An English Translation of Luca Peto, Jurisconsul., *De restitutione Ductus Aquae Virginis* [Rome: Bartholomaeus Tosius, 1570] [On the restoration of the Conduit of the Acqua Vergine]

Chiara Bariviera* and Pamela O. Long**

*Courtesy Google Books*
**Introduction**

Luca Peto (1512-1581) was a Roman-born patrician, jurist, and hardworking magistrate who was active in the affairs of Rome and the Roman city government (the Capitoline Council) for most of his adult life. This is an English translation of Peto’s tract on the repair of the Acqua Vergine in Rome. The tract was published in Latin in 1570 shortly after a major repair of the aqueduct had been completed. Peto wrote his book in Latin and it was printed, but nevertheless was extremely rare until recently when Google Books made it universally available:

https://books.google.com/books?id=luUTFEXUfD0C&printsec=frontcover&dq=%22Luca%20Peto%22&hl=en&newbks=1&newbks_redir=0&sa=X&ved=2ahUKEwiI5oXtwZ_oAhlXEIXEHiMyAyIQ6AEwAXoECAQQAg#v=onepage&q=%22Lucas%20Peto%22&f=false

The tract was reprinted in 1573 as an addendum to Peto’s treatise on ancient Greek and Roman, and contemporary Roman weights and measurements: L. Peto, *De mensuris, et ponderibus Romanis, et Graecis cum his quae hodie Romae sunt collatis Libri Quinque* (Venice: [Paolo Manuzio] 1573).

Peto studied law at the University of Bologna between 1531 and 1537, where he heard the lectures of Ugo Boncompagni who in 1572 would become Pope Gregory XIII. He served as a member of the Capitoline Council of Rome sixteen times. The council was governed by three conservators who were elected every three months. Peto served as a conservator twice, once in 1571 and again in 1575. He also served as a *caporione*, that is, the officer who headed a *rione* or district of Rome, for three months in 1549.\(^1\) From the

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1540s he served on a committee to reform the statutes of Rome which were in a state of disorder—successive laws had become redundant, contradictory, and confusing. He finally succeeded singlehandedly in producing a reformed law code for the city in 1580, a year before he died.²

Peto’s other writings include tracts on historical, literary, and practical subjects. These include a short commentary on Virgil’s *Georgics* and two short tracts describing the weather and its effects on crops and the food supply in two specific years, 1569 and 1570. The 1570 tract described a plague of black caterpillars in Rome and its devastating effects on crops and trees. He wrote his larger treatise on ancient and contemporary weights and measures, mentioned above, while overseeing the reform and standardization of weights and measures in the city in 1571, the year in which he served as one of the three conservators.³ Peto also wrote a short tract on Tiber River flood control.⁴ As can be seen, his writings and concerns often focused on practical matters as they pertained to the city of Rome. This is evident in his treatise on the repair of the Acqua Vergine as well.

The Acqua Vergine was one of the eleven aqueducts constructed by ancient Romans between 312 BCE and 226 CE to provide water for the city of Rome. Agrippa built the aqueduct (called the *Aqua Virgo* by the ancient Romans) in 19 BCE to supply water to the low-lying Campo Marzio. Specifically, Agrippa needed water for the public bath that he was building near the Pantheon. The aqueduct originated in the Salone Springs east of Rome, ran east from the springs, and then took a sharp turn and entered the city

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¹Rome had 13 *rioni* in the sixteenth century until 1586 when the Borgo (the area around the Vatican) was added as the fourteenth. Peto was *caporione* of Ripa.


³For a discussion of Peto’s writings, see Del Re, “Luca Peto,” 324-331. For the reform of weights and measurements in Rome, see Archivio Storico Capitolino (hereafter ASC), C.C., cred. I, tom. 38, cat. 38, fols. 266v-268r (March 10, 1571) for the secret council; and fols. 269v-270r (approval in the public council on March 14, 1571). These measures are also recorded in ASC, C.C. cred. I, tom. 25, cat. 25, fols. 39r-41r and 43r.

from the north, passing under the Pincian Hill (Figure 1). Most of the aqueduct was underground. The ancient Romans had cut much of the channel in a course that ran as deep as 131 feet or 40 meters underground to create the proper gradation for the gravity-powered flow of water from the springs to the city.⁵

Figure 1: Course of the Acqua Vergine from the area of the Salone Springs (far right) to the Trevi Fountain at the center of Rome. Map by Chiara Bariviera.

In the medieval period, as the Roman population declined, the ancient Roman aqueducts (which require regular maintenance) fell into disrepair and finally ceased to function. The Acqua Vergine was the one exception. It continued to deliver a small amount of water because smaller streams were added to the aqueduct’s flow near the city. Pope Nicholas V Parentucelli (ruled 1447-1455) oversaw the most notable repair of this aqueduct in the fifteenth century. In the sixteenth century, Agostino Steuco, Vatican librarian under Paul III Farnese (ruled 1534-1549) investigated and rediscovered the course

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of the aqueduct, which primarily ran underground and had been mostly lost. Steuco wrote a tract about his investigation of the aqueduct and urged its repair. (See our English translation of Steuco’s tract in this on-line journal (*The Waters of Rome*, no. 8, August 2015, http://www3.iath.virginia.edu/waters/Journal8BarivieraLong.pdf).

In the sixteenth century, a new and much-needed repair of the aqueduct was seriously undertaken only in the early 1560s when Pope Pius IV Medici (ruled 1560-1565) initiated the project. The pope turned to the architect/engineer Antonio Trevisi from Lecce in southern Italy to oversee the work. Trevisi had arrived in Rome in 1558, a year after the disastrous Tiber River flood of 1557, probably to work on flood control. He wrote a treatise on flood control and in 1560 also republished Leonardo Bufalini’s famous map of Rome (first printed in 1551). These publishing activities undoubtedly helped him to attract the attention of the pope and win the contract for this major public works project. Trevisi received thousands of *scudi* to carry out the work, but failed catastrophically. He died in prison sometime between 1567 and 1570.\(^7\)

The initial failed effort to repair the aqueduct by no means involved only Trevisi and the pope. The Capitoline Council was deeply engaged in the process. On June 3, 1561, the council appointed Peto to lead an exploration of the underground conduit and establish its exact location. (It is notable that Peto and the council did not seem to have access to Steuco’s earlier tract on this topic.) Beyond exploring the physical remains of the


aqueduct, the Council was repeatedly asked to pay up its share of the cost. The council appointed its own committee (that included Luca Peto and an architect/engineer, Bartolomeo Grippetto, [1510-1584]) to inspect the ongoing work. As can be seen from Peto’s tract, the pope refused the council’s request to remove Trevisi from the job.8

With the election of a new pope, Pius V Ghislieri (ruled 1565-1572), and at the urging of the Capitoline Council, Trevisi’s work (or lack of it) was inspected, Trevisi was apparently jailed, and a new attempt was made to repair the ancient aqueduct. This attempt was greatly assisted by the appointment of Giovanni Ricci known as Cardinal Montepulciano to head a new committee called a congregation (the Congregation of Streets, Bridges, and Fountains). The congregation met once per month in the Cardinal’s palace on Via Giulia. It dealt with numerous urban issues beyond the aqueduct, but created a subcommittee that focused on that one topic. Cardinal Montepulciano was a highly efficient administrator but was also motivated for personal reasons. He had purchased a villa (now called the Villa Medici) on the Pincian Hill in 1564 and was engaged in creating a palace with magnificent gardens. The ancient Acqua Vergine ran under his new property—but he needed more water in the aqueduct so that he could divert a quantity sufficient for his ambitious horticultural plans.9

The council remained highly involved. Oversight was provided by two patricians, Orazio Naro (1506-1575) and Luca Peto. The architect chosen to supervise the work was Giacomo della Porta (1532-1602) who had designed and overseen the construction of numerous churches and buildings in Rome, including, for a time, Saint Peter’s. After Della Porta had completed the repair of the aqueduct, he designed and built new fountains in the Campo Marzio, fed by the now gushing water. Working alongside him in both the repair job, the laying of pipes, and the fountains was Bartolomeo Grippetto. While working on the aqueduct, the two men were asked to give reports every fifteen days on the progress of the work to Naro and Peto. In his tract Peto records the great joy of the Roman people when the aqueduct was finally completed on August, 15, 1570.10

Not everyone was joyful however. The architect and antiquarian Pirro Ligorio (ca. 1513-1583), for one, was bitterly unhappy. His angry report can be found in one of his manuscript volumes on antiquities in the state archives in Turin. Ligorio was an architect, antiquarian, and map maker, who had spent years in Rome between 1534 and 1566. He was forced to leave after difficulties related to the ascension of the new pope, Pius V, and Pius’s highly negative view of Roman antiquities. Ligorio has enraged things to say about Antonio Trevisi, similar to the scathing Trevisian remarks made by Peto. But Ligorio also claims that he had personally urged Pius IV to repair the aqueduct, but that he had been rebuffed by Luca Peto. Peto, he claims, had argued that the project would surely fail.

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8 For details, see Long, *Engineering the Eternal City*, 72-85.
9 For the congregation, see Carmen Genovese and Daniela Sinisi, *Pro Ornatu et Publica Utilitate: L’attività della Congregazione cardinalizia super viis, pontibus et fontibus nella Roma di fine ’500* (Rome: Gangemi Editore, 2010); and see Long, *Engineering the Eternal City*, 78-85 for a detailed account with further references.
10 For further details, see Long, *Engineering the Eternal City*, 82-85; and Rinne, *Waters of Rome*, 83-108.
Afterwards, though, “having seen that the thing succeeded, he [Peto] wrote the work in which he boasts that he did everything, so great were his power, his persuasion, and his lies.” Although we know of no external verification of this account, a beautifully drawn plan of the course of the Acqua Vergine in the Uffizi in Florence in Ligorio’s hand confirms that he had surveyed the aqueduct. (And he, unlike Peto, would have had the practical skills to do this.) It is known that Ligorio made a visit to Rome in 1570, where he undoubtedly came across Peto’s tract. We can note that in this tract, Peto takes a great deal of credit, whereas Ligorio is not mentioned at all.  

We do not know exactly when Ligorio surveyed the aqueduct. It is possible that he surveyed it with Luca Peto by his side, although we do not have evidence for this. It is notable that Ligorio mentions Agostino Steuco’s report on the aqueduct and so was familiar with it. In contrast, Peto does not mention Steuco’s report and writes as if the course of the aqueduct were still a matter of confusion in the early 1560s—irrespective of Steuco’s report of the 1540s.

Despite the unknowns, Peto’s treatise gives us much information about the repair of the aqueduct, including his involvement in that repair. He refers to his own experience in helping to survey it and also comments on the ancient structure, and he tells us how the sixteenth century repairs improved upon the original structure. At one point he criticizes ancient Roman construction methods as they had become evident in a particular section of the aqueduct. He discusses the aqueduct within the context of the two ancient authors that discuss it—Pliny the Elder (23/24-79 CE) in his Natural History, and Frontinus (ca. 40-103 CE) on The Aqueducts of Rome. Finally, Peto discusses the ancient inscriptions that were discovered while exploring the aqueduct. Both his learning and his involvement in practice are very much in evidence throughout the tract. For his work on the aqueduct, including undoubtedly his tract on it, translated here, Peto received a precious reward—an oncia of water (the amount of water delivered by a 1.86 cm pipe) piped directly into his home from the Acqua Vergine, for himself and his heirs.

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12 See Long, Engineering the Eternal City, 85; and Archivio di Stato di Roma, Presidenza Acquedotti Urbani, b. 2, fol. 1r-v on May 26, 1576.
English Translation of Text

[Title Page]

Luca Peto, On the Restoration of the Conduit of the Acqua Vergine

[Coat of Arms of Pope Pius V]

Rome: Bartholomew Tosius 1570

[sig. A2r]

Since Pius IV Medici Pontifex Maximus took great pleasure among other things from buildings and public works, he thought of restoring the aqueduct of the Vergine springs [i.e. the Acqua Vergine], a work that had been desired by many for generations. And he considered the method and expense. And certain architects had thought, after having initiated a rather obscure calculation—since in many subterranean places the vestiges of the aqueduct were not visible and in addition, it ran further than those [architects] had thought—that the work could be easily completed for 24,000 scudi. Nevertheless, they fastened on a plan to seek 30,000 [scudi], hoping that any leftover would yield a profit to them. Indeed, these certain architects, fearing to put [the plan] forward, substituted a certain Antonio Trevisi of Lecce, a man absolutely imprudent, and one who, just like the Psylli,13 used to wander through the streets and piazze. And having appealed to the Prince [i.e., pope Pius IV], and having deceived associates and magistrates, he promised in his name

[Sig A2v]

that he would complete the work for 24,000 [scudi]. Meanwhile, [Trevisi] found other construction workers who were equally audacious, not to say impudent. They allotted and chose the [work] sites [along the aqueduct] and divided the work among themselves, and promised that they would complete it for 18,000 [scudi]. Trevisi also presented guarantors whose names he claimed he would give over to the Camera Apostolica and the Roman People, since they would pay the money to the construction workers in [Trevisi’s] name.14 Then, he explained that he could complete the work profitably and safely. The matter seemed easy to the pope and therefore he divided the burden of the money to be paid—that is, one third by the pope himself, one third by the clergy, and the remaining by the Roman

13 The Psylii were an African tribe said to be skilled at snake charming and immune to venom—see Celsius, 5.27.3.B; Lucretius, De rerum natura, 9.893; Pliny the Elder, Natural History, 7.14; and Suetonius, Augustus, 17.4.
14 The “Roman People” usually refers to patrician Roman citizens including members of the Capitoline Council, not to the general population.
People. And the pope also wanted the Roman People to make sure that the work was carried out by the contractors correctly and according to the law. Then, when the work started, it seemed to some that it could not be carried out, because the springs which today are in the place called Salone, were thought not to be those that provided [the water of the] Acqua Vergine to Rome, but [rather] those that delivered the water to the Salinae [i.e., saltworks] near the Porta Trigemina (between the Aventine [Hill] and the Tiber [River]). This aqueduct [namely the Appian] was provided by Appius Crassus whose surname was Caecus. These people were influenced, on the one hand, by the meaning of the word (for they thought that Salone derived from the corruption of Salinae where the water arrived). Then, on the other hand, also [they were influenced] by the text of Julius Frontinus, which reports clearly enough that the Appian aqueduct begins in the Lucullan field between the seventh and eighth mile, 780 passi [i.e., paces] on the left. Indeed, vestiges of the aqueduct can be seen today here above Porta Capena. Moreover, speaking about

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15 Discussion of the division of payments can be found in the meeting minutes of the Capitoline Council. For the initial discussion that Peto refers to here, see ASC, C.C., cred. I, tom. 21, cat 21 (June 3, 1561), fols. 86r-87v. Also, in ASC, C.C., cred. I, tom. 37, cat. 37, fols. 78r-79r.

16 The Salinae were the ancient saltworks of Rome, where salt brought into the city from the mouth of the Tiber was stored. They were located in a strategic position on the northern slopes of the Aventine Hill facing the Tiber, near the river’s port and the market of the Forum Boarium, not far from today’s piazza Bocca della Verità. They corresponded to the end point of the Acqua Appia, near the Porta Trigemina, one of the gates of the Servian Wall. For this area, see Chiara Bariviera, “Regio XI,” in Carandini and Carafa, eds., *Atlante di Roma Antica*, 1: 431-455.


18 Julius Frontinus (30 CE - 103 CE) was the curator of the ancient Roman aqueducts (curator aquarum) in the first century CE and wrote a tract (*De aquaeductu urbis Romae*) on the Roman aqueducts. Peto here refers to *De aquaeductu urbis Romae*, 1.5. For an introduction to Frontinus and the modern critical edition of the text, see R. H. Rodgers, ed., Frontinus: *De Aquaeductu urbis Romae* (Cambridge: Cambridge University Press, 2004).

19 A passus was equal to 4.887 feet or about 1.5 meters.

20 The Porta Capena was one of the gates of the Servian Wall and, before the construction of the Aurelian Wall, it was the city’s entrance for those who came through the Via Appia and Via Latina. It stood in the area facing the semicircular end of the Circus Maximus, now occupied by piazza di Porta Capena. The Acqua Appia, of which some remains were visible in this area, ran along this stretch of the Servian Wall. See Sarah
the Vergine, he states that it begins on the Via Collatina at the eighth mile. It seemed that this passage of Frontinus was confirmed by the evidence of Cardinal Trivulzio\textsuperscript{21} who, at that place of the Salone, planned and constructed a very beautiful villa and estate and put an inscription over

\textit{[Sig. A3r]}

the buildings saying that the water of those springs was that of the Acqua Appia. Therefore, I do not know why, I was put in charge of carefully inspecting the springs and sites, and reporting back to the Senate. Then, I first diligently inspected the location of the springs referred to in Frontinus's passage on the Acqua Vergine. When discussing this, he says as follows: “Then it begins on the Via Collatina at the eighth mile in marshy places surrounded by a concrete structure [built] for containing the gushing waters.”\textsuperscript{22} And I compared [it] to the passage of Pliny [\textit{Natural History}] Book 31, Chapter 3, who speaking of Agrippa thus said: “And the same [Agrippa] brought the Vergine from a branch at the eighth milestone [extending] for 2000 paces along the Via Prenestina. Nearby there is the Herculaneum stream, and [the aqueduct] after avoiding it, gained the name Vergine.”\textsuperscript{23} And indeed, I, after having inspected the arches and substructures, which Frontinus assigns to the Vergine, dared to report back that even though the subterranean channel in certain places was not visible, it was the Vergine and could be restored. Therefore, the noblemen Mario Frangipane, conservator, Rutilio Alberini, and Orazio Naro\textsuperscript{24} were elected to share the responsibility with me, and (all of us together) to ensure that the work was carried out correctly, and as quickly as possible.\textsuperscript{25} Meanwhile, the money was collected by Trevisi and distributed to those masons [and] the work began under the supervision of Gabrio

\footnote{Agostino Trivulzio (c. 1485-1548). See Salvatore Miranda, \textit{The Cardinals of the Holy Roman Church} \url{https://webdept.fiu.edu/~mirandas/bios1517-ii.htm#Trivulzio2}}

\footnote{Frontinus, \textit{De Aquaeductu urbis Romae}, 1.10.}

\footnote{In modern editions, Pliny, \textit{Nat. hist.} 31.25. The water from the Herculaneum stream was from a marsh and was not considered good. Pliny is saying that the name Vergine (i.e., pure) was derived from the purity of the water after having avoided the Herculaneum stream. For another explanation that involves a young maiden showing Roman soldiers the Salone Springs, see below pages 15 and 18.}

\footnote{Orazio Naro (1505-1575, was from a noble Roman family and was active as a magistrate in the Capitoline Council. Naro was appointed along with Peto, Mario Frangipane, and Rutilio Alberini. See Long, \textit{Engineering the Eternal City}, 78; and ASC, C.C., ced. I, tom. 21, cat. 21, fol. 163r-v (April 9, 1562); also in ASC, C.C., cred. I, tom. 37, cat. 37, fol. 110r-v.}

\footnote{The minutes of the Capitoline Council show that these appointments were made on April 9, 1562. See ASC, C.C., cred. I, tom. 21, cat. 21, fol. 163r-v; and ASC, C.C. cred. I, tom. 37, cat. 37, fol. 110r-v.}
Serbelloni, nephew of Pius IV from his sister’s side. Nevertheless it had hardly been started when arguments and disagreements arose between the contractor Trevisi and the subcontractors. As a result, it finally seemed to us proper (also in agreement with the very Reverend and Illustrious Giovanni Antonio Serbelloni, Cardinal San Giorgio), and the Reverend and Illustrious Cardinal Benedetto Lomellini, then cleric of the Camera Apostolica, to report to the pope that the work could not be carried out unless Trevisi was removed from it. The pope refused this [removal] with the pretext that it was fair that since Trevisi was the author [of the work], he should be able to complete it [and] that [it remained] for us just to make sure that the work was carried out quickly and correctly.

Then, while the work continued to be entangled by Trevisi, the pope died and Pius V Ghislieri, the best pope of all, was elected. And while taking care of the deliverance of souls, he aimed with the greatest diligence and every effort for the correction of corrupted morals, and for instruction in good and blessed living. Nevertheless, not neglecting public works, he entrusted the very reverend and very illustrious Giovanni Ricci, Cardinal Montepulciano, with the special task of supervising the aqueduct (since meanwhile also Trevisi had died completely in misery). [Cardinal Montepulciano] started the project again [and] called many architects. He understood that barely half the work had been completed and believed that another 10,000 [scudi] would suffice for completing [it], since that [previous] 24,000 scudi and more had been wasted by Trevisi. This having been reported to the People, the SPQR [Senatus Populusque Romanus] gave another 10,000 [scudi] to this work to be collected from the wine tax.

With this [money] the work was completed under the administration of Orazio Naro and me, Luca Peto. We employed the architects Giacomo della Porta and

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26 Gabriele Serbelloni, known as Gabrio (1508-1580), was the nephew of Pope Pius IV (Giovanni Angelo Medici), and was an expert in fortification. See Fabrizio Biferali, “Serbelloni, Gabriele,” Dizionario Biografico degli Italiani (hereafter DBI), 92 (2018) http://www.treccani.it/enciclopedia/gabriele-serbelloni_%28Dizionario-Biografico%29/

27 Cardinal Giovanni Serbelloni (1519-1591), nephew of Pius IV. See “Serbelloni Giovanni Antonio (1519-1591),” https://webdept.fiu.edu/~mirandas/bios1560.htm#Serbelloni


29 I.e., the Roman People

30 Giacomo Della Porta (1532-1602) was trained as a sculptor, but was involved as an architect in many late sixteenth-century Roman churches, basilicas, and other buildings, including St. Peter’s. See Alessandra Anselmi, “Porta, Giacomo della,” in Jane Turner, ed., Dictionary of Art (New York: Grove Dictionaries, 1996), 25: 258-261; Anna Bedon, “Della Porta, Giacomo,” DBI, 37:160-170; Federico Bellini, La basilica di San Pietro da
Bartolomeo Grippetto,\textsuperscript{31} and they improved some [aspects of the aqueduct] that had not been considered important by the ancients. First, the water of the springs, which are three with its acquisitions [of streams] that come in along the channel, seemed to be enough and more than enough for the aqueduct and the channel, especially in the arched conduit. Therefore, we considered that the Herculaneum stream, which truly arises in a marshy place and in a low valley beyond the springs had to be excluded and had to be left to the nearby lands and estates. And from that place the [ancient] aqueduct by means of a substructure through a marshy mid-level valley, reaches the foot of the hills after a long circuit. Therefore, we connected the springs and led [them] to the channel of the ancient aqueduct by using a shorter channel, having tunneled through a hill of very hard tufa [called] scabro. This [hill] rises up between the first spring and the other two, where a tower stands in the same place where perhaps there [once] was a shrine to the maiden mentioned by Frontinus.\textsuperscript{32} [We did it] with an almost straight channel, no longer through marshy places, but through the base of the hill.

\textit{[Sig A4r]}

Therefore, it was done so that—whereas before, the rainwaters descending from the hills [and] adhering to the walls of the substructure, ruined those walls, not without detriment to the water—today with a subterranean channel along the foot of the hills, the rainwater flows over the conduit to the lowest [level]. And thus, we believed that we were able to keep the water [of the aqueduct] uncorrupted and the conduit unharmed for a long time. Also, in that subterranean [part], by constructing a channel and a new conduit, many streams of the same good quality, including springs, were acquired. In this way, the arched structure did not retain the Herculaneum stream. We also oversaw the construction at the beginning of the above-mentioned hill, of a sluice gate, so that, if sometimes a defect


\textsuperscript{31} Bartolomeo Grippetto (also known as Bartolomeo Gritti or GRIPTUS (1510-1584), was a not-well-known architect who worked on the Acqua Vergine and other projects in Rome. See Antonio Bertolotti, \textit{Artisti lombardi a Roma nel secoli XV, XVI, XVII}, 2 vols. (1881, Rpt.; Bologna: Arnaldo Forni, 1962), 1: 63-66; Long, \textit{Engineering the Eternal City}, 83, 85, and passim; and Rinne, \textit{Waters of Rome}, passim. Grippetto received a valuable reward for his work on the Acqua Vergine—a quarter oncia of water for his private use in his house on Campo Marzio. See ASR, \textit{Presidenza Acquedotti Urbani}, b. 2, fol. 15r-v.

\textsuperscript{32} Frontinus, \textit{De aquaeductu urbis Romae}, 1.10. Frontinus here tells the story of a young girl who showed some soldiers hunting for water where a spring was. The soldiers followed the spring to the copious supply of the Salone Springs. He mentions a small temple near the spot which contains a painting that tells about this origin of the aqueduct.
might occur in the conduit (as often happens), the water with a small amount of work could be diverted and the channel repaired. This [was done] not only there, but also at the beginning of that substructure,\footnote{A \textit{substructio} or substruction is a solid wall that supports the aqueduct. Usually it was used to lead up to a series of arches. See Aicher, \textit{Guide to the Aqueducts of Ancient Rome}, 13.} which is in the place which now is called Bocca di Leone. Even though at the time of Frontinus, this place was entirely built with an underground structure, as the remains reveal even today, nevertheless, we restored it also with arched structures, so that rainwater and certain gushing spring waters that are there, could easily flow out underneath. But we also had a second and third outlet built at the beginning of the great arched structure on the left near the Anio [River]. From this with a little labor, by removing some bars, the whole conduit could be cleaned and immediately repaired. And since part of the Acqua Crabra now called Maranella, which passes through the lowest part of the fields of the noble Rustici [family], had caused much damage to the aqueduct, we made a bridge elevating the aqueduct and paved it with stone. Thereby, we took care to send off this Crabra water and the rainwater. Also, we built and paved another little arched bridge there through which some springs which arise here in this valley (where I could clearly prove that the Acqua Appia had been brought to Rome)

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\textbf{[Sig A4v]}
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could pass by easily without any damage to the conduit or harm to the water. Moreover, it was discovered that indeed the arched structure had been repaired several times because the walls that held the water over the archway or arches had been made thinner than was required, namely [they were] a foot and a half thick, or two palms of our times.\footnote{The length of Roman foot (\textit{pes}) is about .296 meters or 11\(\frac{1}{2}\) inches. The Roman palm in the sixteenth century was about .223 meters or 8.8 inches. Peto is saying that an ancient Roman foot and \(\frac{1}{2}\) (about 17.25 inches) is equal to two palms or about 17.6 inches, which is approximately correct. We can assume that Peto was well versed in ancient and contemporary measurements. His treatise on measurements, L. Peto, \textit{De mensuris, et ponderibus Romanis, et Graecis cum his quae hodie Romae sunt collatis Libri Quinque} (Venice: [Paolo Manuzio] 1573) was published three years after this tract on the aqueduct.} As a result, it happened that with these [walls] the conduit, which started to sag, was harmed, being unable to sustain the weight of the water. Thus, to those first walls they added another [foot and a half] of thickness, which being mismatched to the first one, had caused very great damage (for the new walls were not aligned with the old). Also, [there were] fig trees, ivy, turpentine trees,\footnote{The turpentine tree is a small tree or large shrub, \textit{pistacia terebinthus}, also known as the terebinth. It is common in the Mediterranean region.} brambles, and other trees and bushes growing in between [and] harming the walls. Then, we, having destroyed the whole upper part down to the lower arches, had the walls on both sides made four palms thick with an inner layer of fired brick; and we strengthened the work on both sides with pillars of concrete spaced at
more or less 60 palms. And so that the structure would be more stable and the walls would not retain water and bend under the [combined] weight of the water and of the arches on top, we fastened tie beams made of travertine between some of the pillars. Moreover, we worked hard and for a long time to find the shafts through which the conduit could be cleaned, mostly because the underground conduit, with none of the vestiges then visible above ground, turned now here, now there for no reason. Therefore, we ordered that several shafts be placed at the turns, elevated ten palms above the ground and [we ordered them to be] vaulted over, leaving a small opening at the top, from which the air from the water could be released. We had the others strengthened with a [foundational] arch, four palms underground. Thus, the conduit, with the help of God Almighty, was restored and the water [brought] to the pipe of the Trevi, on

[Sig A5r]

on August 16\(^{37}\) in the year of the birth of our Savior 1570 to the great happiness of all. And with three outlets (from which [the water] was distributed to fountains throughout the city), it was [then] led through the recently constructed drain to the Tiber, so that it would not be harmful to the city.\(^{38}\) However, [the water] was not brought until the pope had been guaranteed that the quality of the water was good by very skilled physicians who were ordered to conduct every kind of test. For the very holy pope spared no expense rather than bring water that was unhealthy to human bodies, as certain men had falsely suggested to him.\(^{39}\) So that all doubt is removed from the mind of the perplexed and full knowledge is had of this aqueduct, I would like to report indeed from where the name “Vergine” comes, by what route [the aqueduct] came into the city, where its tributaries come into it, [and] to examine the passages of Pliny and Frontinus on the Acqua Vergine, and report what I myself saw, so that no further uncertainty remains. These are the words of Frontinus (now he is speaking about Marcus Agrippa who, as he said a little before, 719 years from the

\(^{36}\) 60 palms = about 17.4 meters.
\(^{37}\) XVII. Kal. Septembris = August 16.
\(^{38}\) This is a reference to the Chiavica di San Silvestro, a drain/sewer that led from the Trevi Fountain through the Campo Marzio to the Tiber River. For most of the sixteenth century, it was an open sewer which emitted a stench and was the source of numerous complaints from people living near it, who claimed that it sickened and killed them. It was finally repaired by 1570, making it a covered (as opposed to open) drain. Yet there were complaints about it even after this. See Long, *Engineering the Eternal City*, 59-61; and Rinne, *Waters of Rome*, 198 and passim.
\(^{39}\) The pope’s hesitancy reflects the controversy in Rome about the relative salubrity of aqueduct water versus Tiber River water. Some argued that Tiber River water was good for health while aqueduct water was not, whereas others argued the opposite. See Gennaro Cassiani, “Patrigno Tevere: Le obiezioni sperimentali di Giovanni Battista Modio al ‘dogma’ della potabilità dell’acqua del Tevere a metà Cinquecento,” *Roma nel Rinascimento* (2014): 357-372; and Long, *Engineering the Eternal City*, 23-24.
founding of the city had brought the Acqua Giulia\(^{40}\) under the consulate of the Emperor Caesar Augustus and M. Laelius Volcatius).\(^{41}\) “after his third consulate, under the consulate of C. Sentius and Sp. Lucretius, thirteen years after he had brought the Acqua Giulia,\(^ {42}\) he also brought the Vergine to Rome, [the spring water] having been collected from the field of Lucullus. It is known that the day it first flowed into the city was June 9.\(^ {43}\)

It was called the Vergine because a young girl showed certain springs to [some] soldiers who were looking for water. They followed [her] and digging, they discovered abundant water. There is an image representing this young girl in a little shrine next to the springs.

Then [the Acqua Vergine] begins on the Via Collatina at the eighth mile in marshy places

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\(^{40}\) The Acqua Giulia was built in 33 BCE. This date does not correspond with Frontinus’s chronology since the year 719 from the founding of Rome (753 BCE) is 35 BCE.

\(^{41}\) The consuls of the year 33 BCE were Caesar Octavianus, who became emperor in 27 BCE taking the name Augustus, and Lucius Volcatius (Tullus). The name of the second consul reported here by Peto (M. Laelius Volcatius) derives from a misreading of Frontinus’s text in the Casinensis Codex. The abbreviation “L” (for Lucius) became “M” and was interpreted as the abbreviation of the consul’s praenomen (Marcus). See Giovanni Poleni, *Sex. Iulii Frontini De aquaeductibus Urbis Romae Commentarius* (Padua: Johannes Manfré, 1722): 38; and see Rodgers, ed. Frontinus: *De aquaeductu*, 170.

\(^{42}\) I.e., 19 BCE.

\(^{43}\) *V iduum Junii = June 9.*

\(^{44}\) Frontinus, *De aquaeductu urbis Romae*, 1.10.


in a side street that was 2000 paces long, as is clear even today. But [it is] another street, which today runs near the springs, and leads to nearby estates. And I would have thought it was called Collatina, while actually it is the other. And so they agree on the place, but clearly disagree on the origin of the name, that is, where the name Vergine was acquired. On this, I agree more with Frontinus, who treated it as his main subject, and who had assumed the management [of the aqueducts] from the Emperor, than with Pliny who discussed it in a perfunctory and incidental way. Others will believe what is more favorable to them. Now I will report

[Sig A6r]

what I saw. The underground channels mentioned by Frontinus begin at the foot of the hill where the water, first flowing out from the marshy place and [its] substructure, enters the channel. From there [the channel goes] almost in a straight line with shafts along the whole aqueduct at the interval fixed by Vitruvius in [De architectura], Book 8, Chapter 7, namely so that they are two acti distant from each other, a space equal to 320 of our palms, nor are any [of them] outside this limit.\(^{47}\) It arrives at the field that belongs to the estate of the noble Rustici [family], where it turns and descends to a lower level. In that place, that is, in the lower valley, the top surface of the aqueduct is almost level with the ground. In this place we discovered that the ancients, because of the instability of the ground, had built the foundations of the channel over a wide sheet of lead and had built [the structure] above it. From this place, with a continuous underground channel, it arrives at another valley at the estate of the noble Casali [family], which is now called Bocca di Leone. [It is called this] because thirty years ago, near a little spring not far from the emergence of the aqueduct, the owner of the estate placed a marble head of a lion from whose mouth the water flows, which is convenient to draw from. We incorporated this marble into the aqueduct, so that the flowing water can be drawn for the benefit of nearby fields. After the substructure and a few arches that were built by us in this place, as I said, the channel passes through the valley and then with a continuous subterranean conduit under the next hill, it reaches the next valley belonging to the estate of the monks of St. Paul. From there a long foundational substructure leads to the next hill and then back into a subterranean channel [where], following a long path, it crosses the via Tiburtina to the right, back to the left, and again to the right, [and] appears near the Anio River. From there [it goes] on arches to the next hill and then through a conduit

[Sig A6v]

in a subterranean channel [and], having crossed the Via Nomentana, [it reaches] the next valley. Then, on another arched structure, [it goes] to the next hill, and from there, having crossed also the Via Salaria, through the Pincian Hill under the beautiful garden and large palace of the Very Reverend and Very Illustrious Cardinal Montepulciano, it runs into the

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\(^{47}\) 1 actus = 120 paces = 180 meters.
In this garden, near a shaft of the aqueduct, on each side, these inscriptions were found on travertine stones [that were] shaped as markers or boundary stones.

The *Aqua Virgo*. Tiberius Caesar Augustus, pontifex maximus, [the thirty-eighth year of tribunician power], consul for the fifth time, imperator for the eighth time. I / 240 feet [i.e., first marker, 240 feet to the next marker].

The *Aqua Virgo*. Tiberius Claudius Caesar, son of Drusus, Augustus Germanicus, pontifex maximus, in the fourth year of tribunician power, consul for the third time, imperator for the eighth time, Father of his Country. I/ 240 feet [i.e., first marker, 240 feet to the next marker].

As I said, Frontinus describes this path of the aqueduct as exactly 14,000 paces long. I also examined the tributaries mentioned by Frontinus. Indeed, I meticulously examined almost all of the subterranean parts of this conduit, partly by horse when there was not too much water, partly by foot when it was possible to walk on dry land, [and] even in a little boat pulled by men when the channel was navigable. And I found at the beginning of the hill, when the springs first come up, not far from the entrance, here and there some conduits had been fabricated for the tributaries, [which were] almost ten palms wide [and] nine palms high, the length of which I was not able to trace out because they were full of mud up to five palms. From these conduits constructed here and there, the water flowed into the aqueduct,

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48 For the discovery of the *cippi* see Biblioteca Apostolica Vaticana, Vat. lat. 6038; and for publication of the inscriptions, *Corpus Inscriptionum Latinarum* (hereafter CIL) (Berlin: Georgius Reimer, 1876)—CIL VI 1253a. Peto has omitted one phrase of the inscription, which appears in square brackets. The translations of the inscriptions are by Harry B. Evans as part of his translation of Raffaello Fabretti in *De aquis et aquaeductibus veteris Romae* (1680). See Evans, *Aqueduct Hunting in the Seventeenth Century: Raffaello Fabretti’s De aquis et aquaeductibus veteris Romae* (Ann Arbor: University of Michigan Press, 2002), 140. As Ashby, *Aqueducts of Ancient Rome*, 170, explains, the inscription (along with its companion discussed below) are on two *cippi* or stone markers that were discovered together on February 9, 1566 at the Villa Medici (then the Villa Ricci owned by Cardinal Montepulciano). See also Rebecca R. Benefiel, “The Inscriptions of the Aqueducts of Rome: The Ancient Period,” *The Waters of Rome*, No. 1 (May 2001), http://www3.iath.virginia.edu/waters/Journal1BenefielNew.pdf. This inscription refers to the repairs to the aqueduct made by the emperor Tiberius (ruled 14-37 CE) in 36-37 CE. This and the following inscription marker are extant in the Villa Medici.

49 See CIL, 1254. Translation by Evans, *Aqueduct Hunting*, 140. This and the inscription above include the numbers I/240 because each is the beginning of a separate series of *cippi* indicating the aqueduct repair of two different emperors. This one refers to the repairs by the emperor Claudius (ruled 41-54 CE) in 44-45 CE.
even if not abundantly. And not far from these [were] four other conduits, two on one side, two on the other, facing each other, each about three palms wide, [and] almost seven palms high, from which also water, although a little, flowed. I think Frontinus was referring to them when he says that the conduits of the tributaries amount to 1,505 paces. But on the hill, which as I said, is in between the valley of the terrain of the Rustici [family] and the terrain called Bocca di Leone, I discovered much longer tributaries than in other places. Nor indeed were they led through conduits or channels, but [they were] streaming here and there into both sides of the aqueduct. Thus, from these comes almost a fifth of all the water that is brought to the city. And really, into the whole aqueduct, very many tributaries present themselves. This is because [it] moves between two hills, that is, one hill from where the water is led into the main arched [structure], and the other in which the water (going out from the above-mentioned arched structure), is received, and [then] transferred to [yet] another arched structure, during which not a drop of water leaks. Moreover, the [Salone] springs, helped by these tributaries, bring a great supply of water into the city. So then, after we have gained knowledge of the beginning and the condition of this aqueduct, I only have to report how many times I have discovered this aqueduct to have been damaged and repaired. And assuredly, the monument that was found on the Pincian Hill and in the gardens [belonging] at that time to Angelo Colocci near the shaft of the aqueduct clearly shows that the arched structure was destroyed by Caius Caesar and restored by Tiberius Claudius. Andrea Fulvio, a very learned man and highly skilled antiquarian, speaking about the Acqua Vergine, reports that this was the monument’s inscription: “Tiberius Claudius Drusus’s son, Caesar Claudius Germanicus, Pontifex Maximus, holding tribuniciam power for five years, the imperium for nine years, Father of the Country, four times consul, rebuilt from the foundations and restored the arches of the conduit of the Acqua Vergine [which had been] damaged by C. Caesar.”

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50 Peto is mistaken here. Frontinus, *De aquaeductu urbis romae*, reports that they are 1,405 paces which Peto himself correctly states above on Sig. A5v.

51 Angelo Colocci (1474-1549) was a humanist scholar, antiquarian, and papal secretary to Pope Leo X Medici (ruled 1513-1521). He bought a property near the Trevi Fountain in 1513, which became a gathering place for humanists and antiquarians, and is where the inscription was found. Presumably the “monument” refers to one of the arches of the ancient Acqua Vergine within the city. For Colocci, see esp. Rowland, *Culture of the High Renaissance*, 2-8, 83-85 and passim; and Rowland, “Raphael, Angelo Colocci, and the Genesis of the Architectural Orders,” *Art Bulletin* 76 (March 1994): 81-104. Andrea Fulvio (ca. 1470-1527) was an antiquarian whose *Antiquaria Urbis* (Rome: Mazoci, 1513), underwent many editions and an Italian translation, and included discussions of the Acqua Vergine. For Fulvio, see esp. Massimo Ceresa, “Fulvio, Andrea,” *DBI*, 50: 709-712, http://www.treccani.it/enciclopedia/andrea-fulvio; and Roberto Weiss, “Andrea Fulvio antiquario romano (c. 1470-1547),” *Annali della Scuola Normale Superiore di Pisa: Lettere, Storia e Filosofia*, 2nd ser., 28, (1959): 1-44 For the transcription, see CIL VI
Then, I would have thought that the Lombards destroyed the aqueduct. For Hadrian I, Pontifex Maximus, a Roman native, having already subdued and beaten the Lombards around the year 776 from the year of the birth of Christ our Savior, as Platina reports, restored the Acqua Vergine along with the aqueducts of other cities. One must suppose that not long after, it was destroyed—which occurred with such great misfortune—nor have I discovered that it had been restored further. For what is read in the inscription that is placed on the public outlet of the Trevi [is] that Nicholas V had restored the Acqua Vergine. I understood that this had been done from the Via Salaria on this side [i.e., from the Via Salaria to the Trevi Fountain] from where the tributaries and springs that have flowed up to our own times begin. For if Nicholas had restored the arched structure and cleaned the conduit, it would not be as ruined and destroyed as we found it, even if abandoned by men (after barely a hundred years have passed) without any siege to the city in the meantime. So much for this.

1252; and Hermann Dessau, ed. *Inscriptiones Latinae Selectae* (Berlin: Weidmann, 1892-1916), 205.

