50 · Representations of Territory by Painters, Engineers, and Land Surveyors in France during the Renaissance

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The earliest known French images with topographic elements date from the fifteenth century and were known at the time as *vues figurées, portraits, topographies, peintures,* and *modèles*.[1] Like the earliest English maps that preceded them, each was made with a practical and specific goal in mind.[2] They are scattered in national and local public collections. In this chapter, attention is drawn to examples from different categories of these images. They were used by judges who could not visit disputed territory and by decision makers when planning the development of rivers, canals, or cities. In each case, the images had to be lifelike descriptions, reflecting and evoking reality, to avoid giving rise to new disputes. Images that were used in lawsuits or those that supported the case of engineers responsible for projects seem to have become accepted and widely used without obvious difficulty. This general acceptance was equally the case for perspective views of cities (portraits or *pourtraits*) that both glorified the cities and were indispensable tools for city planners. Estate plans did not evolve as successfully, perhaps because of the insufficient number of land surveyors and certainly due to the poor quality of their work.

As in England, it was the painters along with the civil and military engineers who participated in the evolution of images, portraits, and maps during the fifteenth and sixteenth centuries. The cartographers of the sixteenth century were sometimes referred to as painters: Nicolas de Nicolay is identified as a painter and geographer on his 1544 map of Europe, his first known production. François de La Guillotière's contemporaries spoke highly of the gentleness of his brushwork and his great talent for painting.[3] During the following century, painters, who worked with portable easels, papers, and paints, were replaced by land surveyors. By the mid-seventeenth century, one of the land surveyor's roles was to construct estate maps to complement the *terriers* or land descriptions that had developed as early as the fourteenth century.

MAPS AND PLANS RELATING TO DISPUTES

In 1970, Dainville drew attention to a category of maps that had been long forgotten: the maps drawn to settle disputes. These maps tried to record the linear boundaries demarcating a plot of land and corresponding, on the ground, with such marks as stones, crosses, or other markers unless they coincided with the line of a path or river.[4] Linked to textual documents, these maps each presented an image of the land, but a special image that included only the information needed to clarify or to resolve conflicts. Among the earliest known, dating to the beginning of the fifteenth century, are the figurative views of the valley of Château-Dauphin, now in the departmental archives at Isère. These views shed light on the debate of 1420 between the Dauphin Charles and the marquis of Saluzzo about the boundaries of Château-Dauphin (Casteldelfino) and of Sampeyre (Sampeire). At the request of the dauphin's notary, the views were done by a painter who worked on site, constructing a detailed landscape accompanied by notes along with place-names in Latin.

Some fifteenth-century documents were merely simple sketches of a place; others were a combination of planimetry and buildings drawn in elevation, such as the map demarcating the boundary between the states of Dauphiné and Savoy drawn in 1436 by Mathieu Tomassin, who was a member of the Chambre des Comptes of the Dauphiné and a commissioner appointed to determine the borders between these two states.[5] The notations on the document reflect the main points of debate: the destruction of boundary stones after the boundaries were set in 1282, the quality of the contested pastures, and the strategic importance of the woods near the border of the Dauphiné.

Not only kings and princes, but also individuals and organizations had access to maps with styles as diverse as

Abbreviations used in this chapter include: ANF for Archives Nationales de France, Paris.

1. François de Dainville, *Le langage des géographes: Termes, signes, couleurs des cartes anciennes, 1500–1800* (Paris: A. et J. Picard, 1964).

2. R. A. Skelton and P. D. A. Harvey, eds., *Local Maps and Plans from Medieval England* (Oxford: Clarendon Press, 1986), 5.

3. See the chapter 48 in this volume on the maps of France and the provinces.

4. François de Dainville, "Cartes et contestations au XVe siècle," *Imago Mundi* 24 (1970): 99–121; reproduced in idem, *La cartographie reflet de l'histoire* (Geneva: Slatkine, 1986), 177–99. Dainville's examples are used by P. D. A. Harvey in "Local and Regional Cartography in Medieval Europe," in *HC* 1:464–501, esp. 486–93. See also Monique Pelletier, "Vision rapprochée des limites les cartes et 'figures' des XVe et XVIe siècles," *Le Monde des Cartes* 187 (2006): 15–25.

5. Dainville, "Cartes et contestations au XVe siècle," 105–7.

those described above to support their claims. According to Dainville, a new tradition developed from the practice of drawing figurative documents for lawsuits invoked before *parlements* (provincial courts) and before the Counsel of the King.[6] At the end of the fourteenth century, "Somme rural" by Jean Boutillier appeared in manuscript, describing civil law practices in France. The book testified to the use of maps for cases sent to the courts. Published at the end of the fifteenth century, this work appeared in many editions, including a Paris edition of 1611 that still requested that written texts be made available to the court with an *exemple figuré et pourtrait* giving the "location of the inheritance as precisely as possible," so that the judges could have a better mental picture of the site and an understanding of the specific problem.[7] In 1563, Jean Imbert, the magistrate responsible for criminal matters at the royal seat of Fontenay-le-Comte, remarked that "several judges and representatives have made mistakes in drawing these images" and that it had been necessary to redraw them. He advised therefore that the judge choose a reliable painter and have him swear an oath that he will paint the required image accurately and faithfully. The judge should then show him the territory and ensure that the litigants agree upon the image created by the painter. The image, "along with the official report of its construction,"[8] would play an essential role during the lawsuit, functioning as a substitute for land that might be physically near or distant from the judges. When the economic stakes were high, the litigants were prepared to pay a good painter to strengthen their claims. Dainville compiled an important corpus (nonlocalized and still unpublished) of images created in the sixteenth century by the best painters of Burgundy, Avignon, and Picardy for use in judicial cases. This corpus might be complemented by a map, more than three meters long, that was made for a lawsuit at the end of the fifteenth century (plate 61). The map represents the Aa River between Saint-Omer and the mills of the Cistercian Abbey of Blendecques upstream. The manner in which Saint-Omer is represented suggests that the drawing was done by a painter or a miniaturist. The same style is found in a perspective view of the buildings and the enclosure of the Abbey of Saint-Antoine in Paris, a map made in 1481 and copied in the eighteenth century.[9]

Some images produced for lawsuits were known as *tibériades,* as Etienne Tabourot des Accords, a writer from Dijon, explained in *Les bigarrures du seigneur des Accords, quatriesme livre* (1585). After praising the usefulness of cosmography for understanding history and memorizing events, he wrote: "This is why the legal experts say that the most convincing proof is made by the inspection of the sites. If these experts cannot visit the contested lands, they will have topographies and pictures or models made of them, which we call *tibériades,* so named because Bartole was the first legal expert to include images in his works, as he did in his book of *tibériade.* He wrote this

work for the use of those who had land along rivers and prone to alluvial deposits," namely the residents along the banks of the Tiber River.[10] The author cited by Tabourot is Bartolo da Sassoferrato, a lawyer of Perugia, who wrote "De fluminibus seu tiberiadis" in 1355 to help resolve practical problems.[11] With the aid of his brother Guido de Perusio, he drew geometric images, examples of which appear in the manuscripts of "De fluminibus" at the end of the fourteenth century and the beginning of the fifteenth.[12] The judicial court of Burgundy used the name *tibériades* for the images created for lawsuits as early as 1460, and the court of Douai followed its example in the sixteenth century.

One of these *tibériades* was made mid-sixteenth century by Jean II d'Orrain[13] (who was responsible for the glass windows of the Carthusian monastery at Champmol) for the Carthusian monks of Dijon, who were involved in a lawsuit with the seigneur of Soirans (fig. 50.1). The document was used again in other lawsuits, notably for the one between the city of Dijon and the Carthusians, which explains its presence in the municipal archives of the city. This finely executed document traces the Ouche Valley, and thus the route linking Dijon to Plombières-lès-Dijon, and includes a drawing of the château at Talant and the activities on and around the river.

Painters willingly applied their talents in the service of justice. The enameler Bernard Palissy illustrates why by explaining his difficulties and how he was able to deal with them: "I did not have many assets. . . . But I had means that you do not have—I was skilled in topographic drawing [*la pourtraiture*]. People in our country thought that I was much more knowledgeable about the art of painting than I actually was, and because of this, I was often asked to prepare images for lawsuits. When I had these commissions, I was very well paid, enabling me to maintain the glassworks for a long time."[14]

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6. Dainville, "Cartes et contestations au XVe siècle," 117.

7. Jean Boutillier, *Somme rvral; ov, Le grand covstvmier general de practiqve civil et canon* (Paris: Chez Barthelemy Macé, 1611), 208. Boutillier was born in Pernes in Artois between 1325 and 1345; he died in 1395 or 1396.

8. Jean Imbert, *Institutions forenses, ou Practique judiciaire* (Poitiers: Enguilbert de Marnef, 1563), 214–15.

9. ANF, N III Seine 730.

10. Etienne [Estienne] Tabourot, *Le quatriesme des Bigarrures* (Paris: J. Richer, 1614), fol. 7v.

11. On Bartolo da Sassoferrato, see Pierre Legendre, "La France et Bartole," in *Bartolo da Sassoferrato: Studi e documenti per il VI centenario,* 2 vols., ed. Danilo Segolini (Milan: Giuffrè, 1962), 1:133–72.

12. Dainville, "Cartes et contestations au XVe siècle," 118.

13. Eugène Fyot, "Les verrières et verriers d'autrefois à Dijon," *Bulletin Archéologique du Comité des Travaux Historiques et Scientifiques* (1930–31): 571–85, esp. 582.

14. Bernard Palissy, *De l'art de terre, de son utilité, des esmaux et du feu,* in *Œuvres complètes,* 2 vols., ed. Keith Cameron et al., under the direction of Marie-Madeleine Fragonard (Mont-de-Marsan: Editions Interuniversitaires, 1996), 2:285–314, esp. 291.
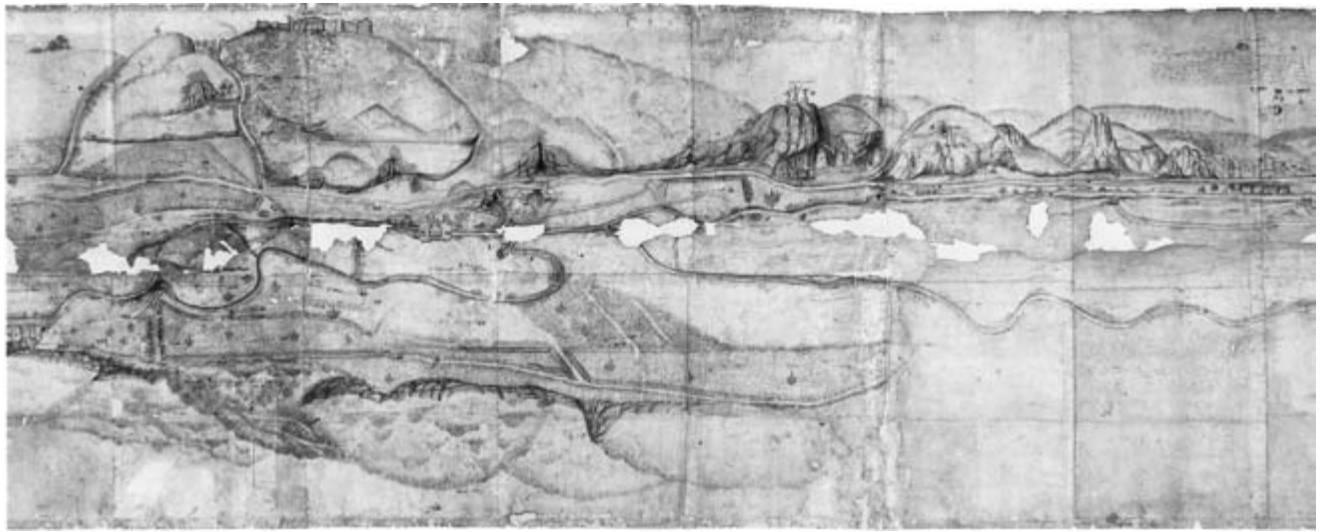
FIG. 50.1. A *TIBÉRIADE* REPRESENTING THE OUCHE VALLEY, DRAWN BY JEAN II D'ORRAIN FOR A LAWSUIT, CA. 1567. Manuscript drawn on paper. The litigants were the Carthusian monks of Dijon and the seigneur of Soirans. This detail shows the Ouche Valley and the château at Talant. Size of the entire original: 140 × 360 cm. Photograph by François Jay. Permission courtesy of the Archives Municipales de Dijon (C 25).

Painters used various techniques of representation. Some artists positioned themselves at the center of the territory that they were representing, observing the elevations that surrounded them (fig. 50.2). This method, used on a large map dated 1530 drawn and signed by the painter François Dubois, shed light on a dispute that arose between the commandeur de Launay and François Leclerc, capitaine de Sens.[15] Other maps were constructed in perspective by an observer located outside the area, looking in. The map of the seigneury of Picauville, made in 1581 for the canons of the Sainte-Chapelle du Palais de Paris in Normandy (fig. 50.3) by the painters Jan Brouault and Paris Alexandre, supported the view of their client by making the paths enclosing the disputed swamps converge toward Picauville.[16] In general, the most carefully prepared parts of the document were the drawings of the buildings, for it was at this time that the representation of buildings according to the laws of perspective was developing.[17] The landscape was evoked by symbols (trees representing the forest) or was strongly stylized (a river represented by parallel lines). Borders and boundaries were considered to be essential elements. The path of the pedestrian or the horseback rider was sometimes suggested by characteristic markers: gallows, crosses, and natural features, such as rocks. The painters were still at work at the beginning of the seventeenth century. In 1619, Georges Lallemant, one of the most famous artists during the reign of Louis XIII, prepared a panoramic drawing of Longchamp and of the village of Suresnes, near Paris, for a lawsuit between the abbess of Longchamp and the inhabitants of the village concerning the sharing of the waters from a spring.[18]

A map could also be drawn to support a petition, as did the map of Basse Auvergne, prepared to support Ambert's case for the status of a *bonne ville* (privileged city). This candidacy was first announced to the representatives of the *bonne villes* of the region, who were not convinced, so an appeal was made to the king's private counsel. The manuscript map on parchment, which is at the beginning of a roll more than three meters long, may be a small-scale version of a larger map with numbers giving the distances between the *bonnes villes*.[19] The map was copied by the painter Jacques Buysson, and about fifteen witnesses certified that "this image as it is inscribed, noted, and written" was "true to life."[20] Plans of cities also exist that were

15. François Dubois, "Plan des terres des seignereries de Launay et Fleurigny," ANF, N I Yonne 11. The same method of construction for an unsigned map, but dated 1520, was studied by Mireille Mousnier in "A propos d'un plan figuré de 1521: Paysages agraires et passages sur la Garonne," *Annales du Midi* 98, no. 175 (1986): 517–28.

16. Catherine Bousquet-Bressolier, "Le territoire mis en perspective," in *Couleurs de la terre: Des mappemondes médiévales aux images satellitales,* ed. Monique Pelletier, exhibition catalog (Paris: Seuil/Bibliothèque Nationale de France, 1998), 104–9, esp. 104–5.

17. The tradition of making building plans dates back to the Middle Ages, as shown by the notebook of drawings of the architect-engineer Villard de Honnecourt, who worked during the years 1225–35, Gothic's golden age. At this time, flat representations were being combined with representations of volume by using compasses, squares, rulers, and sometimes simple sighting devices. See Villard de Honnecourt, *Carnet,* ed. Alain Erlande-Brandenburg (Paris: Stock, 1986).

18. Panoramic drawing of Longchamp and the village and hills of Suresnes, 10 December 1619, ANF, N III Seine-et-Oise 479 (1). Reproduced and commented on in *Espace français: Vision et aménagement, XVIᵉ–XIXᵉ siècle,* exhibition catalog (Paris: Archives Nationales, 1987), 20–21. The exhibition was organized by the Direction des Archives de France, ANF, September 1987–January 1988.

19. Bibliothèque Municipale de Clermont-Ferrand, MS. 978.

20. Roger Sève, "Une carte de Basse Auvergne de 1544–1545 et la demande d'agrégation aux bonnes villes présentée par Ambert," in
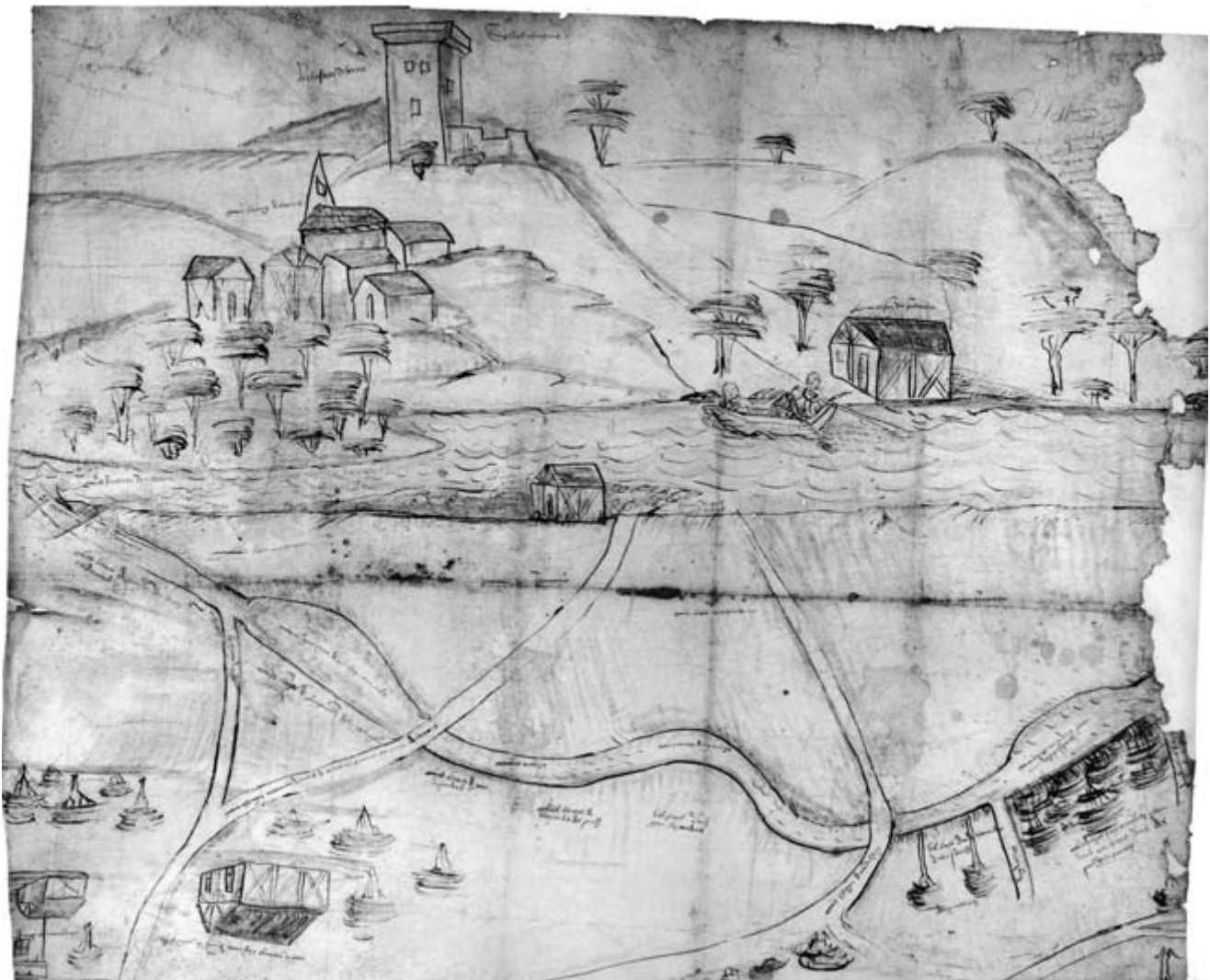
FIG. 50.2. FIGURATIVE VIEW OF CONTESTED LAND BETWEEN THE ABBEYS OF GRANSELVE AND MAS-GRENIER-GRANDSELVE-LASALLE, 1521. Manuscript. This drawing is an example of one in which the artist was presumably at the center of the scene and drew his or her sur-roundings as they would have appeared from that vantage point.

Size of the original: 55 × 65 cm. Photograph courtesy of the Archives Départmentales de la Haute-Garonne, Toulouse (108 H 37).

used in lawsuits: a plan of Rodez was drawn in 1496 for a lawsuit between the magistrates of the city and its inhabitants concerning the holding of the town fair.[21]

THE BIRTH OF ESTATE MAPS

In the history of feudalism, the written *terriers* accord with the practices of the notarial profession in provinces using written law.[22] The *terriers,* which first appeared during the fourteenth century, were certified by notaries and included the amounts to be paid by tenants and a description of the seigneur's property. It is impossible, however, to create a precise typology, as their content depended on the seigneur's wishes and on local custom; there were great differences between the *terriers* of the

north and south of France. Earlier documents, the *censiers* (tax ledgers), differed from the *terriers* in that they were not certified by notaries, although both documented the taxes that the tenants of the fief had to pay (either in money or in kind) to the owner of the land.

The first *terriers* and *censiers* did not include any maps. Indeed, an early fifteenth-century text, "La siensa de destrar," written in Provençal by Bertrand Boysset, a land

Mélanges géographiques offerts à Ph. Arbos, 2 vols. (Paris: Les Belles Lettres, 1953), 1:165–71.

21. Cited by Pierre Lavedan and Jeanne Hugueney, *L'urbanisme au Moyen Âge* (Paris: Arts et Métiers Graphiques, 1974), 162.

22. For the definitions and the evolution of the *terriers* and *censiers,* I thank Valentine Weiss, curator in the Département des Manuscrits of the BNF, and Cécile Souchon, director of Cartes et Plans at the ANF.
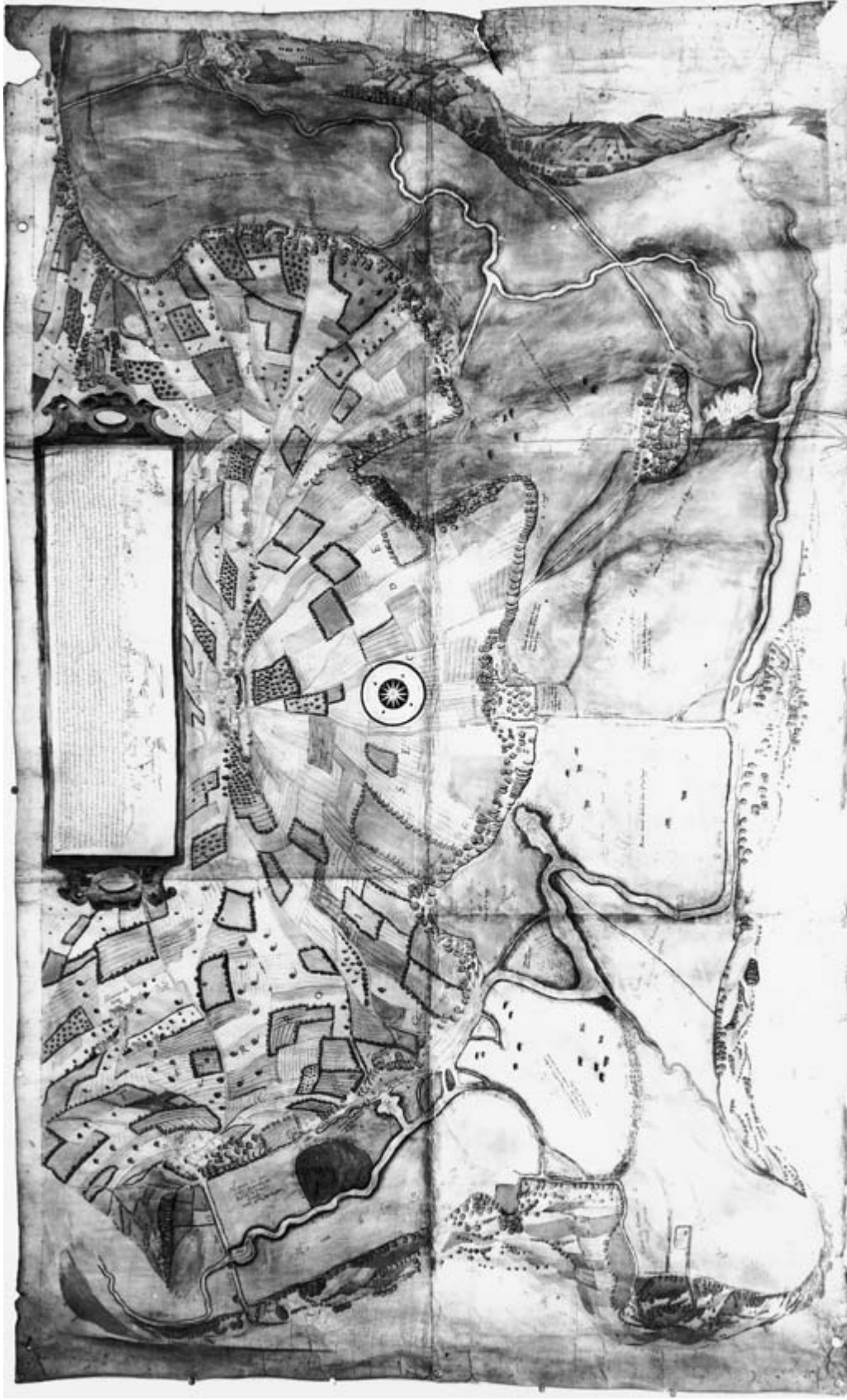
FIG. 50.3. JAN BROUAULT AND PARIS ALEXANDRE, PLAN OF THE TERRITORY OF THE SEIGNEURY OF PICAUVILLE, 1581. This manuscript map on parchment was drawn by two painters for the canons of the Sainte-Chapelle du Palais de Paris in Normandy. The litigation between the canons and the inhabitants of Picauville concerned the marshes located on the edge of the property of the canons, whose ownership of it had been confirmed by the king. The map of the seigneury was prepared to support the canons in their attempt to obtain the execution of the royal decision. Picauville, at the top, is surrounded by fields and orchards. In the lower part of the map (the south) can be seen the meadows and marshes on either side of the river Douve. The circular perspective is unusual. Size of the original: 110 × 182 cm. Centre Historique des ANF (N II Manche 1). Photograph courtesy of the Atelier Photographique du Centre Historique des ANF.

surveyor from Arles, suggests ways of solving surveying problems but does not mention the necessity of drawing maps. To survey "a dense and thick woods," Boysset did not recommend drawing an image but rather recording the outer dimensions of the woods onto some cleared, flat land nearby.[23] Not until the sixteenth century did maps of *seigneuries* and maps of *censives* (lands subject to fixed taxes) begin to appear (fig. 50.4). These maps complemented the textual descriptions of the *censiers* and *terriers,* which almost always gave details about the boundaries of adjoining properties and, more rarely, the surface areas measured by the land surveyors.

Maps of forests, which constitute some of the oldest boundary maps, were developed in the sixteenth century by the royal owner of the forests who was making reforms to increase his income. These maps were drawn not only by land surveyors; they were also a product of painters' artistic talents. For example, in 1609, J. Monnerye, a painter in Crépy-en-Valois, signed a boundary map that is a representational view of the *gruerie* (the forests watched over by the *gruyer,* an officer responsible for waters and forests) of Nanteuil-le-Haudouin (fig. 50.5). Yet the royal edicts of February 1555 and June 1575 required successively six and four "surveyors and measurers of lands, woods, waters, and forests"[24] to be employed in each *bailliage* (judicial division) under the authority of a principal *arpenteur ordinaire* (regular surveyor) who would supervise their recruitment. The purpose of the first edict, recorded in the reign of Henri II, was to create positions to speed up the inspection of the royal forests. The two edicts complain about the activities of incompetent land surveyors who, knowing neither how to read nor write and ignorant in the art and practice of geometry and arithmetic, nonetheless made measurements and demarcations. The establishment of the positions of land surveyors in 1555 and 1575 framed in time the 1565 decision by Charles IX to conduct a general survey of the royal forests. Some cartographic material survives related to Normandy forests, such as the Breteuil Forest (1566)[25] and the Bord, Brotonne, and Longboël forests (1566–67).[26] But the boundary map of 1549—which is part of the history of reforms concerning the royal forest at Dourdan—proves that the administration of one and perhaps other forests had already been reformed before 1565. This map was signed by Michel Marteau, "a sworn painter," and by Jean Jolivet, canon of the chapter of Notre-Dame of Paris, identified as the author of the famous map of France.[27]

The profession of land surveying, therefore, seems to have developed during the sixteenth century, but not without difficulty, as Élie Vinet from Saintonge, who counted Michel de Montaigne among his students, made clear in 1577. Vinet presented an unfavorable image of land surveyors. Most surveyors, he wrote, did not know how to read or write or even how to count, except "by heart and
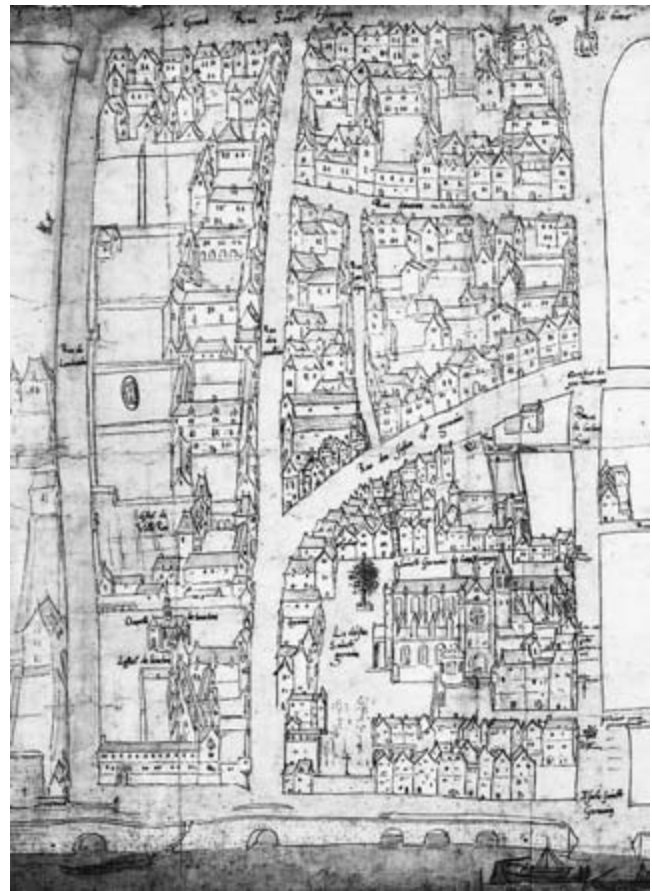

FIG. 50.4. DETAIL FROM THE MAP OF THE *CENSIVE* OF THE CHAPTER OF SAINT-GERMAIN-L'AUXERROIS BETWEEN THE LOUVRE AND THE CHÂTELET IN PARIS, SIXTEENTH CENTURY. Manuscript in ink. In his representation of this part of Paris, the author has combined a plan of the layout of the streets with a perspective representation of the buildings situated on properties for which payments had to be made to the chapter.
Size of the entire original: 59 × 162 cm; size of the detail: ca. 59 × 41.7 cm. Centre Historique des ANF (N III Seine 63/12). Photograph courtesy of the Atelier Photographique du Centre Historique des ANF.

23. Bertrand Boysset, *La siensa de destrar, ou Le savoir-faire d'un arpenteur arlésien au XIVe siècle,* translated from the Provençal, notes and commentary by M. Motte (Toulouse: Ecole Nationale du Cadastre, 1988), 17–18.

24. BNF, Livres imprimés, F 46 812 (4) and F 23 610 (361).

25. "Procès-verbal d'arpentage de la forêt de Breteuil," done in 1566 under the direction of Jean Thioult, by Simon Houet and Guillaume Gautier, sworn land surveyors, BNF, MS. français 11938 (maps at fols. 109bis and 123).

26. ANF, KK 946–48.

27. "Figure au vray des lieulx, terres et héritaiges contiguz . . . de la forest de Dourdan appartenant aux doyen, chanoine et chapitre de l'Eglise Notre-Dame de Paris," signed by J. Jolivet and Michel Marteau, 1549, ANF, N II Seine-et-Oise 161. Concerning Jolivet's map of France, see pp. 1483–85 in this volume.

FIG. 50.5. J. MONNERYE, MAP OF THE *GRUERIE* OF NANTEUIL-LE-HAUDOUIN, 1609. This manuscript map on parchment was made by J. Monnerye, a painter from Crépy-en-Valois, and J. Guillot and P. Dupay, advisors to the king at Parliament. It is a boundary map with the boundary markers drawn and boundaries indicated in red. The artist, who was familiar with the area, represented several villages, using col-ors to distinguish the materials employed for walls and roofs. He represented the ponds and fountains and sketched the paths, noting the main points of references, such as rocks, trees, and hanging trees.

Size of the original: 194 × 123 cm. Centre Historique des ANF (N II Oise 10). Photograph courtesy of the Atelier Photographique du Centre Historique des ANF.

FIG. 50.6. RENÉ SIETTE, "PLAN ET DESCRIPTION PAR-TICULIÈRE DES MARAITS DESSEICHÉS DU PETIT POIC-TOU AVECQ LE PARTAIGE SUR ICELLUY," 6 AUGUST 1648. This survey of the marshes is a true cadastral document that indicates by numbers the parcels of land divided for drainage; the towns and villages are represented planimetrically, and the paths and drainage canals are systematically indicated.

Size of the original: 47 × 67 cm. Photograph courtesy of the BNF (Carte et Plans, Ge DD 2987 [1323] B).

sometimes with tokens." Vinet gave detailed advice for the resolution of the difficult problems sometimes faced by the surveyor; he was interested in "how to make maps of forests and cities and how to survey them on paper when they cannot be otherwise measured."[28] This comment shows that the practice of drawing survey maps gradually became imperative. A look at archival inventories indicates that land survey maps became more common around the middle of the seventeenth century, the same time that the map in general became a more widely used tool. In a particular map inventory compiled for the archives of the former department of Seine-et-Oise, one of the most interesting such inventories of this period, not a single map is dated earlier than 1650. However, the author dates some maps of the inventory to the seventeenth century without further details.[29] The largest number of the maps inventoried were made in the eighteenth century; perhaps they replaced earlier maps that have not survived. The seventeenth-century maps appear in many different forms, including atlases that may or may not be accompanied by land surveying documents, or by large estate maps for display purposes.[30] Estate maps, drawn to scale and not very descriptive, were created at times by men with the title of land surveyor or royal surveyor.

Military engineers certainly did not ignore the new opportunities that the drawing of survey maps presented. They brought to the task a savoir-faire that combined the exactness of measurement with the art of topographic drawing. An interesting example is the 1648 manuscript map of the swamps of Petit-Poitou, even if it appears to have been somewhat exceptional (fig. 50.6). The author,

28. Élie Vinet, *L'arpanterie d'Élie Vinet, livre de géométrie, enseignant à mezurer les champs, & pluzieurs autres chozes* (Bordeaux: Imprimerie de S. Millanges, 1577), livre 6.

29. Henri Lemoine, *Les plans parcellaires de l'ancien régime en Seine-et-Oise* (Versailles: La Gutenberg, 1939).

30. Concerning the functions of *terrier* maps, see Paola Sereno's article: "I cabrei," in *L'Europa delle carte: Dal XV al XIX secolo, autoritratti di un continente,* ed. Marica Milanesi (Milan: G. Mazzotta, 1990), 58–61.

René Siette, "equerry, adviser, king's engineer, and geographer, and the inspector general of the fortifications of Dauphiné and Bresse,"[31] was involved in draining the marshes. His cartographic drawing abilities previously appeared in his 1619 manuscript maps of the surroundings of Tours and of Amboise.[32]

THE ROLE OF MAPS IN REGIONAL AND NATIONAL DEVELOPMENT

In France, the engineers responsible for fortifications were among the first specialists who proposed that maps be used as tools for planning. In the civil domain, it appears that the oldest maps (mostly from the second half of the sixteenth century) illustrate attempts to improve river traffic. These projects included the building of locks and tow-paths, the canalization of rivers and the harnessing of streams, and even the construction of a canal between Luçon and the sea. In 1485, the city of Amiens asked the painter Jean Beugier to plot the course of the Selle, a Somme tributary.[33] Leonardo da Vinci, who entered the service of François I in 1517, conceived an immense construction project of a new royal château in Romorantin in the center of France, a project that was never realized. The work involved the château, the city itself, the improvement of rivers, and the creation of canals and other lines of communication so that the city imagined by Leonardo would successfully fulfill its function as a capital open to the outside world. His plans and maps give us an impression of the scope of this project.[34]

Cartographic documents were created to convince people of the usefulness of projects or to present a financial estimate for the work that was to be done, as seen in the following two examples. The first concerns improvements to make the Vilaine River navigable between Rennes and Redon, a project approved by François I on 1 August 1539. One of the documents from this project is a brilliantly illuminated manuscript atlas on vellum dated 1543 (fig. 50.7). The unidentified author may have been a painter from Rennes, judging from the type of person called upon to carry out a similar assignment in 1567 that included a description of the river, a report on the visit to the site, and an illuminated map "written and drawn on vellum." The 1543 atlas was prepared with great artistic talent. It was preceded by drawings in plan and in perspective representing a two-gate lock, intended to replace existing one-gate locks. The atlas begins with a view of Redon in which three people (perhaps representatives of Brittany) are accompanied by the engineer responsible for the project, who, on the view, indicates the mouth of the river, the end-point of the commerce that would be affected by the proposed transformations. The author of the atlas presented in detail the difficulties of the route between Messac and Rennes by using all the powers of perspective and

made an effort to persuade the viewer of the advantages of improvements along the Vilaine. As a good observer, he knew how to present faithfully the elements of the landscape where the proposed work would take place.[35]

A second, less elaborate example is a five-meter-long drawing made in 1542 by Jean-Baptiste Florentin, who was probably an Italian engineer. The drawing presented to the sponsor, Jean de Brosse, baron d'Apremont, was for a development project for the Vie, a river of Vendée, from his château to the sea. Florentin drew attention to the locks that he was planning to build near the mills, including measurements and an estimate of the work to be done supplied on the document itself. This project appeared to be in better shape than the development of the Vilaine, yet it would never be finished: the baron d'Apremont spent considerable sums of money to organize grand celebrations and found himself in financial difficulty.[36] Both the maps of the Vilaine and the Vie, by detailing all the obstacles to navigation, highlight the hazards to river traffic and the advantages of the planned improvements, which were apparently delayed due to financial problems and technical difficulties. In these instances, the roles played by the maps were certainly not negligible.

Cartographic documents can also illustrate completed projects, as the "Livre des fontaines" does for the city of Rouen.[37] On 30 January 1525, this manuscript was cere-

31. Concerning the map, see Charles Passerat, *Étude sur les cartes des côtes de Poitou et de Saintonge antérieures aux levés du XIXᵉ siècle* (Niort: Imprimerie Nouvelle G. Clouzot, 1910), 84–85.

32. BNF, Cartes et Plans, Ge DD 2987 (1192 and 1195). René Siette should be distinguished from his brother Pierre, who was also involved in draining the marshes. See Louis Edouard Marie Hippolyte Dienne, *Histoire du desséchement des lacs et marais en France avant 1789* (Paris: H. Champion and Guillaumin, 1891). Concerning René Siette, see Anne Blanchard, *Les ingénieurs du roy de Louis XIV à Louis XVI: Étude du corps des fortifications* (Montpellier: Université Paul-Valéry, 1979), 455, and Mireille Pastoureau, *Les atlas français, XVIᵉ–XVIIᵉ siècles: Répertoire bibliographique et étude* (Paris: Bibliothèque Nationale, Département des Cartes et Plans, 1984), 469. On the Siette brothers, see also David Buisseret, *Ingénieurs et fortifications avant Vauban: L'organisation d'un service royal aux XVIᵉ–XVIIᵉ siècles* (Paris: Éditions du C.T.H.S., 2002), 120.

33. Georges Durand, *L'art de la Picardie* (Paris: Fontemoing, 1913), 46–47.

34. Carlo Pedretti, *Leonardo da Vinci: The Royal Palace at Romorantin* (Cambridge, Mass.: Belknap Press of Harvard University Press, 1972).

35. Concerning this document, see Lucien Scheler, "La navigabilité de la Vilaine au XVIᵉ siècle," in *Bibliothèque d'Humanisme et Renaissance: Travaux et Documents* 7 (1945): 76–94, and Michel Mauger, ed., *En passant par la Vilaine: De Redon à Rennes en 1543* (Rennes: Apogée, 1997), with studies and color reproductions of the sheets of the Vilaine atlas.

36. BNF, Cartes et Plans, Rés. Ge A 364. See Henri Renaud, *Saint Gilles, Croix-de-Vie et environs*, new ed. (Croix-de-Vie, 1937), 150–52.

37. See Jules Adeline, *Rouen au XVIᵉ siècle d'après le manuscrit de Jacques Le Lieur (1525)* (Rouen: A. Lestringant, 1892), and A. Cerné, *Les anciennes sources et fontaines de Rouen: Leur histoire à travers les*

FIG. 50.7. MANUSCRIPT ATLAS DESCRIBING THE VI-LAINE RIVER BETWEEN REDON AND RENNES, 1543. Illuminated map on vellum. This is the fifteenth illustrated sheet of the atlas and shows the area from the Glanret to the Bouxière. The perspective view of the Vilaine shows the river obstructed by mills and fishing grounds, and the one-gate locks make navigation dangerous and afford no protection for navigators. In the river, there are three small boats, two being held back by a rope attached to a tree that was placed there to aid the navigators.
Size of the original: 38.5 × 25 cm. Photograph courtesy of the BNF (Cartes et Plans, Rés. Ge EE 146).

FIG. 50.8. JACQUES LE LIEUR, "LIVRE DES FONTAINES," 1525. Manuscript on parchment. This detail, representing the fountain of Lisieux as constructed by Rouland Le Roux under the supervision of Jacques Le Lieur along with the Church of Saint-Martin, is an example of a map being drawn to illustrate a completed project.
Length of the entire original: 500 cm. Photograph Thierry Ascencio-Parvy. Permission courtesy of the Collections de la Bibliothèque Municipale, Rouen (inv. MS. G 3 [supplément 742]).

moniously given to six of the city's representatives by Jacques Le Lieur, a bourgeois humanist and a notary and secretary of the king, who had four times been a councillor in Rouen. The work consisted of a text and four large sheets, including three long strips on parchment that follow the conduits of the three springs that supplied the fountains of the city (fig. 50.8). Dashes perpendicular to the lines representing the conduits made it possible to calculate their length. Measurements were taken and the maps drawn by Le Lieur himself, who represented the buildings in elevation as they would have appeared, left

siècles (Rouen: Impr. J. Lecerf fils, 1930), esp. 22–27 and 349–57. This very elaborate atlas could be compared to a more schematic English map from the mid-fifteenth century: see the discussion by M. D. Knowles, "Clerkenwell and Islington, Middlesex, Mid-15th Century," in *Local Maps and Plans from Medieval England*, ed. R. A. Skelton and P. D. A. Harvey (Oxford: Clarendon Press, 1986), 221–28.

and right, during his journey. The "Livre des fontaines" is a celebration of those who brought about the aesthetic improvements of Rouen, namely, the Cardinal Georges d'Amboise, who died in 1510, and his nephew, Georges II.

REPRESENTATIONS OF CITIES: PANORAMAS, PERSPECTIVE VIEWS, AND PROFILES

During the Renaissance, cities became symbols of the territories whose economies benefited from their vitality. The power of the city was based on the antiquity of its monuments, the influence of services located there, and the strength of its fortifications. Elements that supported this urban ideology had to be represented by a painter on a city view or map. Improved by significant projects, the city bore witness to the greatness of its patrons. For example, in 1609, François Quesnel's map of Paris presented the accomplishments of king Henri IV.[38]

According to Antoine Du Pinet, who contrasted cosmographic maps with representations of cities, city views belonged to the domain of chorography: "Chorography is used to represent particular places in a lifelike way without the distraction of measurements, proportions, longitudes, latitudes, or any other cosmographic distances. Chorography limits itself to showing to the eye, as vividly as possible, the shape, the situation, and the environs of the place being portrayed. . . . No one can be a good chorographer who is not a painter."[39]

PANORAMAS

For convenience, representations of cities are here divided into three types: panoramas, perspective views, and profiles. (A fuller typology of urban views and guide to terms is offered in chapter 27 of this volume.) The word "panorama" is somewhat anachronistic, having been invented in the late eighteenth century to mean an extended view on a curved surface around the viewer. Here it is used in the sense of a broad overview of the buildings and other features of a town as seen from afar. Perspective views, known also as figurative views ("figurative" here being used in the sense of directly representational or lifelike) and "portraits," assume a viewpoint high enough that the general pattern of streets can be ascertained. Profiles are views of cities viewed strictly from the side (in elevation) and are distinguished from panoramas by being based on measurements of bearings and heights of prominent features.

In the fourteenth and fifteenth centuries, cities were represented in panoramas by miniaturists such as Philippe de Mazerolles (fourteenth century), the Limbourg brothers (end of the fourteenth century), the *maître* of Boucicaut (beginning of the fifteenth century), and Jean Fouquet (fifteenth century). These panoramas depicted the urban landscape and its architectural scenery and could be used

on occasion as a setting for historical narrations.[40] The panoramas were sometimes collected in volumes, such as the one contained in the "Armorial," a manuscript compiled in the mid-fifteenth century by the herald Guillaume Revel.[41] In this volume, the coats of arms are accompanied by on-the-spot drawings of the châteaux, abbeys, and cities belonging to Charles, duke of Bourbon, duke of Auvergne, and count of Forez (fig. 50.9).

PERSPECTIVE VIEWS

The city perspective view was based on direct observation and represented the city in its entirety, giving its shape, the layout of the streets, as well as the appearance and the height of the buildings. In addition to those aspects provided by a panoramic view of the city, a perspective view gave a sense of depth and showed the city's streets passing between the rows of houses.[42] The author of a perspective view, which was an intermediary between the panorama and the orthogonal or geometric plan, created the illusion of a single viewpoint, giving a comprehensive view of the city, but the reality was more complex. The author constructed, with ingenuity, various portions from different viewpoints and assembled the constituent elements.[43] Helpful rules were available, published in such elegant volumes as *Livre de perspectiue* (1560) by the painter Jean Cousin, which dealt mainly with architectural design and distinguished "geometric" (i.e., orthogonal) plans from perspective plans. In his *Livre de pourtraicture* (1571), Cousin detailed in "map and image" the parts of the human body. This painter, involved in a variety of activities, was commissioned to draw the plans of

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38. BNF, Estampes et Photographie, Rés. AA 3. The present study of city representations is based primarily on the unpublished work of Jean Boutier and Line Teisseyre-Sallmann, "Du plan cavalier au plan géométrique: Les mutations de la cartographie urbaine en Europe occidentale du XVIe au XVIIIe siècle," presented at a conference in Paris organized by the Maison des sciences de l'homme in 1984. See also Jean Boutier, "Cartographies urbaines dans l'Europe de la Renaissance," in *Le plan de Lyon vers 1550* (Lyons: Archives Municipales de Lyon, 1990), 25–27, and idem, *Les plans de Paris des origines (1493) à la fin du XVIIIe siècle: Étude, carto-bibliographie et catalogue collectif,* with the collaboration of Jean-Yves Sarazin and Marine Sibille (Paris: Bibliothèque Nationale de France, 2002).

39. Antoine Du Pinet, *Plantz, povrtraits et descriptions de plvsieurs villes et forteresses, tant de l'Evrope, Asie, Afrique que des Indes, & terres neuues* (Lyons: Ian d'Ogerolles, 1564), XIV.

40. Pierre Lavedan, *Représentation des villes dans l'art du Moyen Âge* (Paris: Vanoest, 1954), 26–27.

41. BNF, MS. français 22297. See Gabriel Fournier, *Châteaux, villages et villes d'Auvergne au XVᵉ siècle d'après l'armorial de Guillaume Revel* (Paris: Arts et Métiers Graphiques, 1973).

42. Lavedan, *Représentation des villes,* 38.

43. Lucia Nuti, "Cultures, manières de voir et de représenter l'espace urbain," in *Le paysage des cartes, genèse d'une codification: Actes de la 3e journée d'étude du Musée des plans-reliefs,* under the direction of Catherine Bousquet-Bressolier (Paris: Musée des Plans-Reliefs, 1999), 65–80.
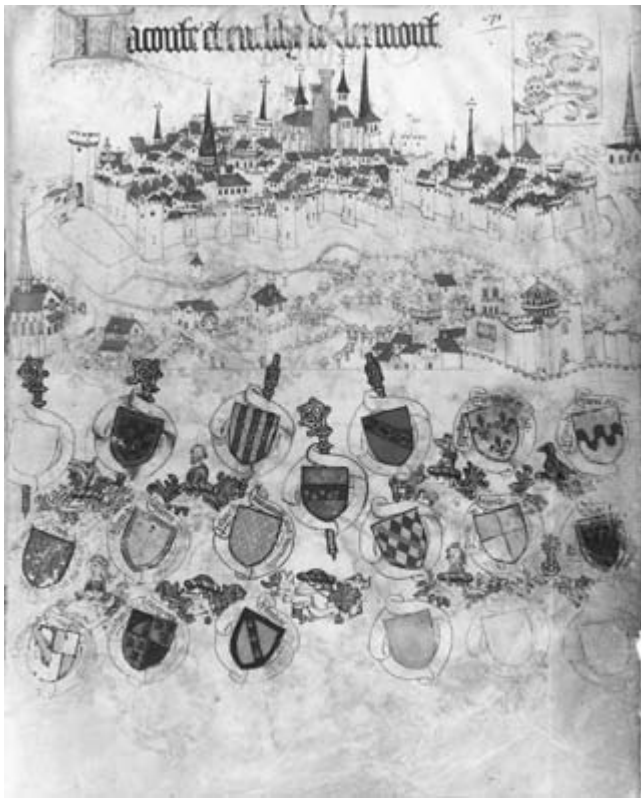
FIG. 50.9. GUILLAUME REVEL, "ARMORIAL," CA. 1450. Manuscript. Plate representing "La ville et chasteau de Montferrand."

Size of the original: ca. 25 × 20 cm. Photography courtesy of the BNF (Manuscrits, français 22297, fol. 71).

the fortifications of a village and was chosen by the bailiff of Sens to draw a map for use in a lawsuit.[44]

Perspective views of French cities were collected by two Parisian publishers, Nicolas Chesneau and Michel Sonnius, for *La cosmographie vniverselle de tovt le monde* by François de Belleforest.[45] Admittedly, the publishers reused views found in Sebastian Münster's *Cosmography* (published in Basel from 1544) and Antoine Du Pinet's *Plantz, povrtraits et descriptions* (Lyons, 1564), but they also sought out new sources. The perspective view, usually termed a *portraict* or *vray portraict* (true portrait), was usually of the same type: it represented streets and ramparts, showing separately the main buildings, identified in the legend, and depicted the built-up areas symbolically by rows of houses. Orientation was frequently indicated.

The authors of these city "portraits" are rarely known. Only one bears the name of the painter who drew it: the portrait of Dijon is signed by Evrard Bredin, an architect of the city who was admitted to the painters and glass makers' guild of Dijon in 1557.[46] *Le vray portraict de la ville de Diion* (fig. 50.10) is one of the rare perspectives in the *Cosmographie* to include a scale.

The presence of a scale shows that the portrait, in addition to its symbolic role, also allowed the viewer to calcu-

late certain measurements of the city, particularly those of its periphery. In 1469, the painter Riquier Hauroye measured and drew a view of the old and new walls of Amiens.[47] The measurements were taken to improve the defense of the city, but they were also used to control a disorderly growth that could have threatened the safety of its inhabitants. Many maps dealt with the expansion of rapidly growing cities. In 1550, for example, Henri II asked Girolamo Bell'Armato (Jérôme Bellarmato), an Italian engineer, to design and position the boundaries of the future expansion of Paris.[48] Because such maps were useful not only to defend cities, but also for planning attacks, significant efforts were made to obtain them. For example, Nicolas Denisot, Henri II's personal servant, was ostensibly sent to Calais as a tutor for the English governor's children, but his real mission was to draw a plan of the fortifications.[49]

Two large perspective views were completed midsixteenth century for two major cities, Paris and Lyons, following the same principles as the portraits in Belleforest's *Cosmographie*. The first, known as the "Basel plan" (fig. 50.11) (because the only known impression is conserved in the library of the university of Basel), has been studied by scholars trying to establish the genealogy of the maps that were drawn or engraved during this period. *Le vray pourtrait naturel de la ville, cité, vniversité et faubourgz de Paris* is a woodcut printed on eight sheets published by Olivier Truschet and Germain Hoyau. Enhanced with color, it shows the coat of arms of the city of Paris and the three intertwined crescents of King Henri II.[50] This map of Paris may have been used as cartographic information by travelers, but it is also a great decorative map produced in the context of popular imagery that skillfully used colored woodcuts.

The view of Lyons, much larger than that of Paris, was engraved on twenty-five copperplates (fig. 50.12).[51] It

44. Ambroise Firmin-Didot, *Étude sur Jean Cousin: Suivie de notices sur Jean Leclerc et Pierre Woeiriot* (1872; reprinted Geneva: Slatkine Reprints, 1971), 108.

45. Pastoureau, *Les atlas français,* 55–57. Concerning Belleforest, see "Vies des poètes gascons," ed. Philippe Tamizey de Larroque, *Revue de Gascogne* 6 (1865): 555–74.

46. Bredin also studied the canalization of the Ouche River in 1581 and fortified the Ouche suburb in 1588–93. See *Dictionnaire de biographie française* (Paris: Letouzey et Ané, 1933–), vol. 7, col. 193.

47. Durand, *L'art de la Picardie,* 47.

48. Buisseret, *Ingénieurs et fortifications,* 26.

49. Jean Adhémar, "Notes sur les plans de villes de France au XVIe siècle," in *Urbanisme et architecture: Études écrites et publiées en l'honneur de Pierre Lavedan* (Paris: H. Laurens, 1954), 17–19.

50. Jean Dérens, *Le plan de Paris par Truschet et Hoyau, 1550, dit plan de Bâle* (1980; reprinted Paris: Rotonde de la Villette, 1986), 55–65.

51. A facsimile was made of it, accompanied by several studies that have not succeeded in solving the mystery of its origins. See Jacques Rossiaud, "Du réel à l'imaginaire: La représentation de l'espace urbain dans le plan de Lyon de 1550," in *Le plan de Lyon vers 1550* (Lyons: Archives Municipales de Lyon, 1990), 29–45.
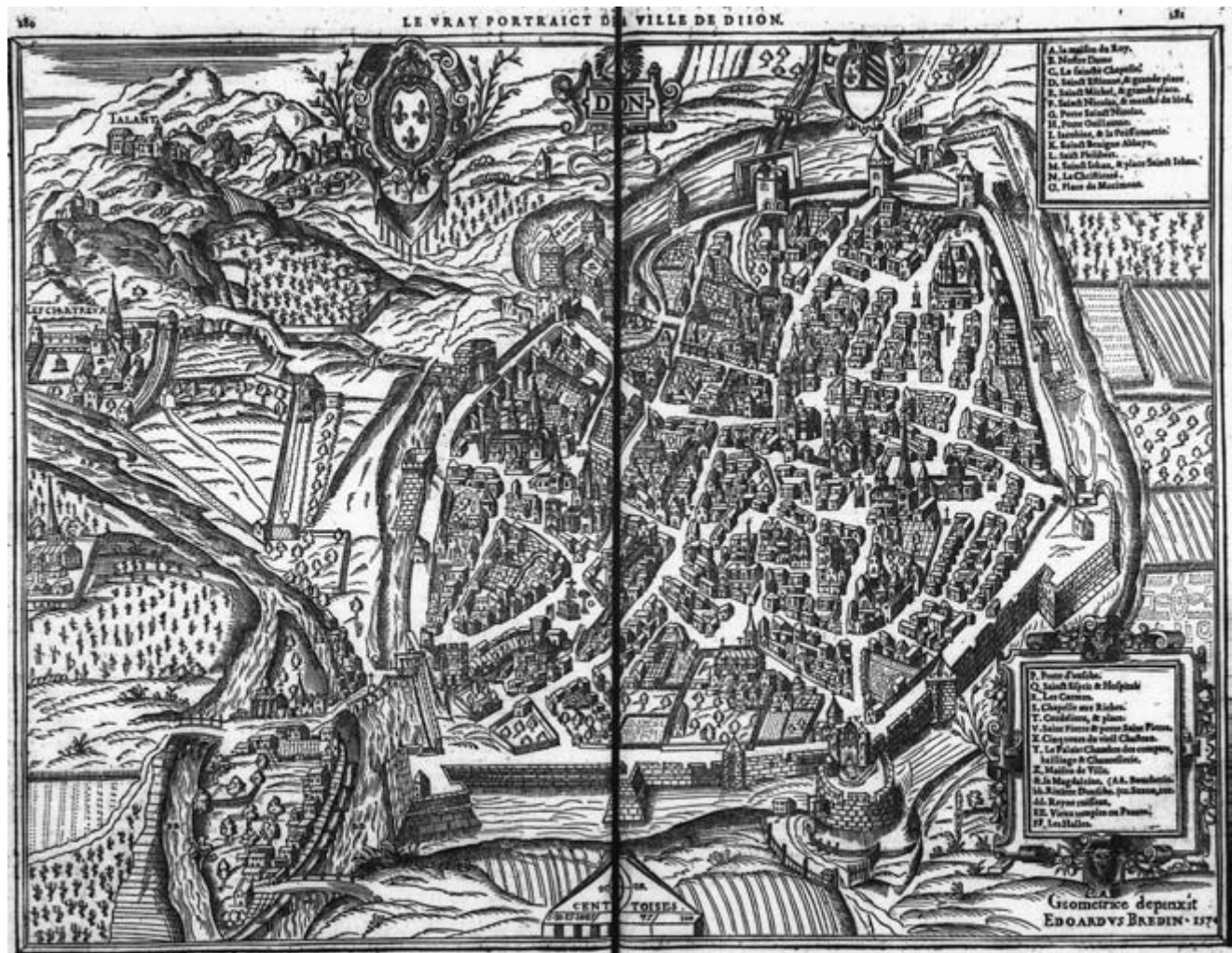
FIG. 50.10. EVRARD BREDIN, *LE VRAY PORTRAICT DE LA VILLE DE DIION,* 1575. Bredin's perspective view of Dijon is an example of the sixteenth-century development of representing a city in its entirety, showing in detail the streets, buildings, walls, and environs.

Size of the original: 30 × 40 cm. From François de Belleforest, *La cosmographie vniverselle de tovt le monde* (Paris: Chez N. Chesneau, 1575), 1:280–81. Photograph courtesy of the BNF (Impr. G 448).

seems to have undergone several stages of development from 1548 to 1554. The view was taken from the east, the only orientation that allows one to capture the peninsula along with the hills in the background. Like other city perspective views of the same period, the "portrait" of Lyons depicts the layout of the streets and provides a perspective view of the main buildings. For the other buildings, it appears that the author of the view used an existing inventory. If we compare the view of Lyons with the inventory, it is obvious that the view corresponds to this inventory in terms of the number of houses and their density although it does not allow us to identify details. The view of Lyons was probably a work suitable for Henri II, produced perhaps by one of the king's future geographers, such as Nicolas de Nicolay, or an artistic engraver, perhaps from the school of Fontainebleau, such as

Lyon Davent.[52] These hypotheses would benefit from additional research.

PROFILES

Profiles, analogous to the coastal profiles accompanying sailing directions, were used by military engineers to represent a city without the need to enter it.[53] In addition, the profile had the advantage of revealing the relative heights of the main buildings. Jean de Beins, Henri IV's engineer,

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52. See pp. 1487–88, note 28.

53. See also David Watkins Waters, *The Rutters of the Sea: The Sailing Directions of Pierre Garcie: A Study of the First English and French Printed Sailing Directions* (New Haven: Yale University Press, 1967), 28, 199–203, and 205.
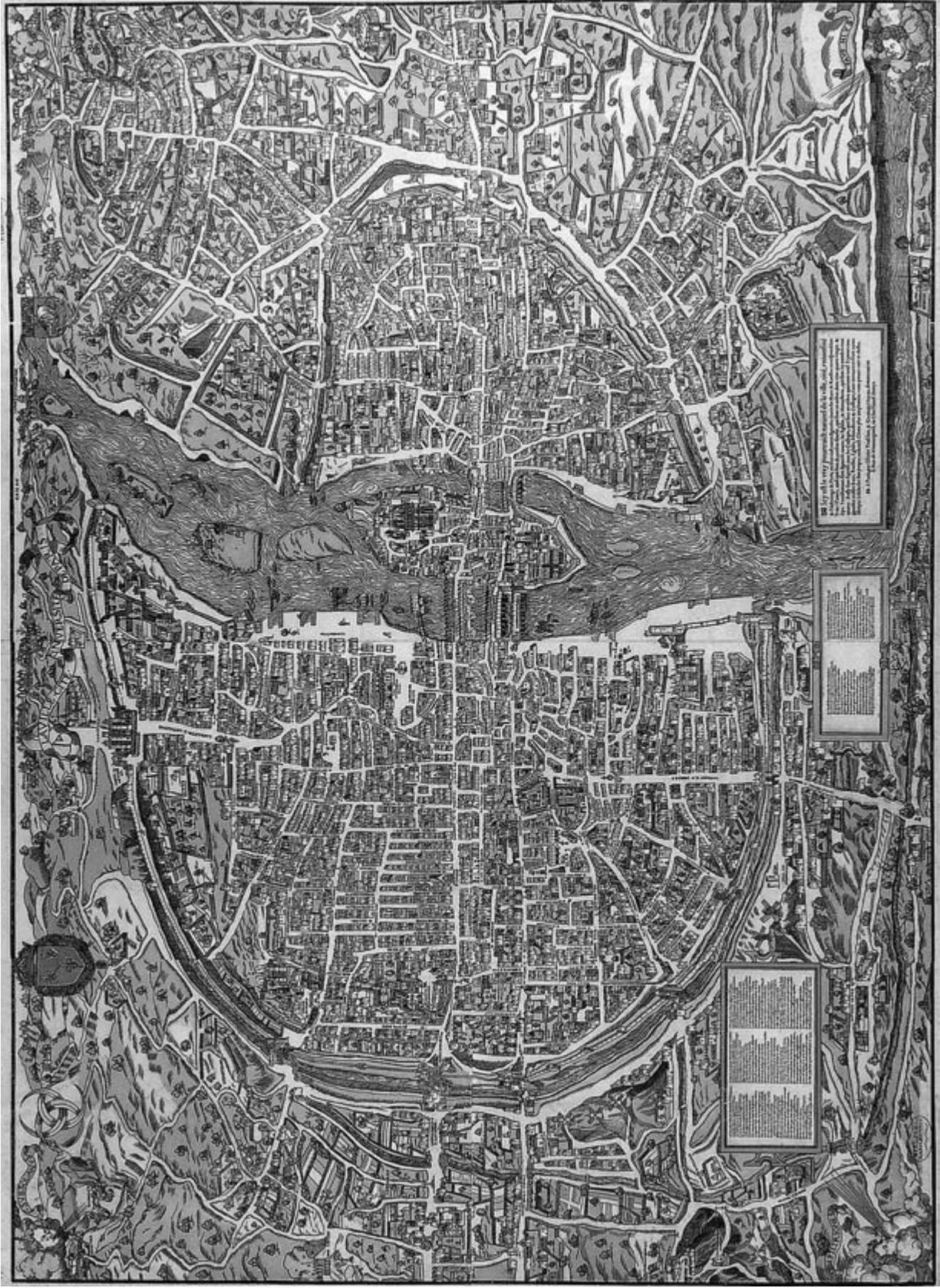
FIG. 50.11. OLIVIER TRUSCHET AND GERMAIN HOYAU,
*LE VRAY POURTRAIST NATUREL DE LA VILLE, CITÉ,
VNIVERSITÉ ET FAUBOURGZ DE PARIS*, CA. 1553.

Size of the original: 96 × 135 cm. Photograph courtesy of the
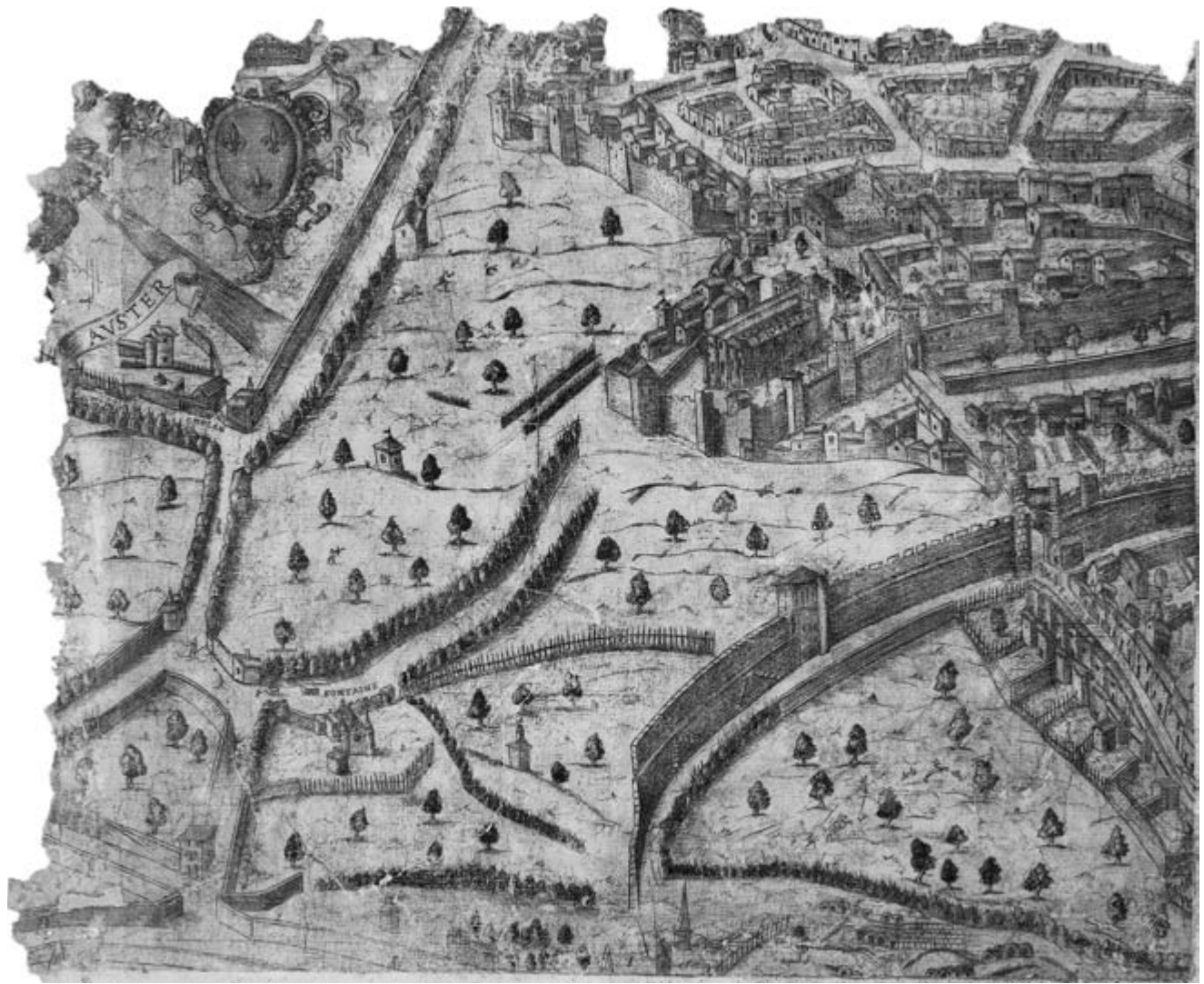Öffentliche Bibliothek der Universität, Basel (Kartensammlung
AA 124).

drew "landscapes" that situated cities in their mountainous environments and also made "profiles." [54] He explained, by the careful choice of these terms, the different angles from which he had depicted his subject. Christophe Tassin, who publicized the work of his engineer colleagues, made "profiles" famous in the *Plans et profils* (1634; fig. 50.13), a series of small atlases that combined schematic plans of fortifications with views that were often in profile. [55] Profiles may in this way have become one of the techniques of military engineers who were responsible for immortalizing the glorious events of the monarch's reign. Cities with noteworthy sieges became the subject of plans, and even of plans that were engraved and printed to inform a larger audience about the different stages of bat-

tles. Sébastien de Pontault de Beaulieu, whose engravings began to be printed in 1642, combined with consummate artistry several different modes of representation, as seen in one of his masterpieces, the plan of the battle at Rocroi of 19 May 1643, which includes a profile of the city besieged by the Spanish. [56]

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54. On the military engineers, see chapter 49 in this volume. Profiles of Embrun, Valence, Romans, Sisteron, and Serres are reproduced in François de Dainville, *Le Dauphiné et ses confins vus par l'ingénieur d'Henri IV, Jean de Beins* (Geneva: Librairie Droz, 1968), pls. XXX, XXXIX, XLIII, XLIX, and XLVII.

55. Concerning Tassin, see chapters 48 and 49 in this volume.

56. *Rocroy,* by Sébastian de Pontault de Beaulieu, drawn by Stefano della Bella, engraved by François Collignon, ca. 1643, 2 sheets.
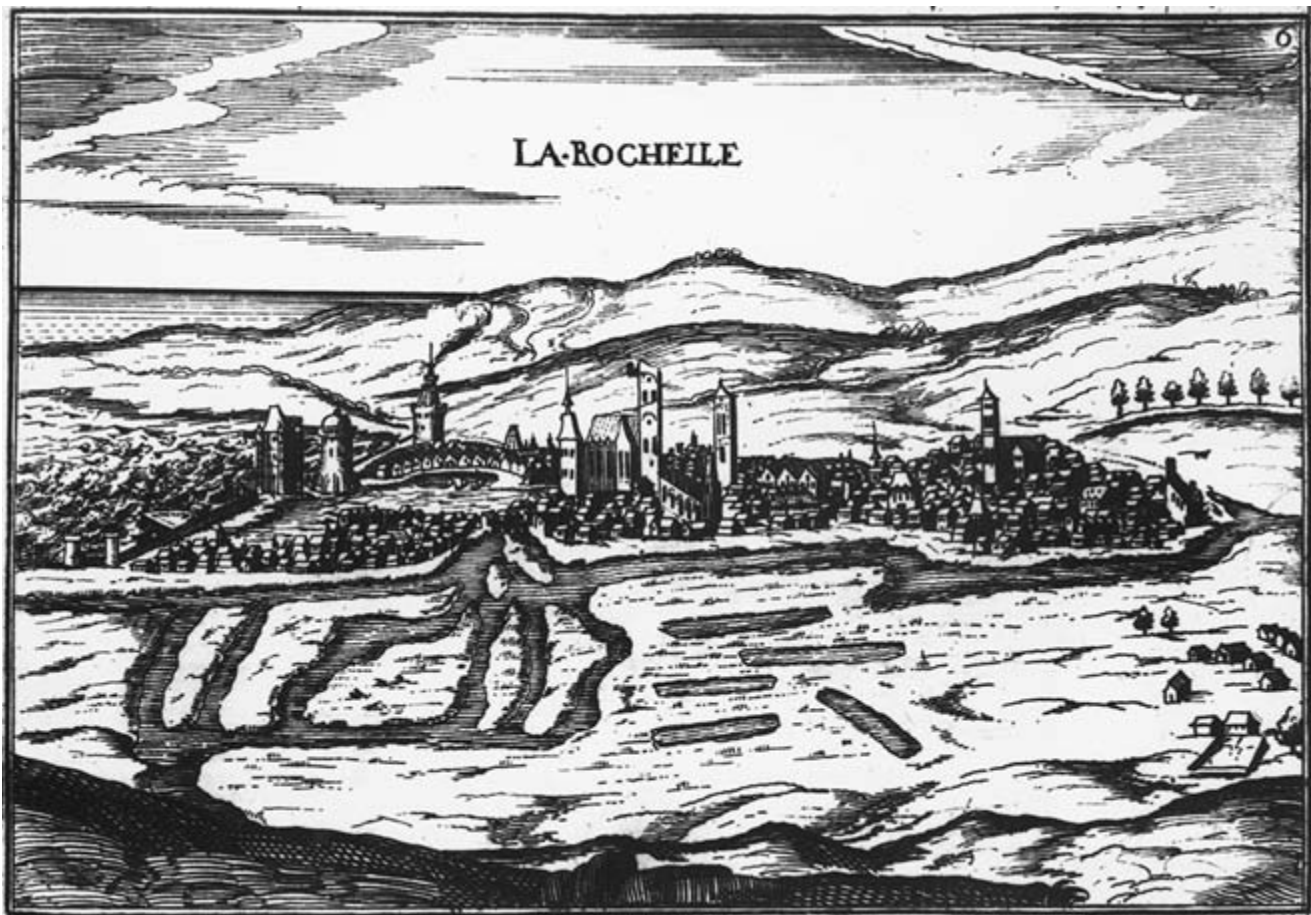
FIG. 50.13. LA ROCHELLE: VIEW BY CHRISTOPHE TASSIN FROM CLAUDE CHASTILLON. Chastillon's version included letters to identify various place-names in a caption. For examples of other manuscript maps by engineers later engraved and published in Tassin's *Les plans et profils de toutes les principales villes et lieux considerables de France,* see figures 49.15–49.20 in this volume.
Size of the original: 10.4 × 15.1 cm. Christophe Tassin, *Plans et profilz des principales villes de la province de Poictou* (Paris: M. Tavernier, 1634), pl. 6. Photograph courtesy of the BNF (Ge FF 4476 bis).

Conclusion

The study of the various topographical representations shows that they quickly became indispensable as substitutes for the actual site in discussions concerning boundaries and in lawsuits. These images could be useful only if they bore semblance to reality, and the authors of these documents presented this reality in such a way as to serve the interests of their clients. The participation of painters in topographic representations may have delayed the arrival of a more abstract cartography, but it gave figurative maps and portraits of cities aesthetic qualities that certainly appealed to their users. The painters, as noted, were sometimes involved in diverse activities and their intervention in cartographic production does not mean that they became cartographers themselves, although there were exceptions. It could be said rather that they took advantage of this opportunity to increase their income.

The influence of other European countries was shown in the collaboration with foreign individuals, such as Italian and Dutch engineers who distinguished themselves as masters in the design and construction of military and civil works. Neighboring European countries, moreover, participated in large publishing projects, including French materials, such as Georg Braun's and Frans Hogenberg's *Civitates orbis terrarum* (1572–1617). The publication of a variety of cartographic documents in French and foreign atlases played a significant role in the development of French cartography. It stimulated emulation among the participants—authors, or suppliers of these documents—providing models for cartographers and engravers, as seen in the example in Belleforest's *Cosmographie.*