

## The one-room apartment of Cornelis Meijer\*

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The subject of this chapter is the one-room or 'efficiency' apartment devised by the Dutch engineer and inventor, Cornelis Meijer (1629–1701), and published in Rome in 1689 in four rare prints. Let us consider Meijer's career for a moment before turning to the apartment.

### Cornelis Meijer

Cornelis Meijer was born in 1629 in Amsterdam.<sup>1</sup> Details of his formative years are sketchy, but he was a practical man who moved in scientific circles, developing expertise in both hydraulics and astronomy. In 1668 he was stimulated by discussions in Dutch academies on Archimedes' test of the weight of gold in a crown made for the king of Syracuse (by measuring the crown's, and his own, displacement in water, leading to the Greek scientist's famous 'Eureka!').<sup>2</sup> On 20 January 1674, after meditating on the problem, Meijer demonstrated a hydrostatic balance to the Estates General. In search of a profitable outlet for his knowledge of water, he journeyed to Venice in that year, where some of his hydraulic proposals were adopted and he was given the official title of engineer. In April 1675, however, at the age of 44 or 45, Meijer decided to visit Rome. What might have begun as a simple excursion at the time of Easter (14 April 1675) turned into permanent residence in the *Urbs*.

Meijer joined the long list of consultants who, for over a century, had turned their hydraulic expertise on the unruly Tiber, especially after the disastrous floods of 1557.<sup>3</sup> Andrea Bacci, physician and humanist, wrote a treatise, *Del Tevere*, in 1558, from a medical and philosophical point of view, while Antonio Trevisi of Lecci came at the problem from the world of military architecture and engineering. The great flood of 1598 destroyed the Ponte Santa Maria (henceforth 'Ponte Rotto') and caused severe damage throughout the Campus Martius.<sup>4</sup> Pope Clement VIII was prodigal with disaster relief but had no long-term solutions. However, he sent an efficient young cleric, Maffeo Barberini,

to deal with problems of water in the Po valley in 1599 and in Umbria, around the Lago di Trasimeno, in 1602.<sup>5</sup> As pope, Urban VIII took an interest in hydraulics and established a commission to study water problems, and he invited Galileo's closest follower, the Benedictine monk Benedetto Castelli (1578–1673), to be the tutor in mathematics of Taddeo Barberini and eventually to assume the chair of mathematics at the Sapienza. Castelli was the expert of his generation in theoretical hydraulics, who pioneered research on the concept of velocity of flow.<sup>6</sup> Still, research remained on a theoretical level, and it was classical learning rather than practical knowledge that dominated the discussions of the mid-century, such as *Il Tevere incatenato* of Filippo Maria Bonini of 1663.<sup>7</sup>

The problem came to a head once again in 1675, just at the time Meijer arrived in Rome, not with a flood but with the erosion of the bank threatening the Via Flaminia just outside Porta del Popolo. Here the Tiber formed an oxbow that was both wide and shallow, and erosion threatened to invade the highway near Vignola's church of Sant' Andrea. Meijer was asked to share his opinion of the situation and offer a solution. It was typical of him to take a more global view of the problem by studying the entire Tiber basin. He realised that flooding in Rome originated a considerable distance upstream. The Tiber was neither properly banked for most of its course, nor was it navigable. It suffered from an overabundance of water in flood season but, perversely, was too shallow in stretches to allow commerce between the capital and the northern regions of the Papal State. To assess the situation Meijer made a trip upriver as far as Perugia. In 1675–1676, he drafted a manuscript report illustrated with drawings by a compatriot, Gaspar van Wittel, also a new arrival in the city.<sup>8</sup>

With his experience in the Dutch polders to guide him, Meijer proposed a soft solution to the problem of erosion of the Tiber bank. His *passonata* or embankment was to be made of wooden piles and bundles of reeds lining a path of packed earth. Opposed to Meijer, and proposing a hard solution, was the leading architect and hydraulic expert of Rome, Carlo Fontana. Fontana would have no truck with reeds and wooden piles, and proposed a stone embankment on the threatened side of the river. Meijer argued that not only would his soft solution cost far less (9,500 as opposed to 80,000 scudi), but that it would outlast Fontana's hard solution. It was useless, he maintained, to protect only the riverbank near the Via Flaminia while leaving unregulated the flow on the opposite shore, near Prati. Meijer's *passonata* would have narrowed the riverbed considerably, protecting the banks while deepening the draft and thus eliminating one of the obstacles to navigation north of the city. Meijer's *passonata* was begun soon afterward, but the dispute with Fontana would last for years, until Innocent XI's commission came out with a full vindication of Meijer's work, leaving the Dutchman with a victory but also a permanent enemy.

Soon after submitting his illustrated manuscript in 1676, Meijer realised that the fate of most reports, after a brief perusal by a papal administrator, was to sit in an archive gathering dust. Even worse, it might be plagiarised by a rival

engineer. When an invention was indeed useful, there was no middle ground between absolute secrecy and mass divulgation. By the mid-sixteenth century, patents had begun to be developed in Venice, Antwerp and England to protect the glass and textile industries, to lure foreign craftsmen, and occasionally to protect innovations, but in Rome they were still in a primitive stage of their development.<sup>9</sup> Papal privileges did offer a form of limited protection to prints, usually for a decade, and competing publishers such as the two rival branches of the De Rossi clan made ample use of them in their publications of views of Rome under Alexander VII.<sup>10</sup> However, a privilege was not a patent, and if it protected the artistic form of a print, it did not protect its contents. It was useful for artists and publishers but not for inventors.

Anxious to protect his ideas, Meijer decided to give them the maximum of publicity. His two-fold strategy turned on a combination of one big book and many small broadsheets. The big book, called *L'arte di restituire à Roma la tralasciata navigazione del suo Tevere*, is a bibliographer's nightmare. It came out in a large, indeed luxurious, edition in 1685, but there are partial earlier editions: one in 1679, a portfolio of 11 half-page etchings and no title page; and another in 1683, with a preface dated 1678 and a colophon dated 1685.<sup>11</sup> The broadsheets, on the other hand, or *ritrovamenti*, as he called them, show many new inventions from Meijer's fertile brain, some related to water and some not. It was essential that each *ritrovamento* be illustrated in a clear print, followed by an explanation that almost always fits onto the recto and verso of the same sheet. Thus the inventions could be distributed singly; or inserted into successive editions of his protean book on the Tiber; or bundled into the collections called *Nuovi ritrovamenti* issued in 1689 and 1696.<sup>12</sup> In a world where the notion of intellectual property was weak and *emuli* lurked around every corner (Meijer reminds us that Amerigo Vespucci usurped the glory rightly due to Columbus as the discoverer of the New World), no inventor could long maintain a monopoly over his ideas. Meijer put his inventions up on the web, so to speak, claiming paternity while relinquishing propriety over them.

Meijer was a competent draftsman and etcher, but he also commissioned etchings from professionals such as van Wittel. He entered into a fruitful relationship with the brilliant young etcher Giovanni Battista Falda in the two years before Falda's premature death in 1678. Falda produced about 10 half-page plates of dykes and similar works for Meijer as well as a beautiful bird's-eye view of the *passonata* near Porta del Popolo. During this period, however, Meijer was constantly expanding his vision to embrace the entire hydraulic system of the Papal State. One can already see this in a small inset on the large Falda map of 1676, which shows the watershed of the Tiber from Farfa to Fiumicino and from the Lago di Vico to Palestrina. Working intensely in his last year of life, Falda produced two further maps of water systems for Meijer. One shows the Tiber valley downstream from Rome. It is accompanied by a proposal to circumvent the river and the Fiumicino canal entirely with an ambitious new canal, which would start at the Ripa Grande

and run parallel to the Tiber, passing through the swamp of Maccarese (now the site of the modern airport) before debouching into the sea. The other Falda map, signed and dated 1678, shows the swamps, streams and canals of the Pontine Marshes as far as Terracina.<sup>13</sup> Falda departed this world in 1678, aged 35, but Meijer would go on using his plates for another 20 years.

Meijer used whatever book he was writing at the moment to publicise other inventions besides the contentious Tiber *passonata*. The *Arte di restituire à Roma la tralasciata navigazione del suo Tevere* in its sumptuous 1685 edition shows ways of winching small craft over rollers and raising sunken ships as well as prints of well-sprung *calèches*, more efficient wagons and a horse-less coach powered, however improbably, by a hand crank. With his fondness for vehicles on land and water, Meijer gives the impression of a man constantly on the move. He also shows projects submitted to Cosimo III for harbours in Tuscany and a large map of the Arno and its tributaries between Pisa and Livorno. In 1698 he would make proposals for hydraulic improvements in the river systems linking Bologna, Ferrara, Pesaro and Ravenna, but already in 1685 the Tiber book has prints on the harbours of Fano and Ancona. True to his vision of a river like the Tiber or the Arno as a total system, he would later publish a large map of the entire lower delta of the Po, the most complex of Italian rivers.<sup>14</sup>

Many of the plates of inventions familiar from *L'arte di restituire à Roma la tralasciata navigazione del suo Tevere* were later reprinted in two collections entitled *Nuovi ritrovamenti*, one in 1689 and one 1696. Another book of 1696, *L'arte di rendere i fiumi navigabili in varij modi*, though ostensibly devoted to river management, and indeed showing many ideas on this subject, is also packed with plates of still more inventions, some familiar and some new. The plates come thick and fast, two to a page, without explanatory text. The three parts of this rather miscellaneous book attain a degree of editorial coherence thanks to the prints of a dragon on the title pages. This fantastic creature was allegedly found snorting and alive in the swamps outside of Rome in 1691. The first title page shows it alive, the second shows it freshly killed, while the third shows it as a decrepit skeleton in Meijer's collection. The Dutch engineer thus proudly joined the ranks of the famous dracologist of the early Baroque, Ulisse Aldrovandi, who was lucky enough to have snagged a dragon for his museum in Bologna during the pontificate of Gregory XIII Boncompagni, whose family impresa was a dragon and whose country seat was of course the Villa Mondragone in Frascati.<sup>15</sup>

### Giovanni Giusto Ciampini's Accademia Fisico-mathematica

The dragon brings us to Meijer's collection and to his intellectual culture, above and beyond his skills in water management. Amsterdam was the perfect place to begin a life-long initiation into the culture of curiosity, and Rome was a good place to indulge the habit of collecting. Aside from the

dragon, we know from the book of Filippo Buonnani of 1691 on malacology that Meijer ('che ha potuto nell'anno passato qui in Roma opporsi alla violenza del Tevere, e imbrigliarlo in catena con un'argine fortissimo') had a shell collection, including three valuable shells that curved counter-clockwise.<sup>16</sup> We have an etched self-portrait of Meijer dressed with the elegant lace collar of a gentleman, looking still quite handsome at age 54 (Figure 3.1).<sup>17</sup>

Five years after his arrival in Rome, Meijer joined the Accademia Fisico-mathematica, which had been founded by Giovanni Giusto Ciampini in 1675. Ciampini was an *érudit* of the old stamp who combined an interest in Christian antiquity with a passion for science. Four years earlier, he had founded the Accademia dei Concilii e di Teologia, and the monuments of the early Church were always paramount among his interests. They are represented in his *Vetera Monumenta* of 1690, where he assembles a massive amount of information on the Early Christian churches of Rome and Ravenna, discussing every aspect of their decoration, including mosaic, *opus sectile* and fresco, as well as bronze doors and Cosmatesque floors and fittings.<sup>18</sup> Alongside this mountain of ecclesiastical erudition, however, Ciampini opened the doors of the Accademia Fisico-mathematica to the new science. It offered space for discussions on optics, perspective, anatomy, botany, arithmetic, astronomy, geography and ocean mapping. Ciampini interested himself in the Torricellian experiment on the vacuum, but also in surveyors' levels, meteorological instruments and the design of coaches. He introduced members to his publisher, Giovanni Giacomo Komarek, a Czech immigrant who established one of the major publishing houses of late Seicento Rome, who would become the publisher of Meijer's later books.<sup>19</sup>

The scientific importance of Ciampini's Accademia is downplayed by the authoritative historian of science, W. Knowles Middleton, who calls it 'but a small and grayish brush stroke on the canvas of history'.<sup>20</sup> Even so, the presence of two learned astronomers gave it weight. The Jesuit astronomer, geographer and mapmaker Francesco Eschinardi was a member, and his books perhaps suggested the term 'fisico-mathematica' to Ciampini.<sup>21</sup> Eschinardi kept the academy in Paris informed of its activities, and both Montfaucon and Mabillon mention Ciampini with praise after their visits to Rome. As a geographer, Eschinardi mapped the *agro romano*; he had an interest in hydraulics that would have appealed to Meijer. In a printed letter of 1681, Eschinardi explored the idea of a proto-Suez canal between the Mediterranean and the Red Sea, and one can imagine the conversations with Meijer about his proposed canal through the swamp of Maccarese.<sup>22</sup> Meijer charted the comets of 1680, 1682 and 1684, and realised that what the public regarded as many comets could be a single comet coming and going around the sun. Another outstanding personality to join the academy was Francesco Bianchini (1662–1729), a Jesuit-educated polymath from Verona who studied astronomy in Padua in 1680 and who joined the academy when he arrived in Rome in 1684.<sup>23</sup> Perhaps Bianchini was a rival of Meijer's in astronomy, though neither knew at the time that the comet of 1682 was the short-period (that is,





3.1 Portrait of Cornelis Meijer at age 54 in 1684. Source: Cornelis Meijer, *L'arte di rendere i fiumi navigabili in varij modi, Parte terza* (Rome, 1696) (Typ 625.96.565, Houghton Library, Harvard University)

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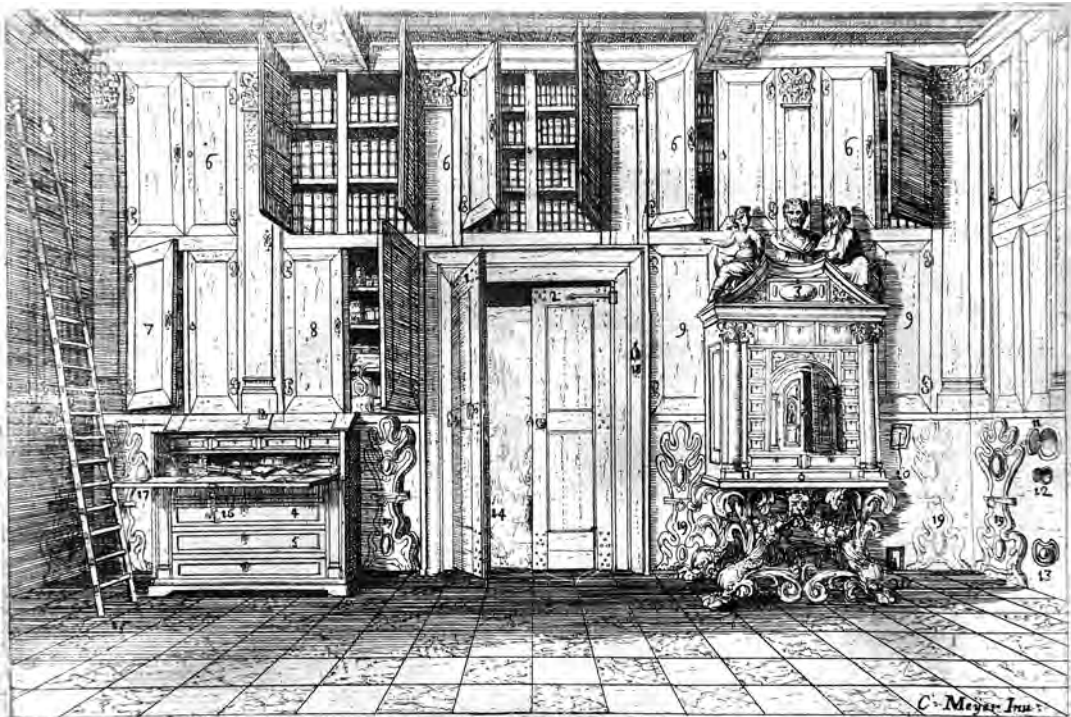
every 75–6 years) comet that had been recorded for millennia, a discovery that was reserved for Edmond Halley in 1705. In any case, Bianchini was a more professional observer than Meijer and eventually had both a comet and a lunar crater named after him.

Meijer found a playful outlet for astronomy in projects that use the obelisks and triumphal columns of Rome as gnomata. In Piazza San Pietro, he shows four circles with the faces of a celestial and a terrestrial globe, as well as diagrams of the Ptolemaic and the Tychonic 'hypotheses'. The accompanying text alludes to the Copernican and Cartesian systems as well, though it perhaps was safer not to illustrate them in a book published by the Reverenda Camera Apostolica. Another print shows the obelisk of Santa Maria Maggiore tracing the course of the moon, and another a marble pavement in the piazza of the Lateran showing all the comets of recorded history. Another set of prints proposes jacking the still buried obelisk of Augustus behind Montecitorio and erecting it between the Horse Tamers of the Quirinal, where it would chart the course of the pole star.<sup>24</sup>

Compared to the Accademia dei Lincei of Federico Cesi earlier in the century, the scientific atmosphere in Ciampini's house was perhaps a little thin. Nevertheless, it offered a congenial setting for the nightly *conversazioni*, where music and refreshments framed more serious discussions amidst surroundings full of antiquities, inscriptions, vases, paintings and perhaps spaces for scientific demonstrations. One can easily imagine the cultivated crowd straining to see the comets of the 1680s from a rooftop, or applauding when the perfectly tuned pitch of keyboard and strings shattered a drinking glass, as shown in one of Meijer's prints. It was a lively and cultured house: 'tota domus gymnasium est', in Piazza's words. Ciampini wanted to prolong the life of the Accademia after his death by endowing an institute for advanced study, which he called the Athenaeum Romanum. According to his will, its mission would have been to tide over needy *érudits* (not students, all over age 25) for terms of five years or until they could be absorbed into a prosperous ecclesiastical household. Ciampini died in 1698, but problems with the will ensured that the Athenaeum Romanum was stillborn and Ciampini never received an appropriate tomb.

### The one-room apartment

Finally we come to the one-room apartment. Meijer published this amusing *jeu d'esprit* in four etchings with long numbered captions in his *Nuovi ritrovamenti* of 1689.<sup>25</sup> They show the four walls of what we could call a studio apartment inhabited by a virtuoso with an unusually compact lifestyle. Meijer begins by criticising the multiplication of specialised spaces in contemporary palaces, which have as a consequence the scattering of a gentleman's possessions over a great number of rooms. He complains that one can never have all the accoutrements of a civilised life to hand when one wants them. In his model



## DEL FABRICAR COMMODO.

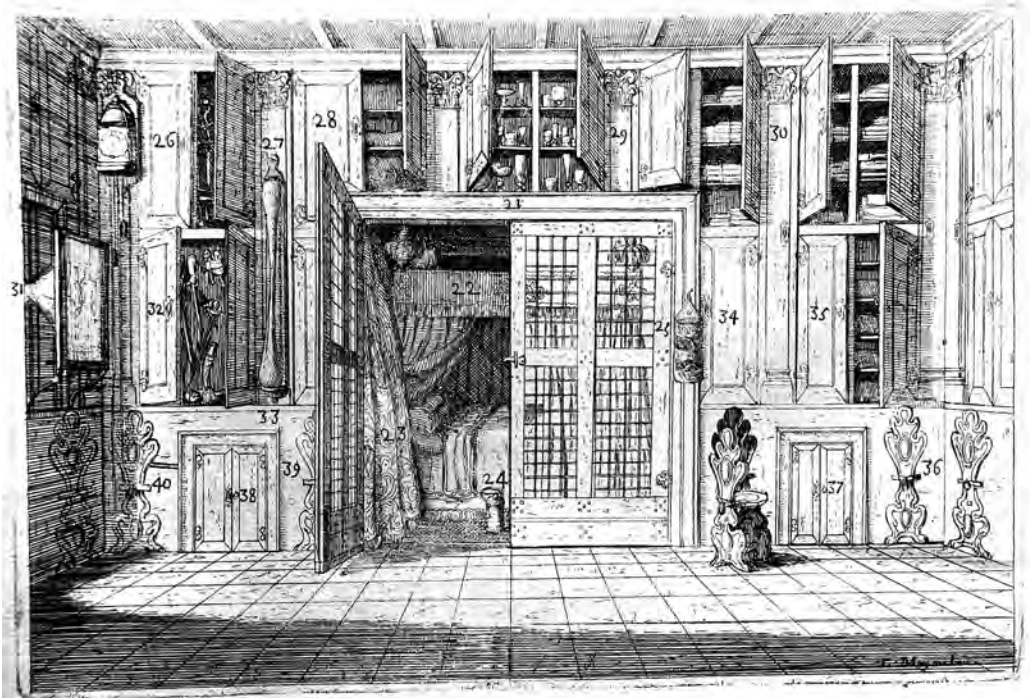
3.2 Cornelis Meijer, One-room apartment. Source: Cornelis Meijer, *Nuovi ritrovamenti* part 6, *Del fabbricar comodo*, Primo muro (Rome, 1689)

room, however, everything that a (bachelor) virtuoso could desire lay within arm's reach.

On the first wall (Figure 3.2), we see the door opening (on specially mounted hinges) onto a garden with a Triton fountain like Bernini's. One leaf is left ajar so that the chickens can come in and lay eggs for the owner. Visitors would ring a doorbell. Inside, chairs slide into the wall so as not to take up much space. A lockable desk with commodious drawers is strewn with papers, pens and a bell. One key fits the desk and all other locks. There are nine built-in wall cupboards that contain a library, record books, letters, curiosities, secrets and other *galanterie*; the pilasters also open up to create extra storage space, as in contemporary Roman libraries like the Barberini or the Alessandrina. Speaking tubes allow the occupant to listen to what is being said in other rooms or to give orders without leaving the room. There is a chest with many drawers, like the famous *stipo fiorentino* today in Palazzo Pitti or the type of *Kunstschränk* produced by Philipp Hainhofer in Augsburg;<sup>26</sup> it is surmounted by a bust *all'antica* and two seated figures. There is a nook for a puppy and a barber's basin.

The second wall (Figure 3.3) contains a luxurious canopied bed in an alcove that can be sealed by doors and a curtain. There is a night bucket nearby, and servants were to enter the alcove from a door on the other side, without coming into the main room. In the top left corner of the room there hangs a night



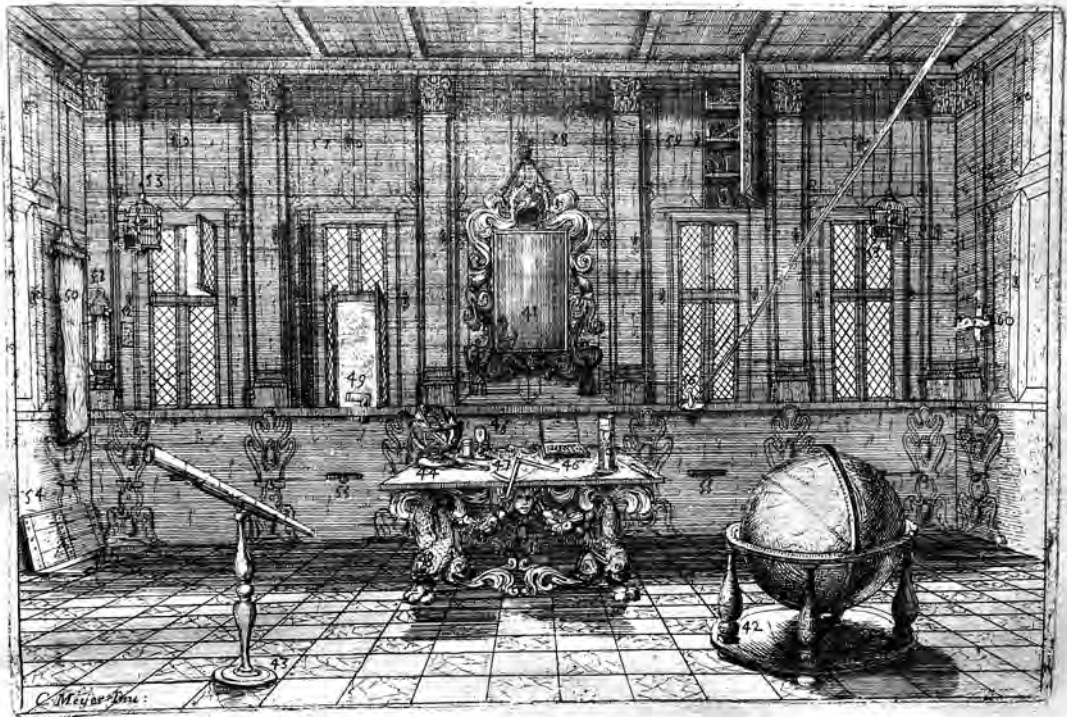


FACCIATA DEL SECONDO MURO DELLA STANZA.

clock with an illuminated dial of the type that so fascinated Alexander VII.<sup>27</sup> This one is said to be able to run for a year on a single winding. Under the clock we see an image projected on a screen by a camera obscura, so that the occupant can see what is going on in the street without rising from bed. The nearby armour closet shows that the gentleman owner is well defended; in it we see hanging a sword, a Mughal and a European dagger, a brace of pistols and a blunderbuss or two. In the tool closet over the armoury one glimpses a saw, brace and bit, and hammer. A tall thermometer is attached to the wall. Eight closets contain silverware, vessels, goblets, candelabra, tools, linen and clothes (worn, washed or laid out for the day). A secret stairs descends to other apartments.

The third wall (Figure 3.4) has four windows and is devoted to optics. A mirror with an elaborate Baroque frame, topped by a morion or helm with ostrich feather plumes, hangs in the centre. In the room we see a telescope on a mount to the left, a globe to the right, and in the centre a table with legs made up of intertwining dolphins; a vent in the floor below the table allows cool air to circulate. We can make out a celestial sphere resting on the table, as well as a microscope, an assayer's balance, a turned cup and various mathematical instruments, including the hydrostatic balance that Meijer invented in Holland. An almanac hangs on the wall along with a note pad and two birdcages. A periscope with a concave mirror allows the owner to observe

3.3 Cornelis Meijer, One-room apartment. Source: Cornelis Meijer, *Nuovi ritrovamenti* part 6, *Del fabbricar comodo, Secondo muro* (Rome, 1689)



FACCIATA DEL TERZO MVRO DELLA STANZA.

3.4 Cornelis Meijer, One-room apartment. Source: Cornelis Meijer, *Nuovi ritrovamenti* part 6, *Del fabbricar comodo, Terzo muro* (Rome, 1689)

street life without being seen. Like the astronomical gallery in Palazzo Spada,<sup>28</sup> there is a solar clock that uses a mirror to send a beam of light onto the ceiling, where, just out of sight, a meridian shows the lengthening or shortening of the solar day. Above the windows and mirror are five closets for gold and silver coins and especially prized *galanterie*, while the pilasters and the spaces flanking the windows are lockable compartments for high security storage. A trap door on the lower left leads down to a wine cellar.

The fourth wall (Figure 3.5) is the wall of heat, alchemy and domesticity. We look at it from under the curtain of the bed alcove on the opposite wall. A roaring fire is going in the fireplace, which is equipped with firedogs with ball-shaped fronts that radiate heat, a bellows, and a Dutch poke and shovel. An efficient flue prevents the smoke from escaping into the room and instead uses it to turn a roasting spit. Baking ovens are located in the rear as well as iron plates that heat water tanks that are filled from a neighbouring room, while another iron plate on the floor in front of the fireplace radiates heat while keeping the room fireproof. There is an odourless sink with hot and cold running water and a handy whetstone, as well as a distillery and an alembic for preparing various *galanterie* (cordials). Eight closets contain plates and vessels, while a table that can be raised or lowered on hinges is available for preparing food; it comes complete with eyeglasses and scales. There is a press with twin screws for keeping napkins and tablecloths neatly ironed.





The fireplace is framed by 20 small and five large drawers that contain flint and steel, tapers, matches, tobacco and the like. In an oval framed by a laurel wreath and flanked by abundant festoons of fruit we glimpse a Rubensian scene, Pan pursuing Syrinx through the reeds.

Meijer's one-room apartment for the virtuoso gentleman is a deliberate provocation that flies in the face of fashions in Baroque domestic architecture. As Patricia Waddy has eloquently demonstrated, palaces in Baroque Rome were designed around a standardised apartment with an extendable *enfilade* of rooms.<sup>29</sup> Visitors might congregate amidst footmen and guards in the main *salone*, but then they were received into the owner's chambers, which consisted of a series of semi-private *antecamere* followed by a bedchamber, study and back stairs. Michel de Montaigne, who visited Rome in 1581, was so impressed by the difficulty of penetrating deep into the magnificent palaces of Rome, with their 'divers porticoes and passages, long and pleasant galleries, and many windings', that he used them as a metaphor for the usefulness of distance and degree in the most intimate of human relationships.<sup>30</sup> The French author of a guidebook to Rome of 1677, after wandering through so many deserted rooms and antechambers in Roman palaces, imagines himself on an enchanted stage, where the master of the house awaits at the end of the *enfilade*, sullen and solitary, like the vanishing point of a perspective.<sup>31</sup>

3.5 Cornelis Meijer, One-room apartment. Source: Cornelis Meijer, *Nuovi ritrovamenti part 6, Del fabbricar comodo, Quarto muro* (Rome, 1689)

Had he been of a higher social class, Meijer might have noted that his rival Carlo Rainaldi opened up an unprecedented *enfilade* of 11 consecutive rooms in Palazzo Borghese in 1671–1677, just the years they were fighting it out over the *passonata* for the Via Flaminia.<sup>32</sup>

Not many Baroque men or women aspired to live in a one-room apartment. A successful artist like Bernini, for example, had the means to double the size of his already generous house in 1656. He lived on the *piano nobile* in a long apartment aping those of the nobility, where the walls of the grander rooms were lined with red damask.<sup>33</sup> We do not know much about the interior décor of Francesco Borromini's house, but we do know that his collections of paintings, books and curiosities filled many rooms.<sup>34</sup>

However, Rome was not entirely devoid of virtuosi who espoused a compact lifestyle. In 1648, the Oratorian priest Virgilio Spada, the most important administrator of architecture under Innocent X and Alexander VII, outfitted a suite of two rooms, a little over 60 square meters, under the clock tower that Borromini had just finished at the Casa dei Filippini. He describes with enthusiasm the various functions that were compressed into this small space: a room for entertaining visitors, a *saletta* that doubles as a study, a bedroom, an oratory, a closet, a spacious *guardarobba* with a day bed, a 'necessary' and, just outside the door, a small garden with potted citrus plants.<sup>35</sup> Spada's will of 1644 gives us an idea of the possessions that he moved from his old rooms into this new suite: a grandfather clock, 12 chests for coins and medals, a cabinet containing similar collectibles, two 'corpi santi' in bespoke reliquaries, horns of a rhinoceros and a unicorn, and many books. Those on astronomy, astrology, alchemy, chemical medicine and natural secrets would have appealed to Meijer. By end of his life, as we read in his last will of 1662, Spada's museum had spilled over into an annex of the library. The Spada brothers had been dead for more than a decade when Meijer came to Rome in 1675 and he never knew them personally. But he must have known Palazzo Spada, where there is a solar gallery that inspired the telescope and stellar diagrams on his Fourth Wall.

The virtuoso culture of wonder was passing from the scene during Meijer's lifetime, and what gradually supplanted it was a culture of useful knowledge, grounded in practical mathematics and measurement. Meijer's one-room apartment is part of that process. It is not an unworthy ancestor of Thomas Jefferson's bedroom suite at Monticello, with the famous bed alcove that opens on one side into the bedroom and on the other into the study where the Virginian polymath kept his polygraph, his instruments and many of his books. Here in the New World, inventors were welcome, and the spirit of Meijer lived on.

### Appendix: captions to the one-room apartment

*Nuovi ritrovamenti dati in luce dall'ingegniero Cornelio Meyer ...* (Rome: Gio. Giacomo Komarek Boëmo all'Angelo Custode, 1689).



Contents of the volume: 1. Eyeglasses; 2. Water mills; 3. River banks, how they break and are restored; 4. How to deepen banks of rivers for navigation; 5. Wagons and *calèches*, how to draw them without aggravating animals; 6. One-room apartment, entitled 'Del fabricar commodo, e camera con ottanta commodità'; 7. Paths of comets and their prediction; 8. Silk, usefulness of it and how to introduce it; 9. Branches of rivers, how to unite, raise and conduct them to Rome; 10. Medicines for illnesses, and to kill the worms generated by the eggs of animals.

6. *DEL FABRICAR COMMDO.*

Facciata del primo muro della Stanza.

Il dottissimo Virtruvio prescrivendo le regole dell'Architettura vuole che le fabbriche habbiano tre qualità cioè stabilità, e fermezza, aspetto maestoso tanto di fuori che di dentro, e la distributione delle stanze commoda per l'habitatione. Mà perche à causa del gran' numero delle Camere de i Palazzi, e Case non si può havere in pronto quello, ch'uno desidera senza moversi d'una Stanza all'altra, havemo volsuto (!) noi dimostrare, che si possono compendiare in una Stanza sola tutte, e singole quelle commodità, che si hanno in una gran' Casa, ò Palazzo, con haver alla mano tutto quello puol bisognare senza opera di alcuno. E per spiegare chiaramente il nostro pensiero rappresenteremo quivi le quattro facciate delle mura d'una stanza, nelle quali con decoroso aspetto sono additate con numeri tutte le commodità imaginabili nella maniera che segue.

1. Porta ingegnosa all'ingresso della Stanza che da latini s'addimanda Amphibia per haver le Bandinelle doppie quali sono così disposte che si può aprire detta porta tanto nella destra che sinistra parte.
2. Porta medesima li di cui ferramenti sono così disposti, che da se si chiude.
3. Studiuolo con diversi tiratori.
4. Cantarano con tavola dà scrivere, e da studiare.
5. Tiratori in detto Cantarano per riponere gli abiti giornalieri.
6. Scancie per libri ò Biblioteca.
7. Armario per tener i libri nelli quali si registrano le cose d'importanza.
8. Armario simile per tener lettere & altre Scritture segrete. [A date can be read on a jar in the closet, though the last digit is illegible: 1689?]
9. Armario simile per tener cose curiose, & altre galanterie.
10. Filza per lettere ordinarie.
11. Tubo per sentire quello che si discorre nell'altre Stanze.
12. Tubo simile per parlare ad altri senza uscire di Stanza, e senza esser inteso dà circostanti, e tubo per chiamare da lontano.
13. Bacile da Barbieri.
14. Galline che dal Giardino, possano venir far l'ove nella Stanza senza incommodo alcuno.
15. Scala che si serra per arrivare alle cose poste in alto, e poi si piega.

16. Chiave commune à tutte le serrature della Casa.
17. Campanello per sonare.
18. Campanello che vien sonato da quelli che vogliono entrare.
19. Scabelli che si pongono ne i vani del muro per non occupare luogo nella Stanza.
20. Nido per il canolino.

Facciata del secondo muro della Stanza.

21. Alcova con dentro una porta per rifare il letto senza entrare nella stanza.
22. Letto nell'Alcova.
23. Portiera dell'Alcova.
24. Urinale.
25. Pettiniera.
26. Horologio che v`a un anno intiero senza alzare li pesi, con lanterna per vedere l'hore la notte.
27. Armario per riponere diversi ordegni e serramenti.
28. Armario simile per riponere gli abiti al fine delle stagioni.
29. Armario simile per tenere vetri, e bicchieri.
30. Armario simile per tener li panni bianchi.
31. Camera oscura per vedere quello passa in strada ancorche si stasse al letto.
32. Armaria.
33. Termometro per conoscere li gradi del caldo, e freddo.
34. Armario per riponere li panni che si mutano.
35. Armario per li panni che alla giornata s'adoprano.
36. Scala segreta per calare à gli altri appartamenti [not shown, presumably inside the alcove].
37. Armario per tenere li bacili, e boccali d'argento.
38. Armario simile pere tenere li Candelieri d'argento.
39. Secesso dietro al letto, che mai rende fetore [not shown, presumably inside the alcove].
40. Armario piccolo per tener sciugamani, fazzoletti, e biancheria simile minuta.

Facciata del terzo muro della stanza.

41. Specchio.
42. Globo terrestre.
43. Occhialone.
44. Sfera Astronimica (!) ò celeste.
45. Microscopio.
46. Peso dell'oro.
47. Istrumenti matemateci.
48. Tavola, con apertura sotto il solaro per ricevere il fresco.

49. Occhialone fatto con un specchietto concavo per vedere quello passa per la strada.
50. Sciugamano.
51. Almanacco.
52. Tavola per annotare quello che si deve tenere à memoria.
53. Gabbie per gli ucelli.
54. Cantinetta per metter in fresco il vino, & altre bevande.
55. Tavole che si possono tirar in fuori per sedere.
56. Orologgio à Sole quale dando in un specchietto manda per riflesso à denotare l'hore descritte nel solaro, con linea meridionale per conoscere l'allongare, e scortare delli giorni.
57. Armario per tenere le monete d'oro.
58. Armario simile per riponere le monete d'argento.
59. Armario simile per tenere galanterie di prezzo.
60. Attacca farivolo.

Facciato del quarto muro della stanza.

61. Camino per affumicare carne, e con un sfiatore da non far mai fumo, e con spiedo che volta per via del fumo.
62. Lastra di ferro dentro il Camino dietro la quale si puol fabricare nel muro un Vaso per mettervi dentro l'acqua che sarà sempre scaldata dal fuoco, e si potrà cavare da un'altra Stanza dietro il Camino per via d'una chiave.
63. Altra lastra simile di ferro messa in piano nel Camino, che pure si conserva calda, & impedisce assieme, che il fuoco non puol danneggiare, ne incendiare li solari della Stanza di sotto.
64. Capi fochi con palla da soffiare il fuoco.
65. Cattino per mettere dentro di notte il fuoco, e carbone, che poi da se si smorza.
66. Molle da fuoco all'Olandese.
67. Paletta simile.
68. Soffietto simile.
69. Diversi tiratori per tenervi il fucile, lesca, moccòli, solfaroli, tabacco di tutte le sorte, & altre cose.
70. Sedia da riposare il giorno, con Tapete in alto da spartire la Stanza in quattro parti.
71. Mortaro.
72. Torcolo per tener in suppresso le serviette, e tovaglie.
73. Tavola di Cucina per abbassare, e dirizzare facilmente.
74. Armario per tener pile, piatte, & altri vasi servibili per la Cucina.
75. Fornace con vaso per lambiccare diverse galanterie.
76. Tavoltetta per pulire, & altri vasi servibili per la Cucina.
77. Due chiavette una per haver acqua fredda, e l'altra per l'acqua calda.
78. Sito per riponere legna, e carbone.

79. Fornace per cuocere qualsisia cosa.
80. Fornacette per cucinare ogni cosa.
81. Armario per tener tondi, piatti, & altre cose simili.
82. Sciacquatore che non rende fetore.

## Notes

- \* This essay comes with affection and admiration for Deborah Howard, extraordinary scholar and faithful friend over the years.
- 1 The latest study is Klaas van Berkel, "'Cornelius Meijer inventor et fecit': On the Representation of Science in Late Seventeenth-Century Rome" in Pamela Smith and Paula Findlen (eds), *Merchants and Marvels: Commerce, Science, and Art in Early Modern Europe* (New York and London, 2002), pp. 277–94. Older bibliography includes A. Bertolotti, *Artisti belgi ed olandesi in Roma* (Florence, 1880), pp. 24–38; G.J. Hoogewerff, 'Cornelis Jansz. Meijer, Amsterdamsch Ingenieur in Italië (1629–1701)', *Oud-Holland*, 38 (1920): 83–103; Costanza Lorenzetti, 'La navigazione del Tevere da Roma a Perugia di Cornelio Meyer e le vedutine di Gaspare van Wittel', *Bollettino d'arte*, 6 (1926–27): 337–69; Cesare D'Onofrio, *Il Tevere e Roma* (Rome, 1970), pp. 80–85; Cesare D'Onofrio, *Il Tevere, L'Isola Tiberina, le inondazione, i molini, i porti, le rive, i muraglioni, i ponti di Roma* (Rome, 1980); Helmut Hager in Bruno Contardi and Giovanna Curcio (eds), *In urbe architectus: modelli disegni misure: la professione dell'architetto Roma 1680–1750*, exh. cat., Museo nazionale di Castel S. Angelo, Rome (Rome, 1991), p. 177 and p. 202, n. 56; and now Maria Margarita Segarra Lagunes, *Il Tevere e Roma storia di una simbiosi* (Rome, 2004), pp. 146–99 and p. 389.
  - 2 Alluded to in Cornelis Meijer, *Nuovi ritrovamenti divisi in due parti. Parte Prima* (Rome: Accademia Fisicomatematica Romana, 1696), part 2, pl. 25.
  - 3 On earlier Tiber regulation, see Steven Ostrow, 'Paolo Sanquirico: A Forgotten Virtuoso of Seicento Rome', *Storia dell'arte*, 92 (1998): 27–59; and Pamela O. Long, 'Hydraulic Engineering and the Study of Antiquity: Rome, 1557–70', *Renaissance Quarterly*, 61 (2008): 1098–1138.
  - 4 David Karmon, *The Ruin of the Eternal City: Antiquity and Preservation in Renaissance Rome* (New York, 2011), pp. 171–98.
  - 5 James Harper, 'The Barberini Tapestries of the Life of Pope Urban VIII: Program, Politics and "Perfect" History for the Post-Exile Era', PhD dissertation, University of Pennsylvania, 1998, pp. 172–91.
  - 6 Benedetto Castelli, *Delle misure dell'acque correnti*, bound with *Demostrazioni geometriche della misura dell'acque correnti* (Rome, 1628); A. Favaro, *Amici e corrispondenti di Galileo Galilei. XXI. Benedetto Castelli* (Venice, 1908), reprint ed. P. Galluzzi (Florence, 1983); Gian Ludovico Masetti Zannini, *La vita di Benedetto Castelli* (Brescia, 1961); Stillman Drake, 'Benedetto Castelli', *Dictionary of Scientific Biography* (New York, 1971), vol. 3, pp. 115–17; A. De Ferrari, 'Benedetto Castelli' in *DBI*, vol. 21 (Rome, 1978): 686–90; Benedetto Castelli, *Carteggi* in Massimo Bucciantini (ed.), *Archivio della Corrispondenza degli Scienziati Italiani*, vol. 4 (Florence, 1988); Cesare Maffioli, *Out of Galileo: The Science of Waters 1628–1718* (Rotterdam, 1994), pp. 41–70 and 91–5; Alessandra Fiocca, 'Giambattista Aleotti e la "Scienza et arte delle acque"' in Alessandra Fiocca (ed.), *Giambattista Aleotti e gli ingegneri del Rinascimento* (Florence, 1998), pp. 47–101, esp. 94–101 on 'Castelli's law'; Paolo Buonora, 'Cartografia e idraulica del Tevere (secoli XVI–XVII)' in Alessandra



- Fiocca, Daniela Lamberini and Cesare Maffioli (eds), *Arte e scienza delle acque nel Rinascimento* (Venice, 2003), pp. 169–93; and Cesare Maffioli, *La via delle acque (1500–1700): Appropriazione delle arti e trasformazione delle matematiche* (Florence, 2010), pp. 151–215.
- 7 Filippo Maria Bonini, *Il Tevere incatenato ovvero l'arte di frenar l'acque correnti* (Rome, 1663).
  - 8 *Modo di far navigabile il fiume Tevere da Perugia a Roma, pensieri del Meyer disegnati dal Sig. Gasparo van Wittel, olandese, in Roma nei primi anni che da Roma vi venne da Olanda*, Biblioteca Corsiniana, Rome, Cod. 1227. Many of the illustrations are reproduced in Segarra Lagunes, *Il Tevere*, pp. 161–77, while the proposals of Carlo Fontana are illustrated on pp. 180–81. See now Mario Bevilacqua, 'Cornelis Meyer dall'Olanda all'Italia', in Marco Guardo (ed.), *Sul biondo Tevere: il restauro del codice 34 K 16 della biblioteca dell'Accademia nazionale dei Lincei e Corsiniana di Roma* (Padua, 2011), pp. 83–93; and Arnold Witte, 'I manoscritti della navigazione: un'opera in collaborazione tra Gaspar van Wittel e Cornelis Meyer?' in Margherita Breccia Fratadocchi and Paola Puglisi (eds), *Gaspar van Wittel: i disegni: la collezione della Biblioteca Nazionale di Roma* (Rome, 2013), pp. 51–8.
  - 9 Maximilian Frumkin, 'Early History of Patents for Invention', *Transactions of the Newcomen Society*, 26 (1947–48 and 1948–49): 45–55; Daniela Lamberini, "'A beneficio dell'universale". Ingegneria idraulica e privilegi di macchine alla corte dei Medici' in Fiocca et al. (eds), *Arte e scienza*, pp. 47–71; Marcus Popplow, 'Hydraulic Engines in Renaissance Privileges for Inventions and "Theaters of Machines"' in Fiocca et al. (eds), *Arte e scienza*, pp. 73–83.
  - 10 Francesca Consagra, 'The Marketing of Pietro Testa's Poetic Inventions' in Elizabeth Cropper (ed.), *Pietro Testa 1612–1650: Prints and Drawings*, exh. cat. (Philadelphia, PA, 1988), pp. lxxxvi–civ; and Francesca Consagra, 'De Rossi and Falda: A Successful Collaboration in the Print Industry of Seventeenth-Century Rome' in Andrew Ladis and C. Wood (eds), *The Craft of Art: Originality and Industry in the Italian Renaissance and Baroque Workshop* (Athens, GA, 1995), pp. 187–203.
  - 11 *L'arte di restituire à Roma la tralasciata navigazione del suo Tevere* (Rome, 1683, but preface dated 5 April 1678); it is dedicated to Innocent XII on the preliminary title page, then to Cardinal Azzolini and Cardinal Colonna on the main title page, while the last page is dated 1685. The full 1685 edition is *L'arte di restituire à Roma la tralasciata Navigazione del suo Tevere: divisa in tre parti. 1. Gl'impedimenti, che sono nell'alveo del Tevere da Roma à Perugia, e suoi rimedij. 2. Le difficoltà, che sono nella navigazione del Tevere da Roma sino al mare, e suoi rimedij. 3. Nella quale si discorre perche Roma è stata fabricata, e mantenuta sù le sponde del Tevere, e si tratta d'alcun'altre propositioni proficue per lo stato ecclesiastico dell'ingenerio Cornelio Meyer Olandese, dell'Accademia Fisicomatematica Romana* (Rome, 1685). The 1685 edition is available online at the site 'The Theater That Was Rome' at Brown University: <http://www.stg.brown.edu:8080/exist/rome/index.html> (accessed 28 January 2012).
  - 12 *Nuovi ritrovamenti dati in luce dall'ingegnere (!) Cornelio Meyer Per eccitare l'ingegno de Virtuosi ad augmentarli, ò aggiungervi maggior perfettione* (Rome, 1689); *Nuovi ritrovamenti divisi in due parti. Parte Prima* (Rome, 1696).
  - 13 'Le Paludi Pontine delineate da Cornelio Meyer et novamente intagliate da Gio. Bat. Falda 1678', with a colophon at the foot of the page, 'Nella Stamperia di Nicol' Angelo Tinassi 1681'; see Paolo Bellini, 'Per una definizione dell'opera di Giovanni Battista Falda', *Arte Cristiana*, 71 (1983): p. 84, figs 5 and 6.
  - 14 Meijer's map of the Po delta, published in his *Nuovi ritrovamenti* of 1696 (unpaginated), is based on a plan of 1651 by C. Saccenti, though Meijer adds many watercourses and place names: C. Saccenti, *Carta della pianura tra Bologna,*

- Ferrara e Ravenna, con le valli e i corsi dei torrenti appenninici*, 1651, Bologna, Biblioteca Universitaria, Ms. 1102, anno 1644, illustrated on the cover and in the first (unnumbered) illustration in Fiocca et al. (eds), *Arte e scienza delle acque* (Venice, 2003).
- 15 Paula Findlen, *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy* (Berkeley and Los Angeles, CA, 1994), pp. 17–24; Meijer also shows the dragon in his *Nuovi ritrovamenti* of 1689.
- 16 Filippo Buonanni, *Ricreatione dell'occhio e della mente nell'osservatione delle chioccioline* (Rome, 1681), p. 314. Buonanni was the curator of the Kircher Museum in the Collegio Romano, which he published as *Musaeum Kircherianum ...* (Rome, 1709).
- 17 Inscribed 'Cornelio Meyer Ingegniero Olandese 1684 / Aet. Suae 54' in *L'arte di rendere i fiumi navigabili in varij modi ...* (Rome, 1696) in Parte terza: *Osservazioni delle comete che dovranno seguire, e delle eclisse del primo satellite di Giove* (unpaginated).
- 18 Giovanni Giusto Ciampini, *Vetera Monumenta, In quibus praecipue Musiva Opera Sacrarum, Profanarumque Aedium Structura, Ac nonnulli antiqui Ritus, Dissertationibus, Iconibusque illustrantur* (2 vols, Rome, 1690), vol. 1.
- 19 On Komarek see Alberto Tinto, 'Giovanni Giacomo Komarek, tipografo a Roma nei secoli XVII–XVIII ed i suoi campionari di caratteri', *La Bibliofilia*, 75 (1973): 189–225. Meijer switched to Komarek for his *Nuovi ritrovamenti*; Komarek also brought out works by Francesco Eschinardi as well as Pozzo's *Perspectiva* of 1693 and Bellori's description of the Raphael frescoes in the Vatican Stanze of 1695.
- 20 On Ciampini's Accademia see Lina Montalto, 'Un Ateneo internazionale vagheggiato in Roma sulla fine del secolo XVII', *Studi Romani*, 10 (1962): 660–73; W.E. Knowles Middleton, 'Science in Rome, 1675–1700, and the Accademia Fisicomatematica of Giovanni Giustino Ciampini', *The British Journal for the History of Science*, 8/2 (July 1975): 138–54, with the quotation on p. 149; Van Berkel, 'Cornelis Meijer', pp. 285–90.
- 21 For example in Eschinardi's 1658 *Microcosmi physicomatematici*; but the word is relatively common and roughly equivalent to 'natural science' or 'natural scientific'.
- 22 Francesco Eschinardi, S.J., *Raguagli del padre Francesco Eschinardi della Compagnia di Gesù Dati ad un'Amico in Parigi; sopra alcuni Pensieri sperimentabili proposti nell'Accademia Fisicomatematica di Roma* (Rome, 1680); *Lettera del padre Francesco Eschinardi Della Compagnia di Gesù al Signor Francesco Redi Nella quale si contengono alcuni Discorsi Fisicomatematici* (Rome, 1681); and the posthumously published *Descrizione di Roma e dell'agro Romano* (Rome, 1750; reprint Bologna, 1973). The French origins of the Eschinard family are narrated in Isabella Salvagni, *Palazzo Carpegna 1577–1934* (Rome, 2000), pp. 37–9.
- 23 Salvatore Rotta, 'Francesco Bianchini' in *DBI*, vol. 10 (Rome, 1968): 187–94, and Salvatore Rotta, 'Giuseppe Bianchini', in *DBI*, vol. 10, (Rome, 1968): pp. 200–205; Susan Dixon, 'Piranesi and Francesco Bianchini: *Capricci* in the Service of Pre-Scientific Archaeology', *Art History*, 22/2 (1999): 184–213; Henry Millon, 'Reconstructions of the Palatine in the Eighteenth Century' in R.T. Scott and A.R. Scott (eds), *Eius Virtutis Studiosi: Classical and Postclassical Studies in Memory of Frank Edward Brown (1908–1988)*, Studies in the History of Art, vol. 43 (Washington DC, 1993), pp. 478–93; Brigitte Sölch, *Francesco Bianchini (1662–1729) und die Anfänge öffentlicher Museen in Rom* (Munich and Berlin, 2007); Valentin Kockel and Brigitte Sölch (eds), *Francesco Bianchini (1662–1729) und die europäische gelehrte Welt um 1700* (Berlin, 2005); Christopher Johns, 'Papa Albani and Francesco Bianchini: Intellectual and Visual Culture in Early Eighteenth-Century Rome'

- in Kockel and Sölch, *Francesco Bianchini*, pp. 41–56, complementing the section in the same author's *Papal Art and Cultural Politics: Rome in the Age of Clement XI* (Cambridge, 1993), pp. 33–8.
- 24 The proposals for sun- and moon-dials occur first in the 1683 and 1685 editions of *L'arte di restituire à Roma la tralasciata navigatione*; the Lateran pavement is discussed in the context of observations of the comet of 1682 made by members of the Accademia Fisico-mathematica. The nocturnal horologe on the Quirinal is reproduced in Erik Iversen, *Obelisks in Exile*, vol. I: *The Obelisks of Rome* (Copenhagen, 1968), p. 150 and fig. 98.
- 25 *Nuovi ritrovamenti dati in luce dall'ingegnere (!) Cornelio Meyer Per eccitare l'ingegno de Virtuosi ad augmentarli, ò aggiungerli maggior perfettione* (Rome, 1689), part 6. The four plates are reprinted without captions, two to a page, in a cheaper collection of Meijer's plates: *Raccolta di varii segreti*, which is part 2 of *L'arte di rendere i fiumi navigabili in varij modi: con altre nuove inventioni, e varij altri segreti: divisa in tre parti con trè tavole in lingua Latina, Francese, e Olandese per la commodità de gl'ultramontani / date al publico dall'ingegniero Cornelio Meyer ...* (Rome, 1696). The set of four prints has never been published in its entirety, but the Secondo Muro is reproduced in E.P. Goldschmidt, *Catalogue 155* (London, 1976), p. 81; and the Terzo Muro is reproduced in Filippo Camerota, 'Le bizzarrie dell'ingegno: architettura e scienza per villa Pamphilj' in Christoph Frommel and Elisabeth Sladek (eds), *Francesco Borromini. Atti del Convegno Internazionale Roma 13–15 gennaio 2000* (Milan, 2000), pp. 297–31, p. 307. As this article was going to press I came across a publication of all four plates and their captions: Simon Jarvis, 'MULTUM IN PARVO', in *Furniture History*, 21 (1985): 1–10; this concise and witty article has further information on Meijer's biography.
- 26 John Böttiger, *Philipp Hainhofer und der Kunstschränk Gustav Adolfs in Upsala* (4 vols, Stockholm, 1909–10); Hans-Olof Boström, 'Philipp Hainhofer and Gustavus Adolphus's Kunstschränk in Uppsala' in Oliver Impey and Arthur MacGregor (eds), *The Origins of Museums* (Oxford, 1985), pp. 90–101.
- 27 Stefanie Walker and Frederick Hammond (eds), *Life and the Arts in the Baroque Palaces of Rome: Ambiente Barocco*, exh. cat., Nelson-Atkins Museum of Art, Kansas City (New Haven, CT and London, 1999), pp. 196–8.
- 28 Lionello Neppi, *Palazzo Spada* (Rome, 1975), pp. 188–204; Marisa Tabarrini, *Borromini e gli Spada. Un palazzo e la committenza di una grande famiglia nella Roma barocca* (Rome, 2008), p. 10, fig. 17.
- 29 Patricia Waddy, *Seventeenth-Century Roman Palaces: Use and the Art of the Plan* (New York and Cambridge, MA, 1990).
- 30 *The Complete Essays of Montaigne*, trans. Donald Frame (Stanford, CA, 1958): 'On Some Verses of Virgil', pp. 671f.
- 31 J. Connors and L. Rice, *Specchio di Roma barocca: una guida inedita del XVII secolo* (2nd edition, Rome, 1991), p. 170.
- 32 Howard Hibbard, 'Palazzo Borghese Studies – II: The Galleria', *The Burlington Magazine*, 104/706 (1962): 9–20; Waddy, *Roman Palaces*, pp. 112–16.
- 33 Franco Borsi, Cristina Acidini Luchinat and Francesco Quinterio, *Gian Lorenzo Bernini. Il testamento. La casa. La raccolta dei beni* (Florence, 1981), p. 112.
- 34 M. Del Piazzo, *Ragguagli borrominiani* (Rome, 1968), pp. 163–76.
- 35 Giovanni Incisa della Rocchetta, 'Un dialogo del p. Virgilio Spada sulla fabbrica dei Filippini', *Archivio della Società romana di storia patria*, 90 (1967): 165–211, esp. p. 201; Silvio Bedini, 'Citadels of Learning: The Museo Kircheriano and Other Seventeenth-Century Italian Science Collections' in Maristella Casciato,

Maria Grazia Ianniello and Maria Vitale (eds), *Enciclopedismo in Roma barocca. Athanasius Kircher e il Museo del Collegio Romano tra Wunderkammer e museo scientifico* (Venice, 1986), pp. 249–67 (esp. pp. 257f. on Spada's collection); and the detailed treatment in Giuseppe Finocchiaro, *Il Museo di curiosità di Virgilio Spada: una raccolta romana del Seicento* (Rome, 1999).

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