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Joseph Connors

Italian Renaissance Architecture: Brunelleschi, Sangallo, MichelangeloThe Cathedrals of Florence and Pavia, and St. Peter’s, Rome 1994 The National Gallery, Washington, DC, December 18, 1994March 19, 1995
an exhibition at the Palazzo Grassi, Venice, April 1November 6,

The Renaissance from Brunelleschi to Michelangelo: The Representation of Architecture
edited by Henry A. Millon, edited by Vittorio Magnago Lampugnani
Rizzoli, 731 pp., $85.00

The Architectural Drawings of Antonio da Sangallo the Younger and His Circle Vol. 1: Fortifications, Machines, and Festival Architecture
edited by Christoph L. Frommel, edited by Nicholas Adams
Architectural History Foundation/MIT Press, 274 pp., $95.00

San Pietro. Un progetto e un modello. Storia e restauro. Santa Maria del Fiore. Quattro modelli per il tamburo della cupola
edited by Pier Luigi Silvan
Bompiani, 142 pp., L 24,000 (paper)

Michelangelo at San Lorenzo: The Genius as Entrepreneur
by William E. Wallace
Cambridge University Press, 266 pp., $60.00

Michelangelo Architect
by Giulio Carlo Argan, by Bruno Contardi, translated by Marion L. Grayson
Abrams, 388 pp., $125.00

Leon Battista Alberti 10December 11, 1994
catalog of the exhibition at the Palazzo del Te, Mantua, September, edited by Joseph

Rykwert, edited by Anne Engel
Olivetti/Electa, 565 pp., L 65,000 (paper)

1.

In *Portrait of a Lady* Isabelle Archer visits St. Peter's at vespers, and Henry James uses the occasion to provide an emotive description of the church:

> She had not been one of the superior tourists who are "disappointed" in Saint Peter's and find it smaller than its fame; the first time she passed beneath the huge leathern curtain that strains and bangs at the entrance, the first time she found herself beneath the far-arching dome and saw the light drizzle down through the air thickened with incense and with reflections of marble and gilt, of mosaic and bronze, her conception of greatness rose and dizzily rose. After this it never lacked space to soar. She gazed and wondered like a child or a peasant, she paid her silent tribute to the seated sublime…. there is something almost profane in the vastness of the place, which seems meant as much for physical as for spiritual exercise…. In that splendid immensity individual discretion carries but a short distance.

Indeed St. Peter's is an enormous building, the largest church in Christendom. But it is interesting to reflect that Michelangelo, who left more of a stamp on it than any other architect, refused to take on the commission unless he were allowed to effect a drastic reduction in the gargantuan project inherited from his predecessors. Among the dozens of projects submitted by Bramante, Fra Giocondo, Raphael, Peruzzi, and various members of the Sangallo clan, many of which were so large they would have destroyed some of the Vatican Palace or even the Sistine Chapel, Michelangelo's project is among the smallest. His reductions so shocked the administrators of the building that they wondered if they might have to change the name from S. Pietro to S. Pietrino.

Splendid immensity was the last thing on his mind. We must remember that the church we enter today was utterly transformed by the late-Renaissance popes who began to revet its white interior with colored marbles in 1575, and who added Carlo Maderno's long nave and façade in 1606–1621.[1] The "league statistics" on the present floor, which give the lengths of other great churches in Christendom that fall short of St. Peter's, have nothing whatsoever to do with Michelangelo's aesthetic.

For sheer size there was nothing like the great wooden model of Michelangelo's immediate predecessor, Antonio da Sangallo the Younger. Of course, there was no way Henry James could have seen it. For most of the time between 1813 and 1990 it was hidden in a vaulted chamber in the uppermost reaches of the basilica, accessible only to

the few scholars allowed into the archives stored in the same space. It is a masterpiece of carpentry. It took seven years to build. In the end the workmen toiled by candlelight in the predawn hours to finish it before Sangallo's death in 1546. It cost more than 5,500 scudi, a great sum, almost as much in all as a small country church.

Built at a scale of 1:30, it was meant to be complete down to the last column and capital, and there were originally wax reliefs in the metopes of the Doric order and a painted finish to stand for various shades of travertine. Over twenty-one feet long and weighing six tons, it was topped by an enormous cupola that rose over fourteen feet from the chest-high trestle on which the model stood. Huge belltowers, which would have been more than twice as high as the present façade, flanked a majestic benediction loggia. The model's apses, like arcades from the Colosseum wrapped around the transepts and choir, swung open on hinges to let people inside, where there was room for more than a dozen visitors to stand gaping at a cupola high above their heads. Exploring the model by flashlight in the early 1970s, while it was still stored in that cold chamber, was an experience not easily forgotten.

The great model is the centerpiece of an exhibition devoted to Renaissance architecture recently held at the Palazzo Grassi in Venice and now at the National Gallery in Washington. It underwent 30,000 hours of restoration at the expense of FIAT, and was shipped down the Grand Canal in seventy-four crates containing two hundred pieces which were reassembled in the palace *cortile*, where over a hundred thousand visitors have come to see it. Set off-center on a sleek steel platform as large as the courtyard, which lets visitors walk up to (but not inside) an open apse, the greatest of all Renaissance models has come out of the attic and recaptured the public imagination.

Antonio da Sangallo the Younger was born in Florence in 1484 and trained as a carpenter before coming to Rome in 1504 to work as an apprentice to a famous uncle, Giuliano da Sangallo, the greatest student of ancient architecture of his generation and friend to many Florentine artists working in Rome, including the young Michelangelo. One can imagine both Michelangelo and Antonio studying the great parchment sketch-book of the antique that Giuliano was then making. Michelangelo would prove a late bloomer in architecture, but the young Antonio took off immediately and soon outstripped his uncle in the search to record the fragmentary remains of antiquity and reinvent architecture on their model. An immensely skilled professional, he became the center of a far-flung organization, the *setta sangallesca*, which enormously extended his reach and his earnings. To make up for a general lack of culture he concentrated on Vitruvian studies and late in life projected a full edition.

The great project of the day was the rebuilding of the early Christian basilica of St. Peter's, a task already contemplated in the 1450s by Nicholas V, who in the end left the tottering old building standing with little more than the foundations of a new choir to be added to the apse. In 1505 Julius II, man of destiny, decided to rebuild the church to house his own tomb. He turned not to professionals like the Sangallos but to artists whose training in painting gave them a still higher standing in the Renaissance scale of values. The commission went to Bramante, a painter who had trained himself in all the subtleties of perspective in the court of Urbino, and then learned about architecture in Milan as a consultant to the cathedral works and a close colleague of Leonardo da Vinci. Bramante was affable and delightful in conversation and immensely fertile in invention, but Vasari also applies to him a concept he usually saves for Michelangelo, namely awesomeness or *terribilità*. It is said that Bramante wanted to remake St. Peter's by putting the Pantheon on top of the Basilica of Maxentius. Indeed one of his early plans for the church is on the back of a drawing of the great concrete-vaulted ruins of the Baths of Diocletian. The new Christian architecture was to be on a massive scale not seen since the Caesars.

Under Julius II Bramante planted the huge piers that would one day support the cupola. He finished the choir begun by Nicholas V, which was to house the splendid papal mausoleum that Michelangelo was starting to carve. (The *Moses* now in S. Pietro in Vincoli is the most famous fragment of this star-crossed project.) In fact this huge choir, which lasted until 1585, was Bramante's testament to future architects. Paved with colored stones like the Sistine Chapel, flooded with light, articulated on the outside with giant Doric pilasters, it was an inspiration for Michelangelo, who modeled his own exterior architecture on it and said that anyone who departed from it departed from the truth.

Bramante himself kept evolving even as the building was going up. Julius II died in 1513, economizing on all fronts to pay for his military ambitions. But the next pope, Leo X, was only thirty-seven and had an even grander vision of what the church could be like. In one last burst of energy before his death a year later, Bramante enlarged his design by wrapping ambulatories around the transepts and elaborating plans for an enormous nave. He built a "temporary" structure to shelter the old altar over the tomb of the apostle, knowing that the Leonine church would take generations to build. When he died his place was taken by another painter from Urbino, the young Raphael. Sangallo became Raphael's assistant and profited enormously from the collaboration but did not become first architect of St. Peter's until Raphael's death in 1520.

The early planning of St. Peter's was full of drama, as the brilliant, densely argued

reconstructions of Christoph Frommel in the Palazzo Grassi catalog show. Ideas flowed in from all sides, but colleagues in creativity were always potential rivals. Giuliano da Sangallo had been Julius II's trusted personal architect, but Bramante brushed him aside and devised an astonishingly delicate, intricate plan drawn on parchment. But Julius II did not completely forget Giuliano. He continued to ask his advice, and in a weak moment let himself be convinced that Bramante's thin piers would never hold up under the weight of the Pantheon-like cupola he wanted to put on top of them. The Pope called in Bramante and showed him Giuliano's counter-proposal with its sturdy piers. Bramante was about to lose his patron's confidence, and the atmosphere must have been tense. But quick as ever he coolly held Giuliano's plan up to the window and began drawing on the back, taking over his rival's piers but playing with the subordinate spaces and recasting St. Peter's on the model of the great early Christian church of S. Lorenzo in Milan.

The drawings on which such dramas were worked out are not pretty pictures. But in their messy way they show soaring flights of the imagination, at least to visitors patient enough to teach themselves to read them. For those without the patience, Palazzo Grassi and its designers, Mario Bellini and Italo Lupi, tried to create an atmosphere of "suspended magic" where many marvelous things, including paintings, brilliant wood *intarsie*, manuscripts, drawings, prints, medals, drafting instruments, and above all stunning Renaissance models stand out, spot-lit in darkened rooms. Halfway through the summer the exhibition closed and all light-sensitive objects were changed, often with inspired substitutions. For example, Michelangelo's powerful sequence of drawings for S. Giovanni dei Fiorentini, done at age eighty, went home in July, but these were replaced by the drawings for Porta Pia, in which the aged master hacked apart the conventions of the Doric order to construct his last masterpiece. For the sheer number and beauty of the objects on display, this was easily the most extensive and dazzling exhibition ever devoted to Renaissance architecture.

The thirty-one models stood at the core of what was essentially an exhibition about the representation of architecture. Virtually all Italian models that survive from the fifteenth and sixteenth centuries were mustered. In his excellent catalog essay, Henry Millon, who has worked on Michelangelo's models and on problems of St. Peter's for twenty-five years,[2] puts them into historical perspective in an informative essay that ranges from the Egyptians to Corbusier and Wright. Especially in the Renaissance, models were the normal means of communication between architect and client. They were much more vivid than drawings. The fifteenth-century architect, painter, and humanist Leon Battista Alberti observed that they can help the architect predict the errors in his project and thus avoid irreparable mistakes.

Hundreds or thousands of models were made in every conceivable material, not only wood but wax, plaster, bricks, even turnips. Some were plain wooden boxes meant to give an honest impression of simple buildings. Others were the life's work of master carpenters, endowed with extraordinary delicacy of detail. Possibly the most beautiful of all, the second star of the show, is the late fifteenth-century model for Pavia Cathedral, not much smaller than Sangallo's and complete down to the last detail inside and out. With amazing fidelity the master masons who built the cathedral stuck to it for generations.

Palazzo Grassi exhibitions are famous for their design. In addition to the models and other objects, white silkscreened images hovered on the dark walls. These showed, among other things, reconstructions of Bramante's projects, portraits of architects, and plans of Leonardo's central churches. There were silkscreened polyhedra by the mathematician Luca Pacioli, spiral staircases in perspective, machines for hoisting great weights, faces with proportional subdivisions from the pages of Dürer, and Vitruvian men galore. Instead of elaborate captions, the visitor was greeted in many rooms with quotations by the architects themselves and their contemporaries, white words that seemed to hover on the blue-gray walls as in a Joseph Kosuth installation. Thus in an unconventional way Italo Lupi's graphics allowed the sources to speak directly to the visitors.

The scholars, on the other hand, have their say in the 700-page, 700-photograph, 7-pound catalog that is the heftiest book on Renaissance architecture in English. Fifty-five authors contributed 14 general essays and 421 catalog entries. Both the quantity and the quality are impressive. In this fast-moving field the bibliography numbers some 2,800 items, half produced since the last major synthesis of the Italian Renaissance, the 1974 volume on Renaissance Italian architecture in *The Pelican History of Art*.[3] Much of the work is in German, deriving from the Biblioteca Hertziana in Rome, and there is also a whole new generation of productive young Italians, so the catalog is by far the best way for the English reader to get at this work.

But lest the reader be overwhelmed by the sheer size of it all, I should point out that in addition to the fine general articles in front, some of the shorter essays tucked away with the catalog entries are of unusual interest and verve, in spite of the tiny type. Christ of Thoenes's brief piece on Sangallo's model is a brilliant essay in the psychology of an aging master with an *idée fixe*. But equally engaging is the piece by Hubertus Günther on the urban projects of the Medici popes in Rome, or that by Marilyn Aronberg Lavin on the city models cradled by so many saints in Renaissance art. Along with the excellent essay on the Renaissance city by Nicholas Adams and Laurie Nussdorfer, who

chart the shift from the patrician urbanism of the early Renaissance to the despotisms of the sixteenth century, the catalog does justice to urban history in a way unheard of for high art exhibitions and unusual even in most survey books. [4]

There was a subtle psychological conditioning at work in the exhibition, one that might have been lost on some visitors used to the usual chronological and biographical groupings. One entered and was immediately thunder-struck with the Sangallo model. Then, after passing under the great Michelangelo model for the cupola, balanced on steel beams over the grand staircase, one left St. Peter's behind for many rooms and turned to all sorts of other topics, from the study of the antique to perspective to the great treatises and the machines of construction. At key points on the upper floors one looked down on the Sangallo model from balconies. At first there were Vasari's silkscreened words to reassure us that "all that Antonio did of benefit or delight to the world is nothing in comparison to the model of St. Peter's in Rome." But then one turned to find in Michelangelo's silkscreened words a stinging rebuke:

> One cannot deny that Bramante was as worthy an architect as any since ancient times. He laid down the first plan of St. Peter's, not full of confusion, but clear and pure, full of light, and did no damage to any part of the palace. And it was regarded as a beautiful thing, and it is obvious now, so that whoever departs from this order of Bramante, as Sangallo has done, has departed from the truth. That this is so, anyone with unimpasioned eyes can see in his model.

When Michelangelo took over at St. Peter's in 1546–1547, Sangallo's loyal followers in the building administration told him that the great model was a "meadow where one will always be able to graze." "You speak the truth," said Michelangelo sarcastically, "a meadow for sheep and oxen who know nothing of art." The exhibition wanted us to fall in love with the model but then tried to pry us loose from it, recapitulating what happened in history. We learned to see with Michelangelo that the great ambulatories would have blocked almost all light from the church, that there would have been many dead spaces for "coining money and getting nuns pregnant," that it would have taken twenty-five men to root out thieves from their hiding places before the church closed at night, that the piling up of small columns and attic stories on the exterior gave the church a gothic look. Michelangelo evidently hated Sangallo and mounted an all-out attack on his grandiloquent model. But why with such vehemence?

In his essay, Thoenes probes some of the difficult questions of personality and psychology that were at work. Sangallo was the most successful and skillful professional of his generation, unmatched for technical competence, tireless in his study

of the antique. But for years he was bound to Bramante and then to Raphael, the painter-architects, as the faithful chief assistant who could be counted on to give graphic form even to ideas that were not his own and that he did not like. Sangallo was a meticulous recorder and we have thousands of drawings by the Sangallo clan not only for their own projects but also of ancient and modern buildings up and down the peninsula. Without his obsessive collecting we should have very few of the great drawings by Bramante and others for the planning of St. Peter's. The creative and the archival strands in Sangallo's personality intertwine. When Raphael died he drew up a harsh critique of all that was wrong in the building he had inherited. But then over time he found himself building many of the ideas that he had criticized, indeed on a colossal scale. There is some irony in this situation. Michelangelo's lash fell on Sangallo's back but for ideas that went back to Raphael and Bramante.

And then there is Sangallo's obsession with the model. It grew and grew, beyond even his most ambitious drawings. The Pope might insist on a centralized plan as both humanistic and economical, but Sangallo managed to add on to the basic Greek cross an enormous additional space with no liturgical function and the huge benediction loggia with the massive campanili. The model would be the *summa* of all that he had learned in almost four decades working on the church with the most brilliant architects of the Renaissance, but it would go beyond them in sheer ambition. All limits of time and money receded in his vision. "The wooden model began to take the place of the building, became its fetish."[5]

2.

In the first volume of the corpus of Sangallo drawings handsomely published by the Architectural History Foundation, Nicholas Adams and Simon Pepper remind us that Sangallo was one of the finest, and certainly the busiest, designer of fortifications in his war-tossed generation. In 1526, as Imperial armies threatened Italy, he went on a tour of the fortifications of the Romagna and the Veneto with Michele Sanmicheli, his only peer in this field. His recommendations came too late, and Rome was sacked by Imperial troops in 1527. Raphael was already dead, Giulio Romano had already departed for Mantua, and Michelangelo had resettled in Florence. But for those who were left, like Sansovino and Peruzzi, the Sack was the signal to go.

Sangallo alone stayed, and turned Rome into the base of the greatest fortifications enterprises Italy had ever seen. He fortified the Vatican and projected a new enceinte for the whole of Rome. He studied guns, assisted at artillery tests, and pushed to perfection ideas like pincer projections, double-shouldered multigalleried bastions, and antimine tunnels. He worked mainly for the Pope but lent his assistance to the Medici who, in

1529–1530, were tightening the siege around the last doomed Republic of Florence. Michelangelo, the republican, was on the inside of the siege; Sangallo, the Medicean, on the outside. When the battle was over and Florence taken, Sangallo built the Fortezza da Basso for the Medici, with especially low gun emplacements that could be used against the restless populace. "The Florentines' yoke provided a model which was to bow many non-Italian shoulders, and it could be plausibly argued that the genius of Antonio da Sangallo was more baleful to the common man of sixteenth-century Europe than that of Machiavelli."[6]

Michelangelo narrowly escaped the downfall of the Florentine Republic with his life, but was soon amnestied by the Medici on condition that he return to their service. The three commissions at the Medici church of S. Lorenzo—the never-executed façade, the Medici tombs, and the library—are the subject of William Wallace's sprightly, immensely readable book. Here the romantic legend of the lonely genius gives way before a picture of a man who could maneuver within networks of patronage and organize a large work force, numbering at its height between two hundred and three hundred men, for the quarrying, transportation, and carving of stone.

The S. Lorenzo façade would have been the largest free-standing marble structure since antiquity, "for architecture and for sculpture the mirror of all Italy." By coincidence the little-used quarries at Seravezza near Pietrasanta had just passed into the Florentine domain. Here were abundant veins of good marble, pure and white "like the moon reflected in a well." But unlike the quarries at Carrara there were no facilities to exploit them. Michelangelo had to bring in quarrymen and tackle, cut roads through the cliffs, arrange for transport by oxen to the coast, transship the blocks by custom-built cranes to chartered boats, tranship them again to barges on the Arno, then haul them by oxcart to the new stoneyard he was building in Florence. From a book like this one realizes what was left out of the elegant rooms in Palazzo Grassi devoted to machines and construction: snapped cranes, frayed rope, crushed fingers, the "hundred eyes" Michelangelo felt were needed to keep quarrymen working and the "hundred oaths" that got the marble down the mountainside.

One could ride over the mountains from Florence to the quarries in a day or two, but at best the marble took six or seven months to make the journey back. And everything that could go wrong did. The jubilation when the first giant monolithic column came out of the quarry was immense, but the depression when the next one fell and shattered was overwhelming. "You must value your person more than a column, the whole quarry, the pope, and the whole world," wrote Michelangelo's brother. "Come home, by all means, and let everything else go to hell" (*al bordello*). In the end six or seven of the

great columns were quarried but only one ever got to Florence. Reading Wallace makes one look at the handsome model of the S. Lorenzo fade in the exhibition, with its twelve elegant wooden columns, in an entirely new light. After reading how Michelangelo sweated in the quarries, one cannot agree with Giulio Carlo Argan that he was not particularly disappointed to see the S. Lorenzo façade commission canceled. He was broken-hearted and bitter. The façade was not a series of little chalk sketches that were left to be filed for future scholars but a mountain of marble that was half-quarried and beginning to pile up in the yards in Florence.

Michelangelo told his early biographer Condivi that stonecutting was in his blood since he was suckled by a woman who was the wife and daughter of stonemasons. True *annaliste*, Wallace tracks many of Michelangelo's stonemasons down in the archives. They all tended to be born within half a mile of each other in Settignano or Fiesole. Stone was in their families for generations; they knew it by color, odor, taste. They worked for Michelangelo for years, or decades, worked harder and longer than any other building crew in Florence, and stuck with him even after the outbursts that were part and parcel of Renaissance friendship. Some were sculptors busy with commissions of their own, others mere craftsmen. To some Wallace can give only nicknames: Stumpy, Fats, Thorn, Dolt, Knobby, She-Cat, Old Woman, Radichio, the Turk, the Priest, names that tell volumes about the daily banter of the worksite. Their chisels created Michelangelo's great masterpieces, the white marble architecture that serves as backdrop for the Medici tombs, and the gray *macigno* of the monolithic columns and details inside the Laurentian Library.

Michelangelo knew what it meant to run a tightly organized, well-paid, but efficient and hard-working construction crew. He had harsh enough words for the slow bureaucracy of the Florence cathedral. But when he was later confronted by the vast and labyrinthine organization of the *fabbrica* of St. Peter's he lost all patience. It was to him a den of thieves making money on every stone contract, with a vested interest in a model of a church so large that they could continue making money for ever. His aesthetic criticism of Sangallo's model is tinged with the moral indignation of the reformer, a role well described in the book by Argan and Contardi.

Giulio Carlo Argan was the grand old man of Italian art history and *Michelangelo Architect* was his last book. Beautifully illustrated and produced, it is an essay in the grand Italian manner with reflections on human destiny and art, religion and humanism, self-criticism and the *non-finito*. Between the resonant periods there are many flashes of insight, especially on the psychological character of Michelangelo's fortification designs and the moral urgency with which he tackled the problem of St. Peter's. Argan served

as a reform-minded mayor of Rome on the Communist ticket in the late 1970s, and the picture of the old Michelangelo who is passionately committed to the reform of a corrupt bureaucracy may have an autobiographical ring. The town hall of Rome is on the Capitoline Hill, and when Argan talks about the metaphysical character of the light in Michelangelo's piazza he does so at least after long observation.

But the real scholarship in *Michelangelo Architect* is set in the finer type of Bruno Contardi's excellent catalog, where the detailed history of every commission is given on the basis of the latest research. English-language students have been spoiled for a long time by James Ackerman's *The Architecture of Michelangelo*, of 1960, especially its brilliant catalalog,[7] but Contardi deftly integrates into his picture the mass of literature that has appeared in the past thirty years. In particular he uses recently discovered documentation to highlight the drama of Michelangelo's arrival at St. Peter's in 1546. Rejecting all offers of salary, and taking the commission "against my wish by very great force," the old master wielded immense moral authority. He was appointed by the very pope, Paul III, who made Sangallo do the model, and who desperately wanted to see St. Peter's finished in his lifetime. But Michelangelo convinced the Pope to tear down the ambulatory that Sangallo (and Raphael) had begun. If 80,000 scudi worth of masonry had to come down, nevertheless 300,000 scudi and fifty years would be saved. He walked into his first meeting with Sangallo's deputies and charged them with corruption to their faces. He was confrontational and intimidating, and when he could not have Sangallo's men fired by the deputies he had them rough-housed by his servants. He would reform the church, stop the scandals, and save his soul.

Some idea of the changed climate can be had from the new models he had made. The first was probably of wax; it was made in two weeks and cost only twenty-five scudi. Even the large wood model that came next cost only eighty-seven scudi. Both are lost, but a third survived in a place no one thought of looking for it. About the size of a soccer ball, it is a model for the new apse vaults, one of the few things that Michelangelo could still change on the interior of the church. He inserted it inside Sangallo's model in order to test the effect, and there it stayed until Millon and Smyth discovered it in the 1970s. It has been removed, restored, and was placed in the last room of the exhibition. Simple, but powerful too, with an interplay of dynamic ribs and webbed vaults, it is like a perverse organ transplant, designed to kill the giant body into which it was placed. Its very success sent Sangallo's model into hiding for 450 years.

3.

Even apart from the Palazzo Grassi exhibition it was a rich summer for Renaissance architecture in northern Italy. In September a major exhibition devoted to Leon Battista

Alberti opened in the Palazzo del Te in Mantua. Alberti, who thought best in Latin and studied every field from ancient satire to modern cryptography, forced himself to read until the letters looked like spiders crawling in front of his eyes. He thought more about architecture than any other Renaissance humanist:

> To distract myself from my bitter cares and sad worries, I often imagine and build up a mental picture of unheard-of machines that move and transport, erect and build things of unimagined grandeur… And sometimes I compose an elaborate building in my head, and arrange the rows and numbers of columns with various strange capitals and bases and graceful cornices… And with such exercises I fill my mind until sleep overtakes me.

Alberti was born in Genoa of an exiled Florentine family and passed much of his career in the Roman curia, but he was summoned to Mantua in 1459, a year before Mantegna, and eventually designed two great churches for the Gonzaga. S. Sebastiano, a votive offering undertaken after the cessation of a plague, puzzled even its patron, who could not tell whether he was looking at the plan of a church, a mosque, or a synagogue. Finished after Alberti's death with many changes in plan, and then secularized and turned into a military memorial, it has been inaccessible for decades, and it is one of the permanent achievements of the organizers of the exhibition to have opened it again to the public. S. Andrea, home of a relic of the Precious Blood and also of Mantegna's funeral chapel, was also finished according to other plans. Any models that Alberti might have made have long since been lost. Thus reconstructing Alberti's ideas, much less exhibiting them, is a real challenge.

Under the aegis of Olivetti, the most design conscious of Italian firms and enlightened of corporate patrons, an international team of scholars was assembled under the direction of Joseph Rykwert and Robert Tavernor, authors of the standard English translation of Alberti's seminal book, *On Building* (*De re aedificatoria*). They produced a catalog with short stimulating essays, including several on unconventional topics like Alberti's interest in mathematics and in machines. Armando Petrucci gives a fascinating reading of Alberti's place in the development of Renaissance letter-forms; Joseph Rykwert shows how the strong Franciscan traditions of Rimini were displaced by the idea of a pantheon for the illustrious dead of the Malatesta family long before Alberti; and Leo Steinberg draws a wittily iconoclastic picture of a willful, obstinate Mantegna shedding Albertian influence like water off a duck's back. Of distinguished scholarly input there is no lack.

Whereas the exhibition in Palazzo Grassi was not particularly influenced by FIAT's

expertise in making cars, Olivetti computers were everywhere evident in the Alberti show. Videos showed computer-guided robots cutting the parts of wooden models with a speed and precision that would have unnerved poor Sangallo. The final projects of this process were everywhere, handsome blond wood models of impressive size showing every one of Alberti's notoriously unlucky projects completed. One could fly, virtually, around computer mock-ups of Alberti buildings in their urban contexts. There were original objects too, early Vitruvius manuscripts, books Alberti owned and maybe annotated, and many interesting drawings. But much of the exhibit was held in cyberspace. In the words of the organizers, "Computers and multimedia technologies will be used…[to] enable the public to take a more active, involved part in the exhibition experience." Beside the real Alberti, notoriously difficult to present, would stand a virtual Alberti, shaped by a new vision of what an exhibition should be like.

The result was exasperating. One was assaulted by video while music (both from the fifteenth and late twentieth centuries) was piped into every space. The manuscripts and drawings were not well enough lit to be read. Seeing a perspective diagram of Piero della Francesca's *Flagellation* reconstructed on a screen is not, in the end, as interactive as seeing a real Piero in peace and quiet. Most of all one kept wondering where one stood with these elegant models, millimetrically faithful to computer templates, which themselves were only hypotheses about what was going on inside Alberti's head. They had the beauty of definitive projects, but occasionally a caption would remind us that they were just experiments and that Alberti would probably have changed his mind had he been able to see them.

The Palazzo Grassi exhibition opened in December in a somewhat altered format at the National Gallery in Washington, and we can hope that Sangallo's great *plastico* and some of its cousins will awaken the same interest they have in Venice. Models are after all the missing link in the creation of the Renaissance townscape. They convinced popes and princes to build on a massive scale. They offered aging architects and patrons the hope that their brainchildren might live on even after their deaths. They were the kind of thing men swore allegiance to. The Renaissance achievement would have been unthinkable without them. But when they got too good they became dangerous: "the mark of no architect intent on conveying the facts; rather of a conceited one, striving to attract and seduce the eye of the beholder."[8] Alberti makes this remark about colored and painted models, but it applies in some sense to every really beautiful model. Even Sangallo might have taken it to heart, in those last seven years when he turned from Italy's most productive architect into the Pygmalion of his model.

1. 1
   Howard Hibbard, *Carlo Maderno and Roman Architecture 1580–1630* (Pennsylvania State University Press, 1971) is the best introduction to this period. ↩

2. 2
   These revolutionary findings are most accessibly presented in a recent article, Henry Millon and Craig Smyth, "Pirro Ligorio, Michelangelo, and St. Peter's," in R. Gaston, editor, *Pirro Ligorio Artist and Antiquarian* (Milan: Silvana, 1988), pp. 216–286. ↩

3. 3
   Ludwig Heydenreich and Wolfgang Lotz, translated by Mary Hottinger, *Architecture in Italy: 1400 to 1600* (Penguin, 1974). ↩

4. 4
   Christof Thoenes, "St. Peter's 1534–46: Projects by Antonio da Sangallo the Younger for Pope Paul III," pp. 634–636; Hubertus Güther, "Urban Planning in Rome under the Medici Popes," pp. 545–549; Marilyn Aronberg Lavin, "Representations of Urban Models in the Renaissance," pp. 674–678; Nicholas Adams and Laurie Nussdorfer, "The Italian City, 1400–1600," pp. 203–231. ↩

5. 5
   Thoenes, "St. Peter's 1534–46," p. 635. ↩

6. 6
   John Hale, "The End of Florentine Liberty: The Fortezza da Basso," in N. Rubinstein, editor, *Florentine Studies: Politics and Society in Renaissance Florence* (Northwestern University Press, 1968), p. 531. ↩

7. 7
   James S. Ackerman, *The Architecture of Michelangelo* (London: Zwemmer, 1961, 1964, 1970; University of Chicago Press, 1986). ↩

8. 8
   Quoted by Christine Smith on p. 456 of *The Renaissance from Brunelleschi to Michelangelo*. ↩