problems of architecture, has shown how this line may be drawn in a single stroke with the instrument that Nicomedes discovered for line tracing,³⁴ which is called the first conchoid of the Ancients. This procedure can only be used for a line of diminution that does not bend back in toward the bottom but falls perpendicularly. To avoid making the column smaller at the bottom, begin to taper it only above the bottom third, which should have straight, parallel sides; for one should not diminish the column at the bottom, since neither the Ancients nor even most Moderns ever did so.

Chapter IX

The Projection of the Base of Columns

THE PROJECTION of column bases is another one of those dimensions that I believe were originally identical in all of the ancient orders, for it so happens that in antiquity, as in the works of modern authors, the projections are either equal or, indiscriminately, sometimes larger and sometimes smaller in the same order. For example, the base projection of the Doric at the Colosseum is the same as that of the Ionic at the Temple of Concord and as that of the Corinthian also at the Colosseum. Serlio's Tuscan has a larger base projection than his Composite; while, on the other hand, Scamozzi's Composite has a larger one than his Tuscan.

The rules Vitruvius gives for this dimension are quite confused. When he speaks about the projection of bases in general, he gives them as much as one-quarter diameter on each side, which greatly exceeds the largest projection found anywhere in antiquity. Yet when he speaks of the Ionic base, which he does not make any different from the Corinthian, he makes it only slightly larger than the smallest ancient ones.

Now the width I give to the bases of all the orders is eighty-four minutes, which makes forty-two on either side of the center line, because of the twelve minutes that I add to the thirty of the half-diameter. Twelve minutes makes three of the five parts of four minutes each, into which, as discussed in chapter 3, I divide my small module of twenty minutes. These twelve minutes hardly diverge at all from the mean

TABLE OF PROJECTIONS FOR THE BASES OF COLUMNS

	Tuscan	Doric	Ionic	Corinthian	Composite
Portico of the Pantheon				41	
Columns of the Campo Vaccino				42	
Pilasters of the Pantheon Portico				43	
Baths of Diocletian				42	43
Trajan's Column	40				
Palladio	40	40	41	42	42
Scamozzi	40	42	41	40	41
Vignola	41	41	42	42	42
Serlio	42	44	41	40	41
Temple of Fortuna Virilis			43		
Colosseum		40	40	40	
Temple of Bacchus					41
Arch of Titus					44
Arch of Septimius					41

dimension found in antiquity and in the Moderns, as may be verified in the following table. From it we may determine this mean dimension in the same way that we determined the diminution of columns in the preceding chapter. If we add the size of the smallest projection³⁵ of forty minutes in the Corinthian of the Colosseum to the size of the largest of forty-four in the Arch of Titus, we will obtain eighty-four minutes. Half of this is the forty-two minutes in question. And again, if we add the size of the smallest projection taken from the examples remaining in the table, which is forty-one in the portico of the Pantheon, to the largest, which is forty-three in the Temple of Fortuna Virilis, we will once more obtain the same result of eighty-four minutes.

Chapter X

The Projection of the Base and Cornice of Pedestals

AS PEDESTALS were not used as commonly by the Ancients as they have been since, the Moderns have made no great effort to follow the proportions of those pedestals that have come down to us from antiquity.

More than anything else, they have rejected the large projections that antiquity gives to pedestal bases, which usually exceed those of modern authors by a third or more. What we may gather from the general rules adopted by the Ancients is that they made this projection proportional to the height of the pedestal. This is a practice that the Moderns have not observed, since they make it almost always equal in all the orders, even though the height of pedestals varies greatly from order to order, and I believe that they are wrong in this. For if the projection of column bases is constant in all the orders, notwithstanding variations in column height, it is because the bases always have the same height in all the orders, except the Tuscan, where it is a little shorter than the others, because the base of the column includes the lip of the base of the column shaft. Now the same reasoning requires the projections of pedestal bases to vary in size, since the height of these bases varies in proportion to the height of the whole pedestal, which is different for every order.

In order to diverge as little as possible from the rules of our masters, we will adhere to a middle ground, whereby we imitate the Ancients in maintaining the proportional relationship that they establish between the projection of the pedestal base and its height and follow the Moderns in cutting back the excessively large projection that the Ancients generally gave to these bases. It is clear that the Moderns reduced this large projection because of the rule of the appearance of durability, which has already been discussed. For just as footings that widen out too abruptly are not solid, so will bases not appear solid and capable of supporting the drum of the pedestal if their projection is too large. Such footings are weak because as they are made of stones placed directly above one another, those at the bottom outside edge are out of plumb with the wall above and support only the outer parts of the footing itself. Consequently, we should make the offsets from one masonry course to the next very small if we want the footing to be solid.

Therefore, in all the orders, I give the bases of pedestals a projection equal to their height without the plinth; and thus, as the height of the base is different for the pedestals of each order, so is the projection of the base different for each order.

As for the projection of the cornice of pedestals, the Ancients and most of the Moderns concur, usually making it either equal to or a little larger than that of the base. This is reasonable, for if a cornice is meant to cover something, it should extend beyond what it covers. Nevertheless, Delorme says that the base should always have more of a projection than the cornice, even though his figures show the opposite.

The following table shows the proportions of these projections in ancient and modern works, which I compare to the proportions that I give them. The number of minutes is the projection of the base and cornice beyond the outer surface [of] the dado. The overall heights of the pedestal are measured in mean modules.

88 *TABLE OF THE PROJECTION OF PEDESTAL BASES AND CORNICES*

		Projection of the Base	Projection of the Cornice	Overall Height of the Pedestal	
		minutes	minutes	mean	minutes modules
Doric	Palladio	16	16	4	20
	Vignola	11	11	5	10
	Our dimension	12	14	4	20
Ionic	Temple of Fortuna Virilis	26 $\frac{1}{4}$	13	7	4
	Palladio	14	14	5	5
	Vignola	14	16	6	
	Our dimension	14	17	5	$\frac{1}{3}$
Corinthian	Temple of Vesta at Tivoli	24 $\frac{1}{2}$	24	6	7
	Palladio	16	16	5	
	Vignola	13	13	6	6
	Our dimension	15	19	6	
Composite	Arch of Titus	28	27	8	15
	Arch of Septimius	24 $\frac{2}{3}$	25 $\frac{1}{3}$	6	
	Palladio	14	14	6	$\frac{1}{3}$
	Vignola	13	13	7	
	Our dimension	16	22	6	$\frac{2}{3}$

The mean dimensions for the projections of pedestal bases and cornices are not precisely at the midpoint between the extremes that are shown in the table. It is enough, however, that they be average, in that the examples give instances of both larger and smaller ones. For example, the mean dimension of twelve minutes I give to the projection of the base of the Doric pedestal is larger than Vignola's, which is only eleven, and smaller than Palladio's, which is sixteen; and similarly for the others.

Chapter XI
The Projection of the Cornice of Entablatures

VITRUVIUS gives a general rule for all the projections of architectural elements: he would have their depth always equal to the height of the projecting element. Clearly, however, this practice should be limited to the projection, relative to its height, of the entire cornice of the entablature, since there are some individual elements in cornices, such as dentils, whose projection is much smaller than their height, and others, such as the corona, where it is always greater. Yet even when it applies to entire cornices, the Ancients have disregarded this rule as often as the Moderns have. In antiquity, the projection of cornices is normally a little less than their height, which is the opposite of what appears in the books of the Moderns, where most cornices have a projection greater than their height.

Most architects believe that the ultimate refinement of architecture consists in knowing how to alter proportions with discretion by being attentive, as they say, to the varying conditions that arise from the diversity of aspects [*Aspects*] and the sizes of buildings.³⁶ For they claim that some buildings require larger cornice projections than others because of the proximity to or distance from cornices, which changes their aspect, and because of the height above ground or lack of it, which makes projections appear larger or smaller than they are. They say, therefore, that it is necessary to compensate for this drawback by increasing or diminishing the size of projections and would have us believe that this is the reason for the diversity to be found in the projections of ancient works. But it is obvious that this was not the intention of the Ancients, since on buildings where projections should be larger because of an aspect whose magnitude, according to the reasoning of the Moderns, demands a large projection, it so happens that on the contrary the Ancients made it smaller. Such is the case at the Pantheon, where the projection is smaller on the cornice of the portico than on the cornice of the temple interior, where the aspect is incomparably more limited. It would also appear that projections were not changed in keeping with the module that governs the size of the building, because even in the largest buildings the projection is equal to, or even less than, the height of the cornice. In the Temple of Peace, in the Columns of the Campo Vaccino, and in those of the Baths of Diocletian, which are the ancient buildings with the largest module, the cornice projection is smaller than in the smallest orders, such as that of the Temple of Vesta at Tivoli. Furthermore, the following is proof that all this diversity is based on nothing but chance: there are also small buildings where the projection is smaller than on

TABLE OF THE DIFFERENT PROJECTIONS OF ENTABLATURES

Cornices Have Greater Projection than Height	Size of the Order		Cornices Have Greater Height than Projection	Size of the Order	
	minutes	feet		minutes	feet
Temple of Vesta at Tivoli	4—0	25—4	Arch of the Goldsmiths	6—0	17—0
			Altars of the Pantheon	7—0	16—0
Ionic of the Colosseum	1—0	25—0	Arch of Titus	0—0	25—0
Doric of the Colosseum	0— $\frac{1}{4}$	31— $\frac{1}{3}$	Ionic of the Theater of Marcellus	9—0	28—0
Arch of Constantine	0—0	40— $\frac{1}{3}$			
Portico of Septimius	2—0	40—0	Temple of Bacchus	5—0	28—7
Interior of the Pantheon	0— $\frac{1}{3}$	47—0	Corinthian of the Colosseum	3—0	30—2
Temple of Concord	16—0	53—7			
Temple of Faustina	0— $\frac{1}{2}$		Temple of Fortuna Virilis	12—0	32—0
Ionic of Scamozzi	3—0		Arch of Septimius	13— $\frac{1}{2}$	33—0
Corinthian of Palladio	0— $\frac{1}{2}$		Portico of the Pantheon	2—0	54—0
Corinthian of Vignola	4—0		The Three Columns	1— $\frac{1}{2}$	58—0
Composite of Palladio	1—0		Temple of Peace	7—0	58—0
Composite of Scamozzi	1— $\frac{1}{4}$		Ionic of Palladio	7—0	
			Ionic of Vignola	1— $\frac{1}{2}$	

large buildings, as occurs on the altars of the Pantheon, whose cornice projection is smaller than that of the portico, where the order is four times as large. Modification of proportions will be discussed more extensively later on in a separate chapter.

The table confirms the examples that have been cited above.

The diverse proportions of all these cornices give grounds for reducing them to a mean, which is to make the projection equal to the height in all the orders except the Doric when it has mutules, because their length obliges us to give the entire cornice more projection than height. If we make this cornice without mutules, as at the Colosseum, the projection may equal the height, as it does on this celebrated building.

Chapter XII
The Proportions of Capitals

ALTHOUGH THE BASES of the different orders vary greatly, some being simpler and others having a greater number of moldings, they nevertheless all have the same height of half the diameter of the base of the column shaft. Only the Tuscan is excepted, where the fillet at the bottom of the column is included in this half-diameter. The same is not true of capitals, for in the five orders they have three different heights. Tuscan and Doric capitals have the same height as their base; the Corinthian and the Composite both measure one and one-sixth diameters, or three and one-half small modules, in height; and lastly, the Ionic has a proportion particular to itself, which is one and one-eighteenth half-diameters from the top of the abacus to the base of the volutes, and from the abacus to the astragal at the top of the column, eleven of these eighteenthths, which makes for somewhat involved proportions.

Nevertheless, the simple proportions of the other capitals are to be found neither in all ancient works nor in all modern authors. The capital in the Tuscan of Trajan's Column is smaller by a whole third than the half-diameter of the base of the column shaft; the Doric capital in the Theater of Marcellus is higher by nearly three minutes, and that in the Colosseum by almost eight. In Vitruvius, the Corinthian capital is shorter than one and one-sixth column diameters; and at the Temple of the Sibyl it falls short by thirteen minutes. It is higher by six minutes on the Facade of Nero and by more than seven on the Temple of Vesta in Rome. The Composite of the Temple of Bacchus has it higher by six minutes; that of the Arch of Septimius and that of the Arch of the Goldsmiths have it shorter by a minute and one half.

Consequently, all these conflicting variations give grounds for a probable mean proportion that reduces the height of Tuscan and Doric capitals to half the diameter of the base of the column shaft and that of the Corinthian and Composite capitals to an entire diameter plus one sixth, which makes seventy minutes, or three and one-half small modules.

*Chapter XIII**The Proportions of the Astragal and the Lip of the Column Shaft*

IN ALL THE ORDERS, columns have elements that terminate their stalk or shaft, and these are usually the same: namely, at the top an astragal with its fillet and at the bottom a fairly large listel, or lip. These parts have no fixed proportion in antiquity, where sometimes we find them large and sometimes small with no apparent reason for such diversity. The usage of the Moderns also varies in this regard, but I believe that we can give the same proportions to these elements in all the orders, for the same reason that determined that the height of entablatures be the same for the different orders. That is, because as the column becomes longer in the delicate orders, these parts, although of the same thickness, become, or at least appear to become, more delicate in proportion to the height of the column.

As for the lip, I give it the twentieth part of the base of the column shaft. At the Pantheon it closely approximates this dimension, one that Vignola, Serlio, and Alberti have adopted. In other ancient buildings, the lip is sometimes higher, as at the Temples of Antoninus and Faustina, at the Temple of Bacchus, at the Arch of Septimius, and at the Baths of Diocletian. Sometimes it is shorter, as at the Temple of Vesta in Rome, at the Temple of Fortuna Virilis, and at the Arch of Titus. I believe, however, that we should prefer higher lips to shorter ones, like that of the Temple of Vesta, which is only one-sixtieth part of a column diameter. For this element, acting as the foundation for the column and supported by the base, calls for strength. Now, were there any reason to vary the height of the lip, it would seem to lie in the diversity of tori on which it is placed, since there appear to be grounds for making the lip wider when tori are largest, as they are on Attic and Ionic bases. But this is not the practice found in ancient works, where the lip is made indifferently, sometimes large and sometimes small, on both Attic and Corinthian columns, although the upper torus of the Corinthian base is less thick than that of the Attic.

It sometimes happens that instead of a lip, there is an astragal with a fillet, as at the Temple of Peace, at the three columns of the Campo Vaccino, at the Basilica of Antoninus, and at the Arch of Constantine: a usage some Moderns, such as Palladio, Scamozzi, Delorme, and Viola,³⁷ have imitated. Still, I believe that there is greater justification for the use of the lip because of the confusion produced by such a profusion of moldings and because an astragal appears too weak a foundation for the column, a round astragal seeming more likely to let the column tip over than a square lip, which appears to hold it up.

As for the height of the astragal at the top of the column, I make it an eighteenth part of the diameter of the base of the column shaft, which is a sixth of the small module, as it appears on the Facade of Nero, at the Basilica of Antoninus, and at the Temple of the Sibyl at Tivoli. This dimension keeps the middle road between such extremes observed in antiquity as on the Arch of Septimius, the Forum of Nerva, the Temple of Fortuna Virilis, and the Temple of Bacchus, where the astragal is a third or even as much as half again as large, or at the Temple of Vesta in Rome, where it is barely half that size. The excesses into which the Moderns have plunged are just as extreme; there are some, like Serlio, who make it scarcely half of what it is in Palladio and Barbaro.³⁸

But what most convinces me regarding this proportion for the astragal at the top of columns is that it is established in the Ionic Order, where it must equal the width of the eye of the volute, as will be explained in due course. And since the proportion is established in the Ionic Order, I see no reason to change it in all the others. The reasoning is the same as for the procedure used to establish the size of the lip at the base of the Tuscan column (dividing the upper half of the base into five parts where one part is a twentieth of the diameter of the base of the column shaft), which gives us the rule governing the size of the lip in all the other orders and allows us to always make it in the same way.

I make the fillet half the size of the astragal, following the practice established at the Temple of Bacchus, the Temple of the Sibyl at Tivoli, the Temple of Concord, the Basilica of Antoninus, and the Arch of Septimius, and also in keeping with what Scamozzi, Palladio, Cataneo,³⁹ and other Moderns have done. There are examples of opposing extremes that conflict with my dimensions both in modern authors and in the works of antiquity, and it is these that justify my choice of the mean, which I consider the most certain rule for reconciling the diverse precepts and conflicting examples found in architecture. I intend to follow this rule throughout this work.

This first part shows the proportions that the principal elements of architecture should have in general by comparing how they relate to one another in the different orders. In the second part, we will establish the detailed proportions of each of these elements by the same method and consider all the particularities of the different characters as they appear in the various works of antiquity and in the modern authors who have written about the architectural orders.

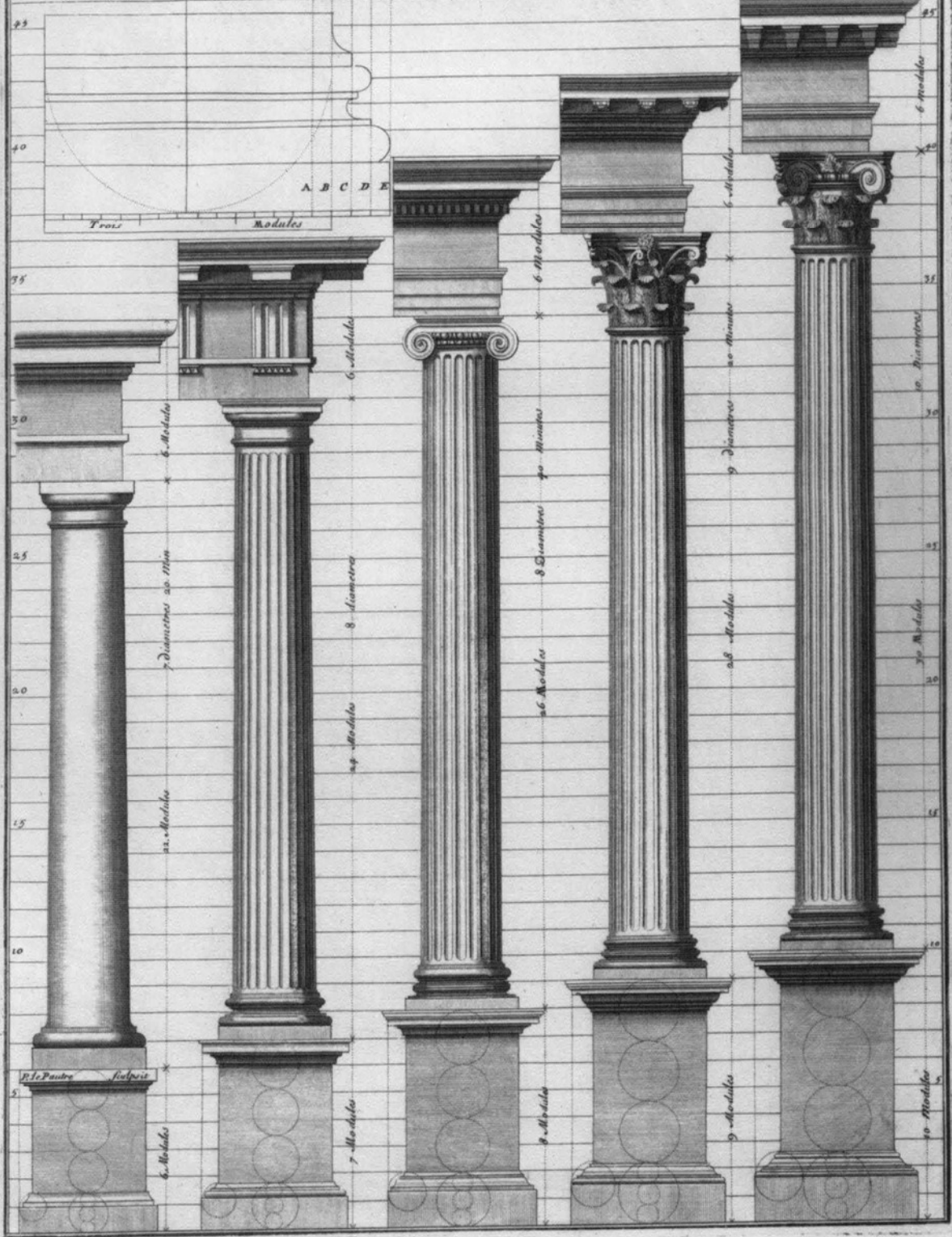
EXPLANATION OF THE FIRST PLATE

This plate contains everything that has been discussed in the first part, which deals with proportions common to all the orders: those relating to heights as well as those relating to widths and projections. Heights are determined by entire modules, and projections by dividing the module into five, taking the module, as we have said, to be a third of the diameter of the base of the column shaft, which I call the small module.

We see in this plate that all the entablatures are six modules in height, which make two diameters of the column at its base. We see that the length of columns increases from one order to the next by a progression equal to two modules, the Tuscan having twenty-two modules, the Doric twenty-four, the Ionic twenty-six, the Corinthian twenty-eight, and the Composite thirty. The height of all pedestals also increases progressively but only by one module: the Tuscan having six, the Doric seven, the Ionic eight, the Corinthian nine, and the Composite ten. Each pedestal is divided into four parts, with one part for its entire base and half of one for its cornice. The entire base is divided into three parts, and we give one to the moldings and the two others to the plinth. Lastly, the projection of the base is equal to the height of its moldings.

This plate also shows that the other projections are determined by fifth parts of the module. The projection that the bottom of the column shaft has beyond its width at the top, which we call diminution, is determined by one of these fifths and is the interval between A and B. The projection of the lip or fillet at the bottom of the column shaft is another fifth, which is the interval between B and C. The projection of the upper torus and the fillet at the bottom of the scotia is another fifth, which is the interval between C and D, and the projection of the whole base is the part from D to E. We take each of these parts to contain four minutes, where the diameter of the column base is sixty, the mean module thirty, and the small module twenty.

I. Planche.



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ORDONNANCE
FOR THE FIVE KINDS
of COLUMNS
AFTER THE METHOD
of THE ANCIENTS

PART TWO
Things Proper to Each Order

Chapter I
The Tuscan Order

THE ORDERS OF ARCHITECTURE invented by the Greeks were only three in number: that is to say, the Doric, the Ionic, and the Corinthian. To these, the Romans added the Tuscan and the Composite, which some have called the Italic. Properly speaking, however, the characters of these two orders do not differ essentially from the characters of the Greek orders, for the characters of the Tuscan are almost the same as those of the Doric and those of the Composite resemble those of the Corinthian very closely. This is not so in the three Greek orders, where the things that distinguish them from one another are very considerable and very obvious, as the first chapter of part one explains in greater detail.

The Tuscan is, in fact, nothing but the Doric strengthened by the shortening of the shaft or stalk of the column and simplified by diminishing the number of moldings that usually ornament the orders and making them more massive, for the base and cornice of its pedestal have few moldings and most of these are very massive. This base and cornice have fewer moldings than do those in the other orders, although their height by proportion is as great. In addition, the base of the column has only a single torus and no scotia; the abacus of the capital has no ogee at the top;

98 the entablature has no triglyphs or mutules; and the cornice has only a few moldings.

The general proportions of the main parts of this order have been presented and explained in the first part of this work. There we said that the whole order, including the pedestal, the column, and the entablature, has thirty-four small modules, of which the pedestal has six, the column twenty-two, and the entablature six. We also said that the proportions of the three parts of the pedestal are the same in all the orders with the base always a fourth part of the whole pedestal, the cornice an eighth part, and the plinth of the base two thirds of the base itself. It now remains to establish in detail the proportions of each part, together with what defines its particular character.

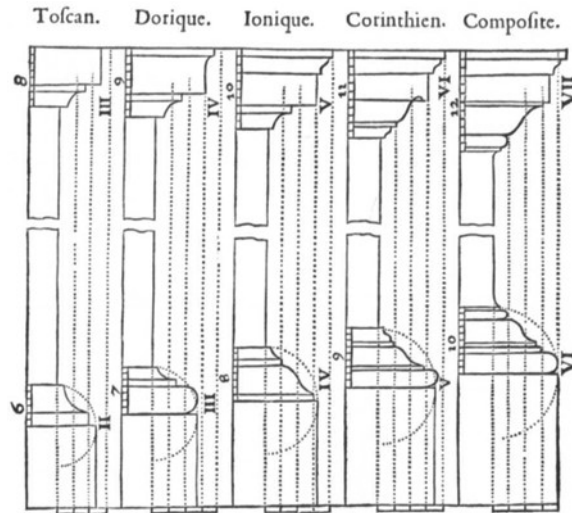
BASE OF THE PEDESTAL

The pedestal, in the Tuscan Order as in all the others, is divided into three parts: the base, the dado, and the cornice. The base is made up of two parts: the plinth and the moldings. Now just as the proportions of the main parts of entire columns, established above, relate to one another in such a way that heights increase as the orders become more delicate, so do the heights of the moldings of the base and the cornice of pedestals. For as the orders become more delicate, the moldings too become less massive due to their increased number, which grows steadily, the base of the Tuscan pedestal having two of them, the Doric three, the Ionic four, the Corinthian five, and the Composite six. Similarly, the cornice of the Tuscan pedestal has three moldings, the Doric four, the Ionic five, the Corinthian six, and the Composite seven.

In order to determine the heights and the projections of these moldings, we divide the height of the cornice and that of the base into a certain number of small divisions [*particules*], which also increase proportionally as the delicacy of the orders increases. The part that determines the size of the moldings has six divisions in the Tuscan base, seven in the Doric, eight in the Ionic, nine in the Corinthian, and ten in the Composite. The height of the cornice of the pedestal is divided into eight in the Tuscan, nine in the Doric, ten in the Ionic, eleven in the Corinthian, and twelve in the Composite. All this is explained by the figure that follows, where the arabic numeral stands for the number of divisions into which the base and the cornice are divided and the roman numeral for the number of moldings that make up each base and each cornice.

CORNICE OF THE PEDESTAL

Having thus divided the part of the base of the Tuscan pedestal that has moldings into six, we give four divisions to the cavetto and two to the fillet that is beneath it, as these are the two elements or moldings contained in this part. The cornice is di-



vided into eight divisions: we give five of these to a platband that acts as the corona and three to the cavetto together with its fillet. The fillet has one of these divisions.

The projections of the elements of the base and cornice of this pedestal, like the projections of all the different elements in every order, are based on fifth parts of the small module, as has already been determined. The diminution of the column, for example, is one of these fifths, the projection of the base of the column is three, etc. Regarding the pedestal, we have said that the projection of the whole base without the plinth is equal to its height and that the projection of the entire cornice is a little greater than that of the base. This holds true for all the orders except the Tuscan, where the projections of the base and the cornice of the pedestal are equal. As for the projection of the elements that make up the parts of the Tuscan pedestal, the cavetto of the cornice is one and one-half fifths of the small module, and the cavetto of the base is two fifths, taken from the surface [n \bar{u}] of the dado.

Now the proportions and characters of this pedestal are midway between the extremes found in both ancient and modern works. In these works, the pedestal is sometimes excessively ornamented, as in Trajan's Column, whose base and cornice have all the moldings of the Corinthian pedestal, or sometimes not ornamented at all, such as in Palladio's Tuscan Order, where it has only a squarish kind of plinth without base or cornice. Scamozzi's Tuscan pedestal is midway between these extremes, as is ours.

BASE OF THE COLUMN

The base of the column, which is a half-diameter, or one and one-half small modules high, and which includes the fillet at the base of the column shaft, is divided into only two parts. One part is for the plinth, and four of the five parts into which the remaining part is subdivided are given to the torus, while the other fifth is given to the fillet or lip, which is part of the column shaft. As we have said, the fifth part of half the base, which is one twentieth of the diameter of the base of the column shaft, determines the size of the lip at the base of all columns in all the orders. This is because nowhere but in the Tuscan Order has the size of this part been fixed, and it also so happens that this proportion has been adopted in some ancient works. In those works that do depart from it, some make it much larger, others much smaller, which gives reason to believe that the mean is the best choice. All the other proportions of this base are also the mean between the varying proportions that the Ancients and the Moderns have established. The plinth, for example, which I make half the height of the whole base, as did Vitruvius, is smaller by one minute in Trajan's Column and larger by three in Scamozzi. Compared to the height of twelve minutes that I give it, the torus in Trajan's Column, in Palladio, and in Vignola measures twelve and one-half minutes and in Serlio only ten. The fillet or lip, which I make three minutes, is three and one-half minutes in Trajan's Column and five in Serlio but only two and one-half minutes in Palladio and Vignola. As we have already said, the projection of the base is three fifths of a module.

What is striking about the character of this base is that Vitruvius gives its plinth an entirely distinctive shape by removing its four corners and making it round. The Moderns did not approve of this practice, and I do not think it should be adopted. The corners of the base relate to those of the capital, and the base would seem mutilated without them, because the proportionality [*analogie*] of bases in the other orders demands that there be some reason for their removal. Were there any reason for doing so, it would be in buildings where columns are placed in a circle, such as in peripteral round temples, where the square corners of the plinths conflict with the curved step or pedestal that supports them. Nevertheless, we never see the Ancients make plinths round in order to alleviate this shortcoming. Rather, they preferred to remove them altogether, as we may see at the Temples of Vesta in Rome and the Sibyl at Tivoli. But even if there are some buildings where these corners should be removed, there is no reason to remove them in the Tuscan Order rather than in the others.

SHAFT OF THE COLUMN

There are two things to be regulated in the shaft of the Tuscan column. The first is the diminution, which was discussed in part 1, where we said that it should be greater

than in the other orders. There I put forward my reasons for making it a sixth of the diameter of the base of the column shaft, which is half a small module and makes five minutes on either side, rather than, as in all the other orders, only a seventh part and one half, which is two fifths of the small module and makes one fifth on either side: that is, only four minutes. The second thing to be regulated concerns the lip at the bottom of the column and the astragal at the top. We have said that these elements should have the same proportions in all the orders and that we give the lip a twentieth part of a column diameter, the astragal an eighteenth, and the fillet below the astragal half of that. We have also said that the projection of the astragal, at one fifth of the small module, equals that of the lip, which is four minutes, taken from the surface of the column shaft.

CAPITAL

The capital is the same height as the base, and we divide it into three parts: one for the abacus, another for the echinus or ovolo, and the third for the neck together with the astragal and fillet below the echinus. The character of this capital calls for a simple abacus with no ogee, and under the echinus there are no annulets, as there are in the Doric, but rather an astragal and a fillet. The proportions of these moldings are found by subdividing the third part of the capital into eight, for we give two of these eighths to the astragal and one to the fillet underneath, with the remainder taken for the neck. The overall projection of the capital is equal to that of the lip at the base of the column shaft and is eight and one-half fifths, taken from the center of the column. The projection of the astragal under the echinus, like that of the astragal at the top of the column, is seven fifths.

Vitruvius and most of the Moderns, who make the diminution of the Tuscan column very large, give very little width to its capital, so that it extends outward only as far as the diameter of the base of the column.

Authors agree neither amongst themselves nor with the Ancients as to the character of this capital. We find in Palladio and Serlio, as in Vitruvius and in Trajan's Column, an abacus that is quite simple and without an ogee. Vignola and Scamozzi give it a fillet instead of an ogee. Philander removes the corners and makes it round,⁴⁰ perhaps to make it similar to the base whose plinth Vitruvius would have round in this way. Trajan's Column has no neck, so that the astragal of the column shaft merges with that of the capital, and only Vitruvius and Scamozzi put the astragal with its fillet below the echinus. Others, like Philander, Palladio, Serlio, and Vignola, put only a fillet there. Nor are they any more in agreement about proportions, for some, like Philander, include the astragal and the fillet at the top of the column in the third part of the capital, which Vitruvius gives to the neck and astragal under the echinus.

102 Others, like Serlio and Vignola, give the entire third part to the neck and include the fillet under the echinus in the second part, which in Vitruvius includes only the echinus. Others, like Palladio, give an entire third to the echinus and put only a fillet where Vitruvius puts both an astragal and a fillet. Among all these variations, I have chosen the manner of Vitruvius, which seems to me more agreeable and more in accord with the proportionality and rule common to all capitals: that is, that they be a little more ornamented and less simple than bases, for without the astragal that Vitruvius places under the echinus, the Tuscan capital would differ in no way from the base.

The entablature has six modules, as we have said, and we divide the whole of it into twenty parts, as we do in all the other orders, except the Doric, as already noted. We give six of these parts to the architrave, in which the fillet has one. The frieze also has six parts. Of the eight parts remaining for the cornice, two are given to a large ogee, which is its lowest element; one half to the fillet of this ogee; two and one half to the corona; one to an astragal with its fillet, which is half the height of the astragal; and two to a quarter round that acts as a large cymatium. The projections are determined by the same fifths of the small module that regulate all the other projections. In this way, we give three fifths to the large ogee with its fillet, taken from the surface of the frieze, seven and one half to the corona, nine to the astragal with its fillet, and twelve to the quarter round.

Authors differ greatly as to the proportions and character of the entablature of the Tuscan Order. Regarding the proportions of its three parts, Vitruvius makes the architrave not only larger than the frieze but larger even than the cornice. Palladio also makes the architrave very high and larger than the frieze. Vignola makes it smaller. I have imitated Serlio in making the architrave equal to the frieze.

As for the character of the entablature, Vitruvius and Palladio make the architrave a single square beam; whereas, Scamozzi makes it excessively ornamented, as he does the cornice, where he uses as many ornaments as in the Doric Order. He even puts a kind of triglyph without grooves in the frieze. Serlio's approach is completely the opposite, making his cornice so stark that it has only three elements to Scamozzi's ten. The cornice I propose, which corresponds closely to Vignola's, is midway between the extremes of Scamozzi's delicacy and number of moldings and Serlio's excessive simplicity.

EXPLANATION OF THE SECOND PLATE

A.—*Tuscan base according to the proportions of Vitruvius.*

B.—*Scamozzi's base, where the plinth and the torus are higher than in Vitruvius so that the fillet or lip is not included in the base as in other versions.*

C.—*Serlio's base, where the fillet or lip is much larger.*

K.⁴¹—*Diminution of the column shaft, which is a sixth part of the diameter at the base of the column.*

D.—*The capital, according to Vitruvius, where the abacus has neither an ogee nor a fillet, where the echinus comprises the entire second part of the capital, and where there is an astragal under the echinus.*

E.—*Scamozzi's capital, without an astragal.*

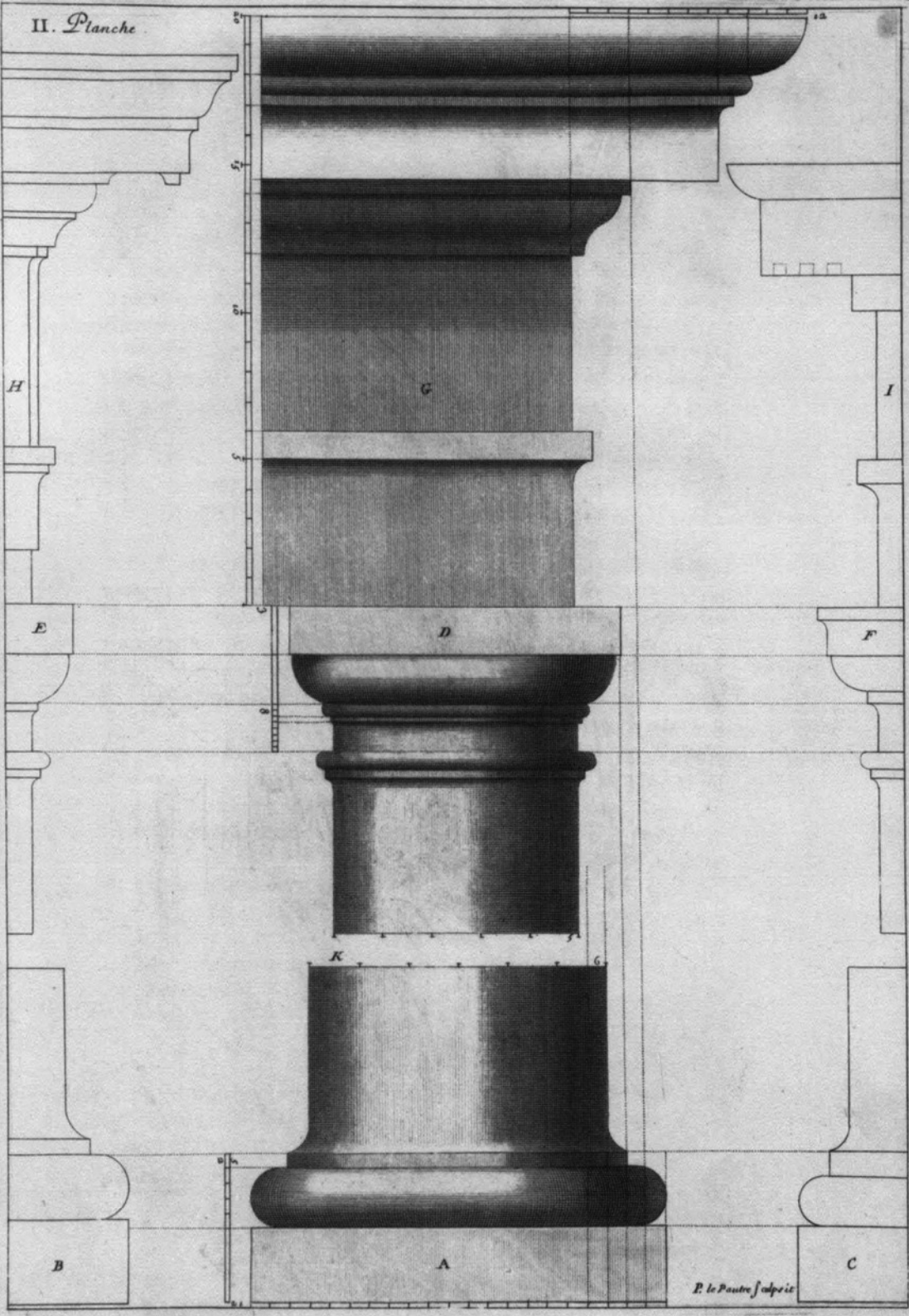
F.—*Serlio's capital, where the abacus has a fillet; where the echinus does not take up all of the second part of the capital but leaves room for a fillet under the echinus; and where the third part is given over entirely to the neck of the capital.*

G.—*The entablature, where the architrave is equal to the frieze and where the cornice is made up of six moldings.*

H.—*Scamozzi's entablature, where the architrave, which is smaller than the frieze, is made up of two fascia and a fillet under the taenia; where the frieze has a kind of triglyph without grooves; and where the cornice is made up of ten moldings.*

I.—*Serlio's entablature, where the frieze is equal to the architrave, and where the cornice is made up of only three moldings.*

II. Planche



P. le Pautre sculpteur

Chapter II
The Doric Order

IT WOULD BE MORE NATURAL, in dealing with the orders, to begin with the Doric, since it is the most ancient order and the one on which the Tuscan and the others were modeled. Nevertheless, the custom of dealing with the Tuscan before the Doric is reasonably founded, since the sequence and position of the different orders, when used together in buildings, is to place and build the most massive ones first, as those capable of carrying the others.

The general proportions of the Doric Order, which make it lighter and less massive than the Tuscan, were established in part I, where we said that the whole order is thirty-seven small modules, with seven for the pedestal, twenty-four for the column, and six for the entablature. This is in keeping with the progressive increase in height of three modules from one order to the next, which includes an increase of one module in the pedestal and two in the column. For the whole Tuscan Order is only thirty-four modules, with the column twenty-two, the pedestal six, and the entablature, which is always the same in all the orders, also six. The proportions and particular characters of these three parts remain to be determined. The heights of the principal parts of the pedestal have also been established: that is, an eighth part of the whole pedestal for the cornice, a fourth for the base, and a third of the base for its moldings, leaving the other two thirds for the plinth.

BASE OF THE PEDESTAL

To obtain the proportions of the moldings of the base of the pedestal, we divide the third of the base allocated to them into seven parts, as we said in the previous chapter. We give four of these seven parts to the torus, which rests on the plinth, and three to the cavetto together with the fillet below it, these being the three elements that, as we said, make up the moldings. The projection of the torus is equal to that of the whole base, and the projection of the cavetto is two fifths of the small module beyond the surface of the dado. Authors differ as to the character of this base. Palladio gives it a fourth element, which is a fillet located between the torus and the fillet of the cavetto, and Scamozzi locates a cyma recta there. Vignola and Serlio give it greater simplicity, and I have followed them in this, because simplicity is appropriate in an order that is itself simple. Since I gave only two elements to the moldings of the base of the Tuscan pedestal, I give three to the Doric and maintain the same progression in the other orders, increasing the number of elements as the delicacy of the orders increases.