

## The Apogee of Perspective in the Theatre: Ferdinando Bibiena's *Scena per angolo*

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The *scena per angolo*, a phrase coined by Ferdinando Galli Bibiena in his 1711 publication, *L'architettura civile*,<sup>1</sup> is the consummate expression of high baroque scenography. *Per angolo* designs for stage sets typically show corners of palatial interiors or courtyards through the use of multiple vanishing points [Fig. 14]. Secondary diagonals which radiate off the major oblique lines defining the space lead the eye, as well as the understanding, into an implied infinity beyond the frame of the proscenium and mirror the early eighteenth century's fascination with, and indeed insistence upon, boundless space. Even theatrical designs whose main vanishing points are on the centre line rely heavily on multiple minor vanishing points to provide the essential dynamic diagonal thrust beyond the implied boundary of the proscenium.

The *scena per angolo* was an invention of the eighteenth century. It answered the persistent attraction of infinity, provided the possibility for the implication of space vastly greater than the actual dimensions of the stage and was relentlessly vibrant in its manipulation of volume as well as of surface detail. After Bibiena's publication the *scena per angolo* became an expression so endemic of the period that virtually all unassignable theatrical designs are attributed to 'Bibiena'.

Bibienna claimed to have invented the *scena per angolo*. However, he did not invent two-point perspective for that had been employed by artists at least two hundred years prior to 1711. Nor was he the first to have used two-point perspective in theatrical design for even Sabbatini in his treatise, *Pratica di fabricar scene e machine ne' teatri* (1638) clearly shows in Operations 25 and 26 how to employ this technique. Bibiena surely invented something – his influence has been far too pervasive to allow that his only contribution was to language. What Ferdinando Bibiena, father of a family of architects and scenographers who were a dominating force throughout the *settecento*, did invent was a new way of realizing two-point perspective on stage. His great contribution was not a new way of seeing or drawing but a practical technique for using the two-dimensional surfaces of stagecraft in unique configurations.

A brief look at the development of perspective in art and on stage will provide a framework for appreciating the *scena per angolo*'s novelty. The science of drawing in perspective was one of the essentials necessary to bring the visual arts out of the Middle Ages into the Renaissance. All per-

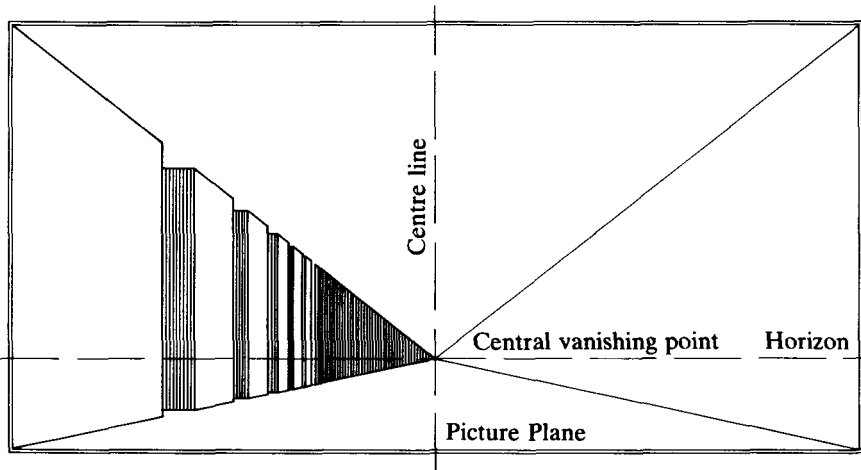


Figure 15a—One-point perspective with the vanishing point on the centre line. (sketch by the author).

spective rendering requires a picture plane, a horizon line and a point of view, or focal point, some distance from the picture plane. The picture plane is the defined area of the view to be represented – that is, the canvas, the rectangle inscribed on paper or, in later theatrical manifestations, the proscenium arch. The horizon line is by definition at the eye-level of the artist and represents infinity. The focal point is set at the distance from the picture plane which will result in the most accurate, that is, ‘true-to-life’, representation of the objects depicted. Vanishing points are established on the horizon according to technique and the ‘actual’ arrangement of the subject matter.

Perspective in its simplest form uses a single vanishing point normally set on the centre line [Fig. 15a]. The effect for the viewer is one of standing in the middle of an interminable street with the buildings on either side gradually decreasing in height until they disappear into infinity. A variation of this very symmetrical arrangement continues to use a single vanishing point but places it off centre [Fig. 15b]. This is termed oblique one-point perspective. Although the vanishing point still remains within the picture plane the stronger diagonal creates a greater sense of movement and provides an alternative to the absolute symmetry of central vanishing point compositions.

One of the greatest problems inherent in one-point perspective is the representation of infinity – that spot to which all lines and eyes are directed. It became clear to artists that the inexorable movement toward the horizon had to be stopped before infinity was reached. The most

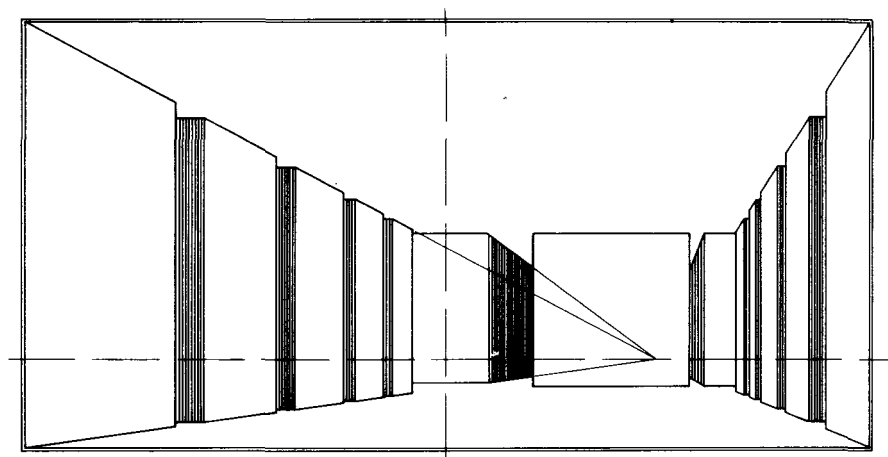


Figure 15b—One-point perspective with the vanishing point off-centre and occluded by a transverse plane. (sketch by the author).

common solution to the problem was to end the street by placing a large structure on the centre line thus effectively arresting the visual thrust into those vast reaches.

As early as 1505 the Viator (Jean Pelerin) published an even more efficient solution to the problems of the basic technique – two-point perspective.<sup>2</sup> With two vanishing points outside of the picture plane, depth and distance can be shown with limitless variety. To use Ferdinando Bibiena's terminology, we view the scene *per angolo*.

Turning now to perspective on stage we find that Serlio has left, if not the earliest, certainly the most detailed and influential Renaissance scenic designs in his *Architettura* (1545). His plans and drawings all use simple one-point perspective and end the relatively short central street with large buildings placed upstage on the centre line. The manner of actualizing the perspective scene on stage involved the placement of 'L'-shaped units of flats on a floor raked upward toward the horizon line. For Serlio the picture plane was established by the non-perspective faces of the downstage buildings on either side of the stage. His focal point was determined by the viewing position of the prince or duke, i.e., the most important audience member. The playing area was on a flat platform, downstage of the receding scenery – a kind of middle ground between the real audience and the fictive depiction of depth.

In adapting one-point perspective to the stage Serlio represented the intersection of streets – one parallel to the picture plane and in front of it, the other perpendicular to that plane and lying on the longitudinal centre line of the hall. The axial orientation of the architectural volume which

contained both stage and auditorium dictated the scenic axes. For almost 160 years this relationship would be the basis for all perspective design in the theatre.

It is worth remembering that Serlio was not designing for a given stage. There were no Italian theatres *per se* at that period. Serlio's work was created in large halls of palaces – where the audience and the scenic appurtenances shared the same visible walls. When theatres came to be built they deviated only slightly from the groundwork laid down by Renaissance scenographers.

Excepting the beautiful but aberrant work of Palladio/Scamozzi the first stages built in Italy were designed for the kind of perspective realizations that had been developed by Parigi and Buotalenti among others and codified by Serlio and Sabbatini. The essential requirements were still a picture plane which became defined by a proscenium arch as scene changes became an important aspect of dramatic – especially operatic – presentations, a raked stage rising toward the horizon line, and a specific place from which the picture on stage would seem perfectly realized.

To a very real extent the development of scene design was the development of perspective. Bieber, in referring to very early design, was moved to say, 'Skenographia became identical with perspective'.<sup>3</sup> The science of rendering depth in painting, whether on canvas or walls, employs an absolute two-dimensional surface upon which three-dimensional objects are represented primarily with diagonal lines abetted by some change in local colour as though enhanced by atmospheric effects. (The exception to this rule is the painting of depth/height on ceilings – *sotto in su* – in which the horizontal surface is most often not absolutely flat but eased into the vertical of the walls with curved sweeps.) Occlusion – the implied continuation of a vista behind an obscuring object – was another important attribute of rendering perspective. Low-relief sculpture moulded its actual third dimension into implications of greater depth through the same oblique lines employed by painters. The three-dimensionality of the piece made application of local colour unnecessary but occlusion was employed by relief sculptors to aid in the implication of profound depth.

Stage design's media for presenting depth are a combination of those used by painters and those by sculptors. Two-dimensional flats were the surfaces for painting but they were arranged three-dimensionally within the volume of the stage house. No recorded evidence from the late baroque period has been seen by this writer for the use of any three-dimensional piece on stage beyond occasional practical staircases and the relatively peripetetic 'machine'. The entire three-dimensional representation was built exclusively from a series of free-standing two-dimensional planes. After the early employment of two flats joined to resemble the corner of a building (i.e., Serlio) and the later essays in which downstage

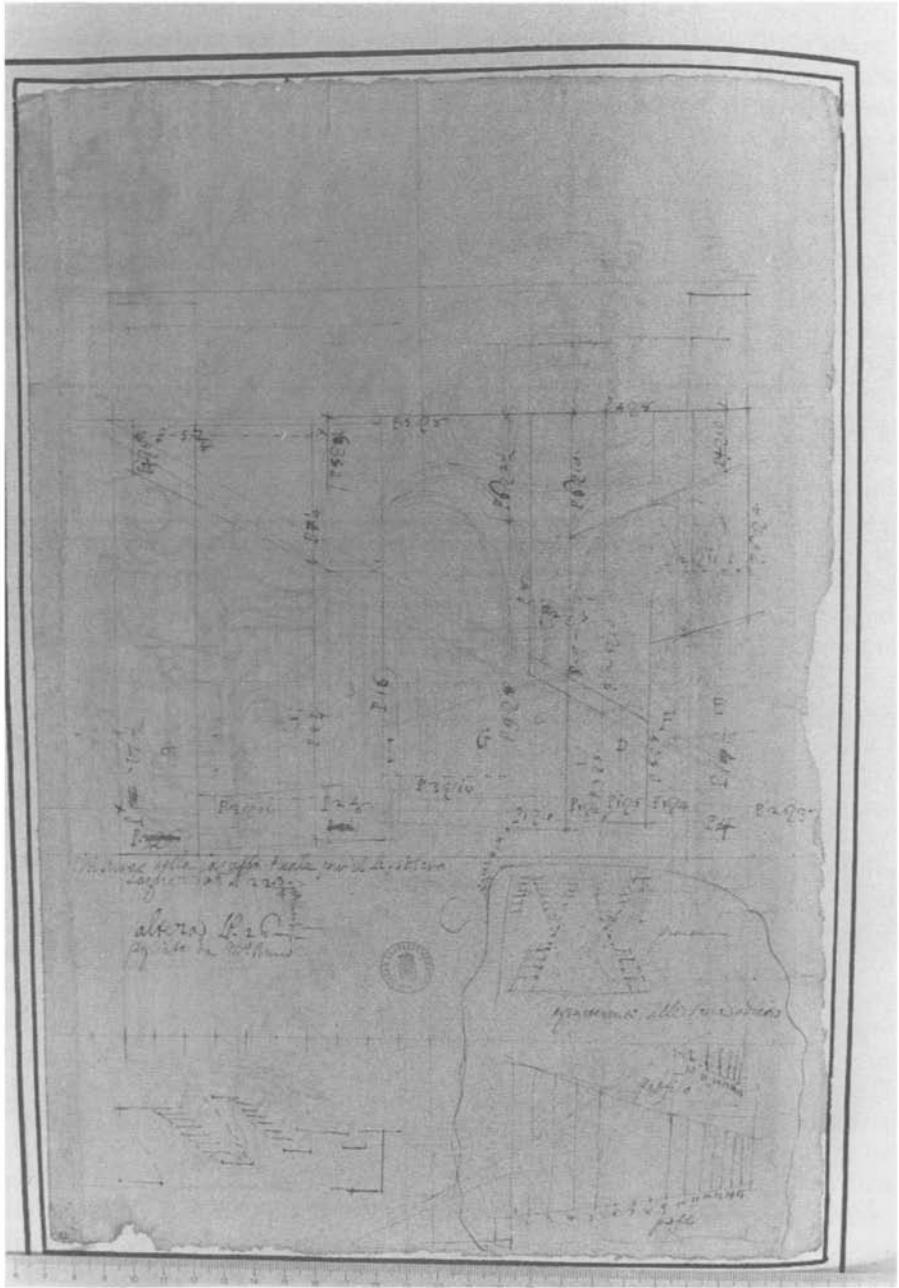


Figure 16—Ferdinando Bibiena. Working drawings for a *Capella Reale*. (Munich Staatliche Graphische Sammlung)

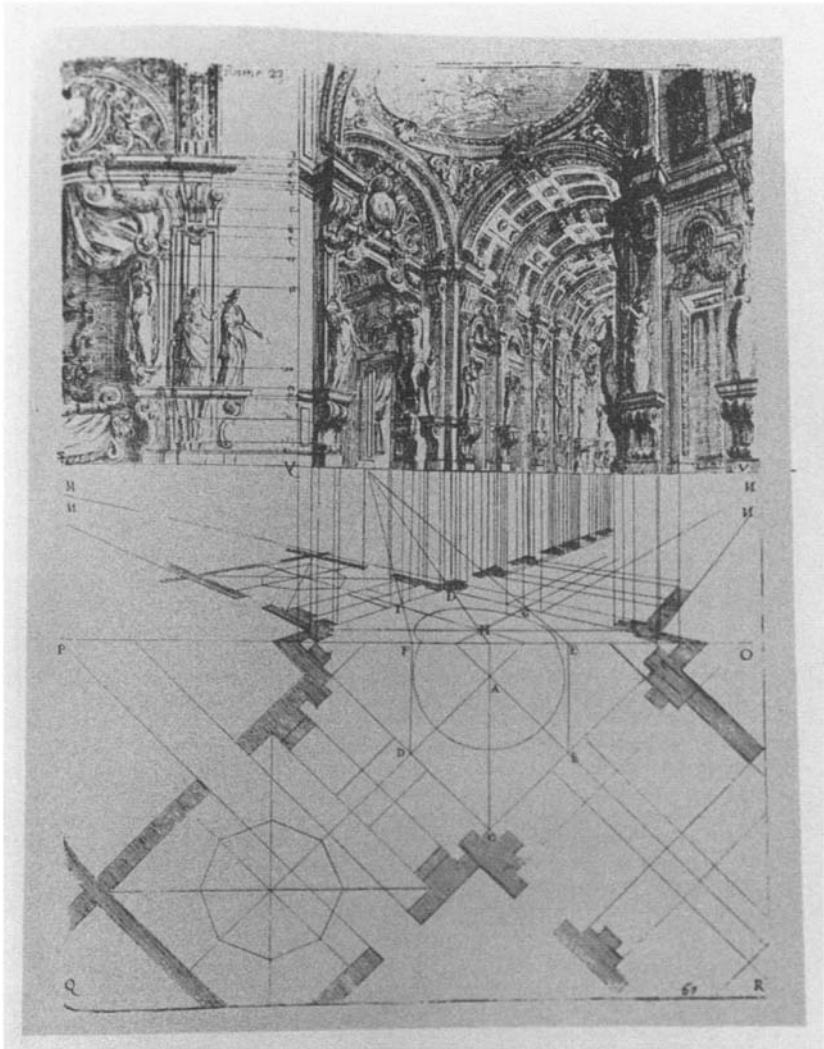


Figure 17—Ferdinando Bibiena. *Operation 68. L'architettura civile* (Parma, 1711)

flats were angled slightly toward up centre, by the late seventeenth century flats were, for the most part, placed parallel to the picture plane. Serlio could use semi-three-dimensional surfaces because he was concerned with only one set for each dramatic representation. Sabbattini provided some wonderfully amusing ways of diverting the audience's attention so that the scenery could be changed unobtrusively but these attempts to solve the increasing need for transitions were obviously only stop-gap measures. By the time baroque design reached its full expression transformations and other scene-changes had become of paramount importance. There had to be a way to accommodate several scene changes within any performance.

The inventions of Jacopo Torelli, 'il gran stregone' of Venice, not only provided the ultimate solutions to the requisites of baroque theatre but also made the perpetuation of the kind of stage which could house those innovations an inevitability. Torelli's system of floor slots, carriages and winches was the means to realize the mid-seventeenth century's demand for many and varied changes between (and within) scenes. Inherent in Torelli's machinery was a counter-balance between the two sides of the stage and a virtual repetition of groundplans, especially in the downstage areas, from one scene to the next. The painted flats magically changed *a vista* providing visual variety. The groundplans retained the same essential lay-out throughout the piece.

Torelli's influence was universal and pervasive. Theatres were built and scenery was designed to accommodate multitudes of scene changes and always the two sides of the stage were virtually symmetrical. Then toward the end of the seventeenth century we find records of flats being placed by hand (rather than with the chariot system) in the upstage areas – at the same time that reforms in the style of writing libretti for operas were calling for fewer locations for the action. The way was clear for Ferdinando to step forward with his *scena per angolo*.

What is presented in Bibiena's *L'architettura* is a way to draw a structure using two-point perspective. The technique was one used by the *quadraturisti*, Bolognese specialists in architectural perspective drawings mostly applied in murals and *sott' in su*. The actual ground plan of the building to be represented was first put into two-point perspective and then elevated into a view. In discussing 'How to design another scene viewed at an angle – a hall or a room' Bibiena shows how to apply the technique to interior spaces. He concludes with the assertion, '... whoever understands this well, already having command of all the preceding work in perspective, will not need further instruction'.<sup>4</sup>

Unfortunately this has not been the case. What is clear is the method of perspective drawing and the fact that Bibiena abandoned the traditional practice of continuing the axis of the auditorium onto the stage. He dared

to rotate the longitudinal centre line into a dynamic oblique composition but understanding how this was actualized on stage has been occluded by our own preconceptions of stage practices. What was painted on each flat and where those flats were placed on stage has never been clear to scholars interested in such details.

The answer to the question of how the *scena per angolo* was realized is not to be found in Ferdinando Bibiena's publications, in the many series of engravings of the Bibienas' work, nor in the lavishly painted renderings, executed in particular by Bibiena's most gifted son Giuseppe. These all show how the designs were ideally meant to appear. Technical solutions can only be understood through the examination of technical drawings. Happily, such drawings do exist. Various *pensieri* and 'back-of-the-envelope' sketches have been gathered together by devoted followers. There are many sketches of ground plans – some even accompanying a view of the scene – but there is no sure way of knowing what was painted on each flat. There are renderings which may show *a verso* the shape of the individual pieces but there is still the question of the arrangement of the flats on stage. What is needed for complete understanding is a group of drawings, all referring to the same design.

The collection of the Staatliche Graphische Sammlung, Munich, contains the greatest wealth of practical information studied by this writer. In fact that repository holds several drawings which provide enough information about the *scena per angolo* to extract a precise method of actualization. There are groups of sketches of the scenery accompanied by definite ground plans with clear indications of the arrangement of flats, their heights and shapes, as well as what was to be painted on each flat.

The most illuminating drawing [Fig. 16] is of profound importance because it appears to be of a scene design remarkably similar to, if it is not indeed, the hall Bibiena used as his example of the interior *scena per angolo* in *L'architettura* [Fig. 17]. On this sheet is a rough drawing of the way the stage will appear. Flats are clearly shown and drawn to scale on a raked stage. The centre line is indicated, as are the horizon line and the two vanishing points. Below the brief notations: 'Misura della Capella Reale per il Sepolcro; Larghezza P22  $\frac{3}{4}$ ; altera P26; pigliata da M Bruno' is Bibiena's typical dissection of one-half of the stage into ten equal parts. (See *L'architettura*, Operation 60, for example.) Under that is a hasty and unfortunately not-to-scale ground plan of the setting. (The lower right corner of the page is devoted to the plan and centre line section for another design.) The series of drawings has been preserved in process. Bibiena changed his mind, left omissions and made some apparent errors in his addition. Clearly they were not intended to be sent to an unsupervised scene shop but they do provide us with enough information to reconstruct the way such a setting would be built.



Bibiena has indicated all measurements as 'P'. Taking 'P' to represent *piede di Bologna* the stage width would be c.40 feet and the heights of the downstage flats A and E would be c.22 feet 4 inches – dimensions well within the possibilities of the baroque stage house. For my working drawings I have chosen to use any convenient scale of inches since the *piede di Bologna* was divided into twelve parts. The human height of 5' 9" becomes in proportion 4&6 'piedi'.

An elevation was first made of the basic shapes and their arrangement across the stage [Fig. 18]. Onto these shapes I transferred the more elaborate design as seen in Operation 68 and in the original drawing for that plate, being guided as much as possible by the arch and vault indications on the working drawing [Fig. 19]. It will be noted that only two substantial alterations were necessary to transfer the 'sala' design onto the 'capella' plans – the stage right doorway becomes a corridor and the stage left transom of flat 'C' is lowered approximately P3. The next step was to place those flats into the third dimension by approximating the unscaled groundplan. The model shows the satisfying result of this process [Fig. 20].

Bibiena's plan shows that despite the apparent architectural planes the flats are actually arranged parallel to the proscenium/picture plane. (Flats other than parallel to the picture plane are to be found among Ferdinando's sketches but they almost always are used to enclose the upstage area into a kind of apse or semi-rotunda [see for example *Direzione*, Operation 69, Fig. 21]). The semblance of walls meeting in a corner is achieved through careful manipulation of perspective lines painted on two-dimensional surfaces as well as the multiple perforations in the supposed structure. Repetition of such architectonic details as pilasters made the theatrical technique feasible.

A major question about the *scena per angolo's* placement on stage still exists: was it placed above the downstage wings or did it stand next to the proscenium? Bibiena's width of forty feet is possible in either position but that dimension would be expected to be as far downstage as practical. Because he does not provide an answer in this drawing we must turn to other sources to effect a reasonable surmise. In virtually every plan which indicates the proscenium a series of side wings are shown downstage. Furthermore, renderings and engravings of designs either show these wings or, if they are not represented, seem to imply their existence (see for example Giuseppe's (?) 'Luogo magnifico', [Fig. 22]).

The argument for downstage wings in designs such as the 'sala' in question may proceed from three additional points – 1) sightlines, 2) axial orientation and 3) playing area for the performers. Bibiena's concern with sightlines is often mentioned in *L'architettura*. The placement of the *scena per angolo* some 10 or 12 feet upstage would help substantially in restricting

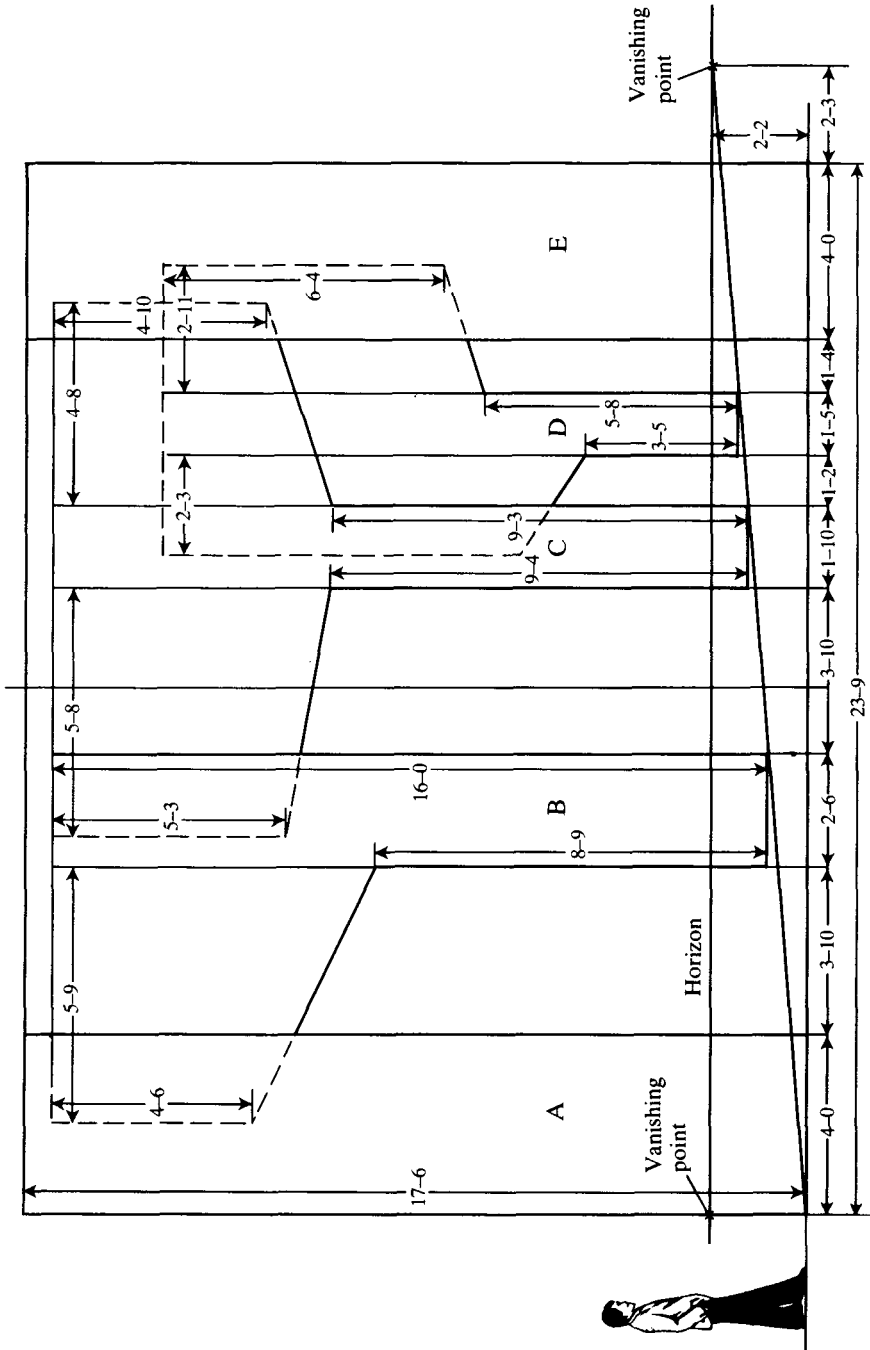
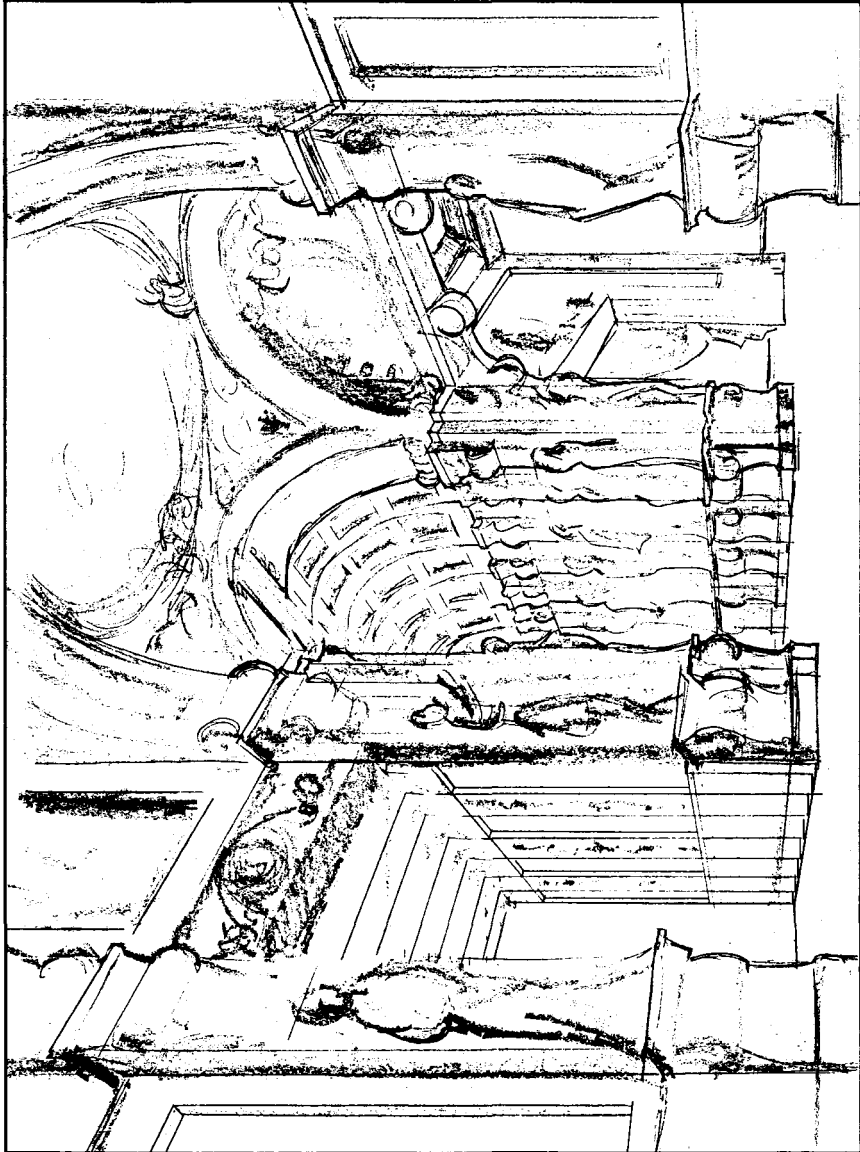
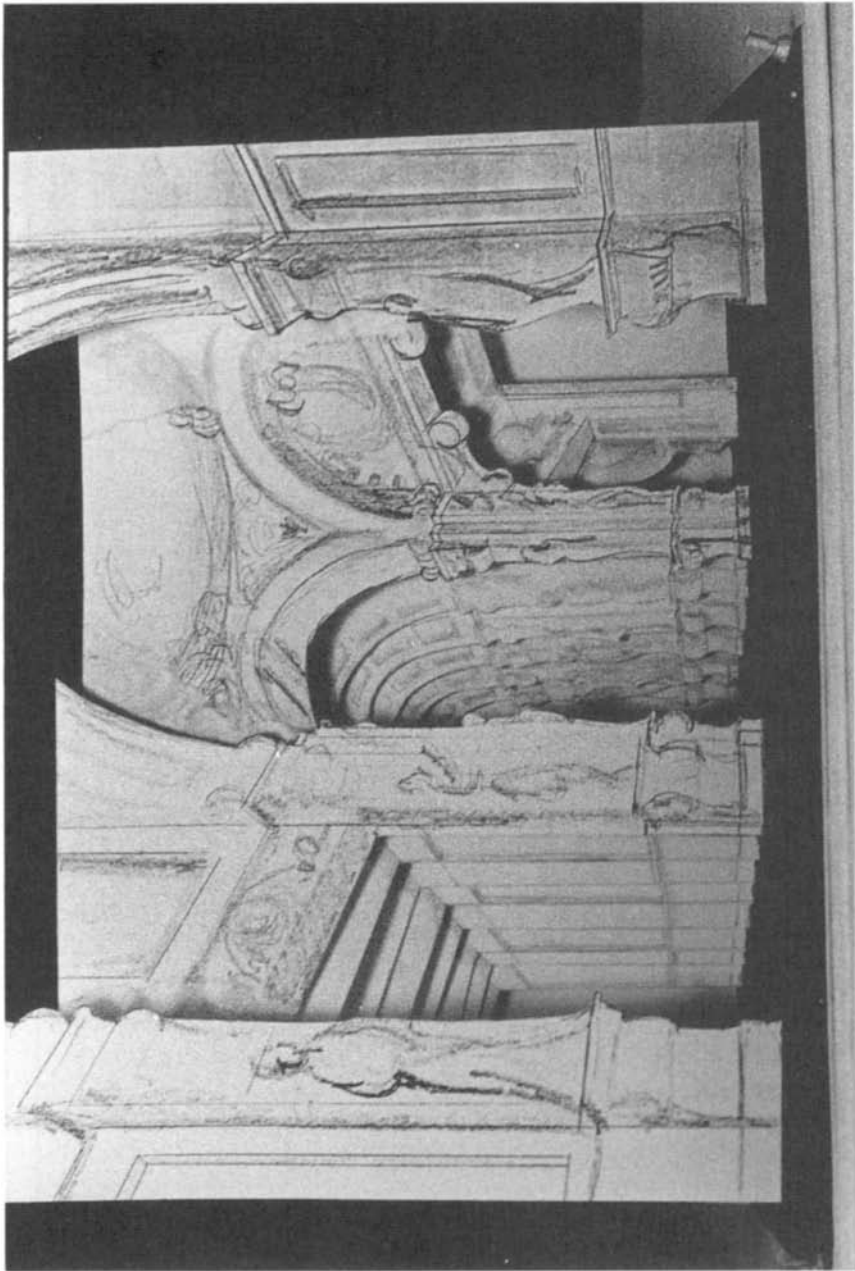


Figure 18—Scaled elevation made by the author from Bibiena's working drawing



*Figure 19—Sketch by the author applying scenic details from the ‘Sala o stanza’ onto the elevation*



*Figure 20—Photograph of the paper model built by the author*

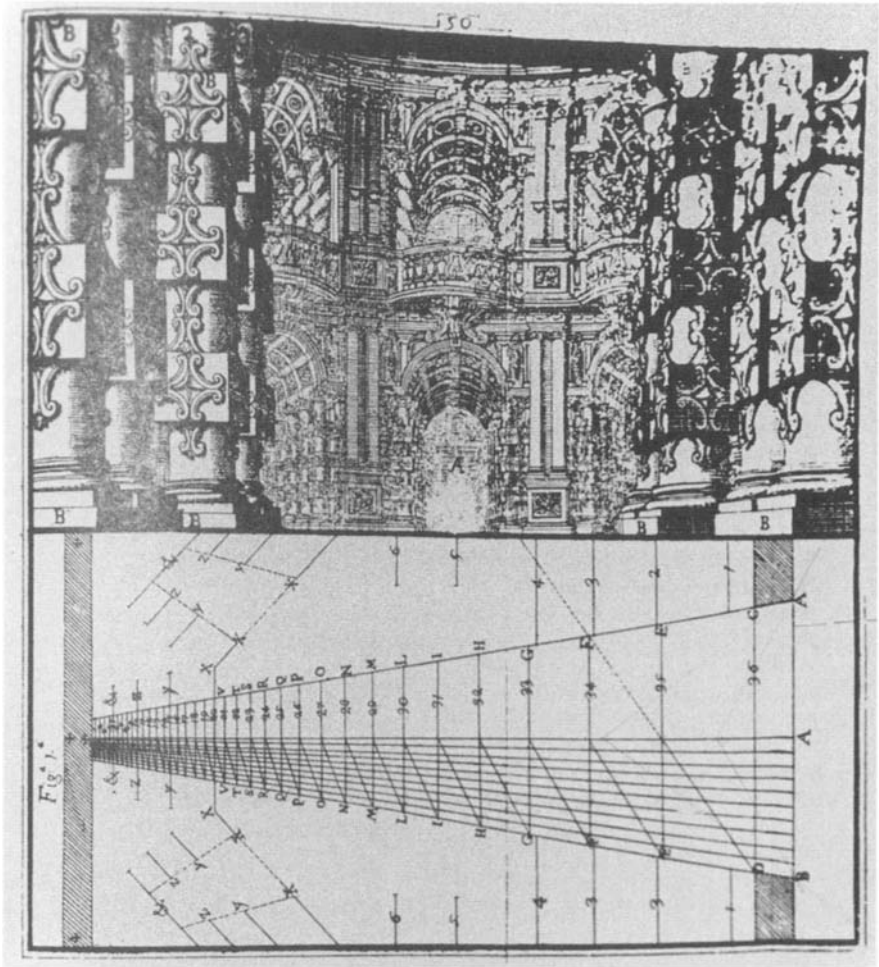


Figure 21—Ferdinando Bibiena. Operation 69. Direzione della prospettiva teorica (Bologna, 1732). Reproduced in Dunbar H. Ogden, *The Italian Baroque Stage*. University of California Press, 1978. p. 69

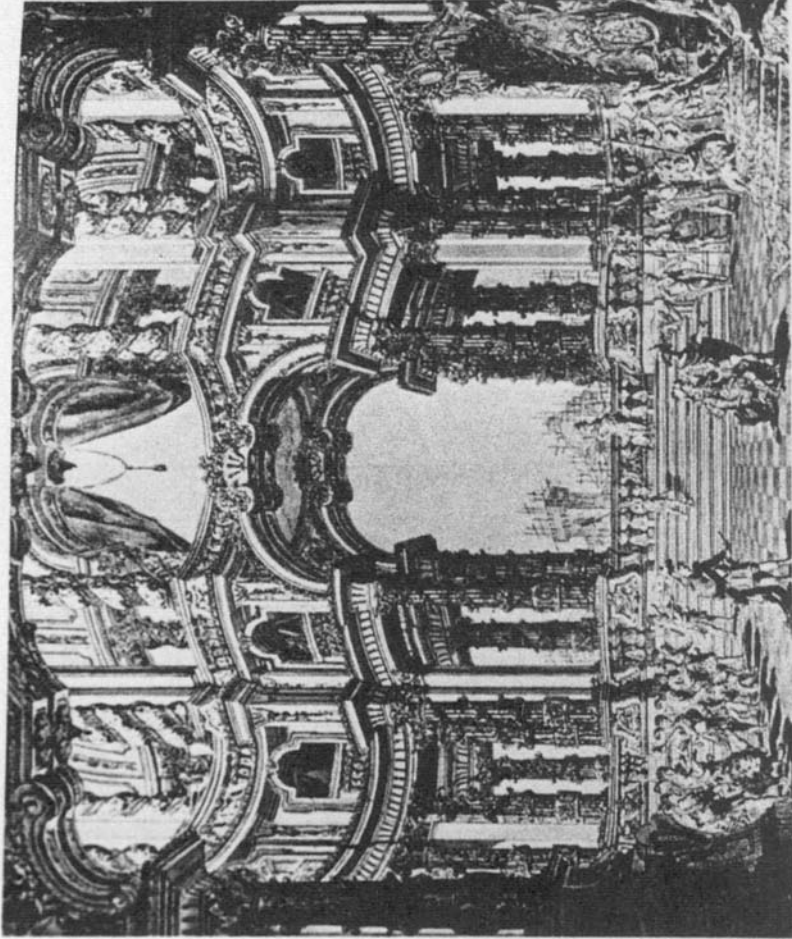


Figure 22—Giuseppe (?) Bibiena. 'Luogo magnifico destinato alle pubbliche udienze'. *Munich Theatrumuseum*. Reproduced in *Maria Teresa Muraro and Elena Povoleto, Disegni teatrali dei Bibiena. Catalogo della Mostra. Vicenza: Neri Pozza Editore, 1970. Pl. 75*

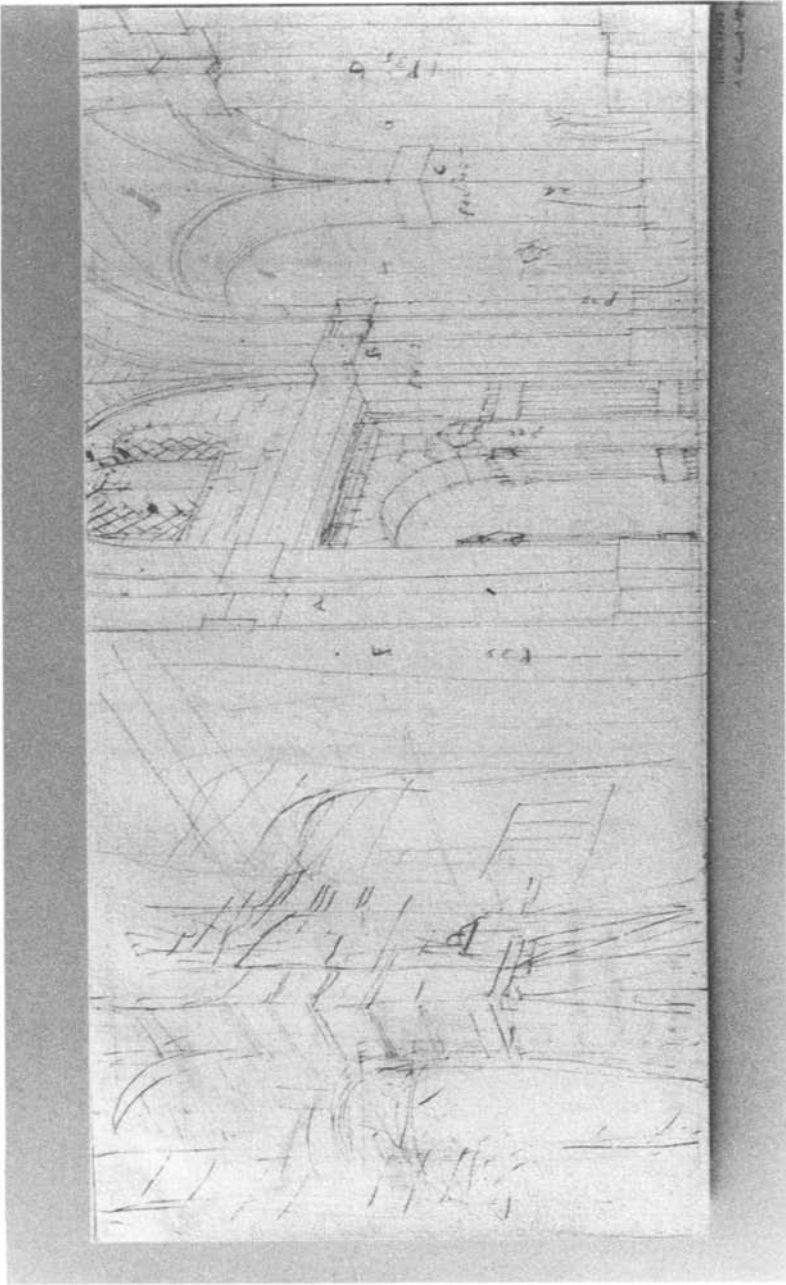


Figure 23—Ferdinando Bibiena. Prison scene. (Munich Staatliche Graphische Sammlung)

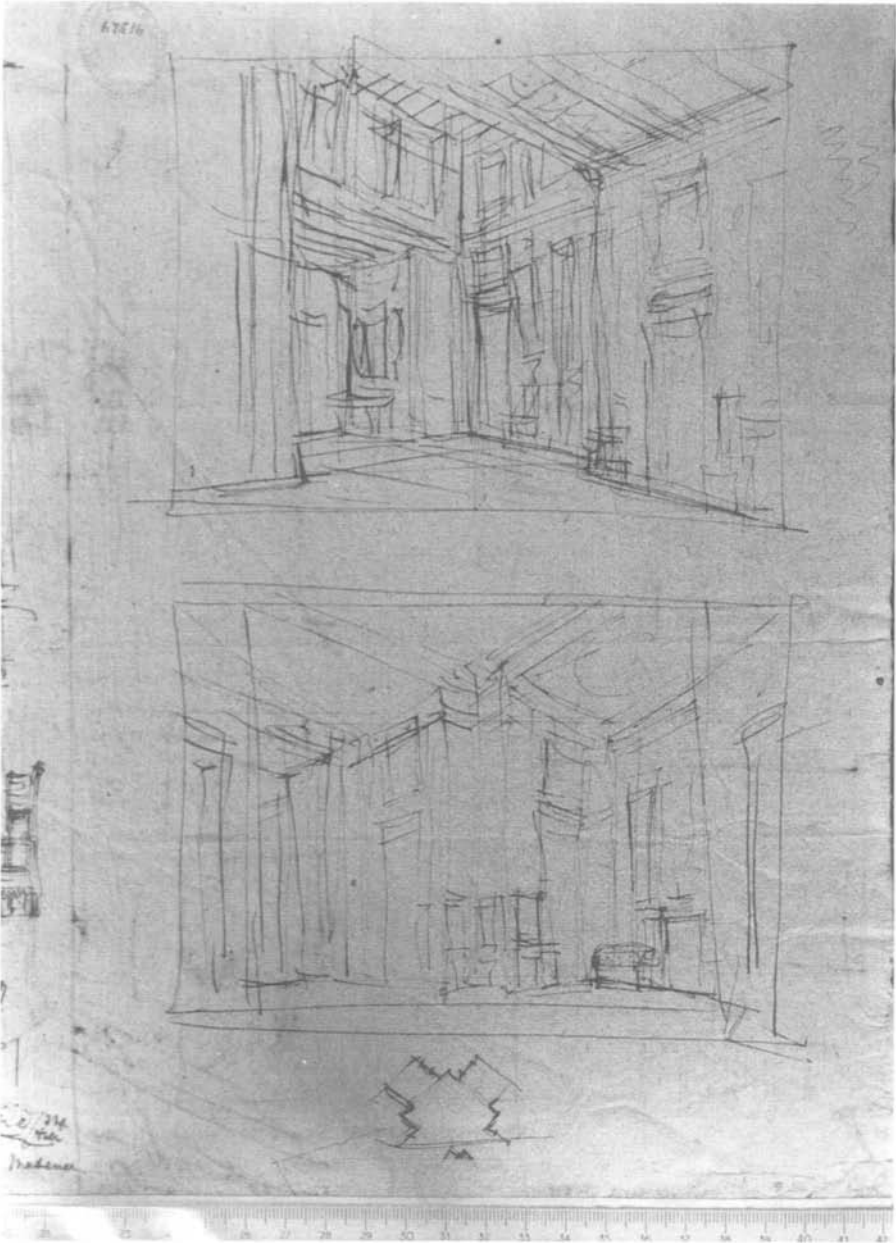


Figure 24—Ferdinando Bibiena. *Commedia* scene. (Munich Staatliche Graphische Sammlung)



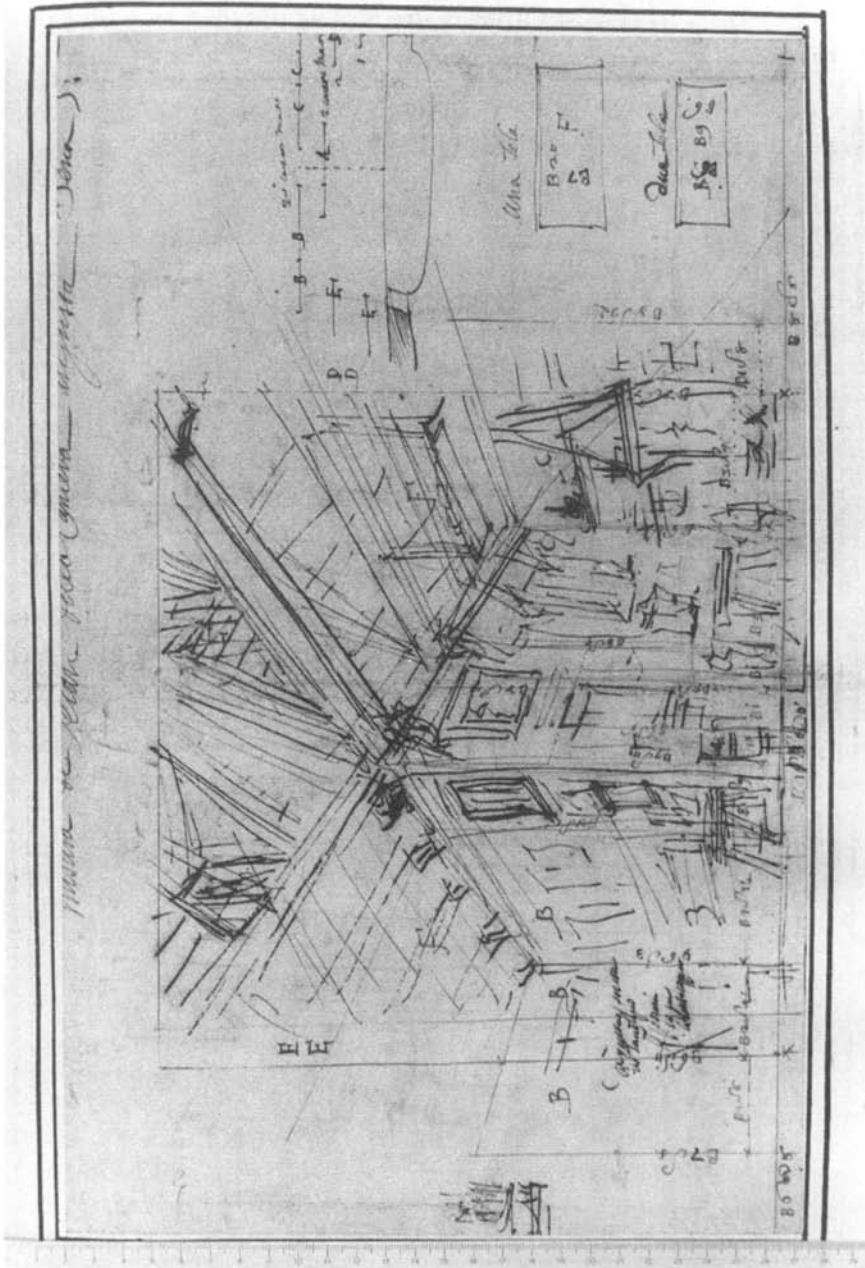


Figure 25—Ferdinando Bibiena. Commedia scene. (Munich Staatliche Graphische Sammlung)

the view of the audience. We have seen that his designs rotated the longitudinal axis but a kind of transition area between the audience and the illusion which at the same time provided suitable performance space in relatively unforced perspective would seem ideal. It is therefore my proposition that this *scena per angolo* was placed above the first series of wings.

The 'sala o stanza veduta per angolo' just examined is not the only such manifestation in the Munich Staatliche Graphische Sammlung although it is the most complete. There is a prison scene which apparently uses the same techniques [Fig. 23]. The four major flats, again seen to be placed on an inclined floor, are not sufficiently drawn to scale to make reproduction absolutely accurate but there is enough information to see the similarity between the designs. Of great interest are many drawings of *scene per angolo* on a more intimate scale than the grandiose palace and prison locales. Intended for commedia scenes these designs typically depict a view into two arms of a cruciform plan. In one of the drawings the kind of architectural plan from which the scenery was developed is clearly shown [Fig. 24].

Another drawing [Fig. 25] is complete with dimensions (many of which are unfortunately illegible) and almost miraculously an accompanying groundplan with consistently labelled flats and borders. The plan shows free-standing flats parallel to the proscenium with their top edges slanted toward the vanishing points. We are even given the dimensions of the soft borders if not their playing positions. In this case the two flats at D and at E function as the downstage wings.

The *scena per angolo* was realized through magnificently controlled drafting on two-dimensional surfaces. These planes were parallel to the proscenium and arranged along oblique lines leading toward the vanishing points. The 'inventions' of Bibiena were in his axial rotation and in his liberation from the domination of the counter-balanced wing system. The *scena per angolo* epitomized the baroque fascination with the appearance of limitless space through finely-tuned illusion.

#### Notes

1. Ferdinando Galli Bibiena. *L'architettura civile preparata su la geometria, e ridotta alle prospettive*. Parma. 1711.
2. See William M. Ivins, Jr. *On the Rationalization of Sight. With An Examination of Three Renaissance Texts on Perspective*. New York: Da Capo Press, 1973.
3. Margarete Bieber. *The History of the Greek and Roman Theater*. Princeton University Press, 1961. p. 74.
4. Ferdinando. *L'architettura*. Translated by Dunbar H. Ogden. *The Italian Baroque Stage*. University of California Press, 1978. p. 62.