BETH PETITJEAN

Sustaining Thermal Water in Early Modern Tuscany

Water is an essential natural resource and a commonality of the human experience. Regardless of the type of water, it needs constant government attention and oversight to protect and sustain it. Water is also a source of power—economic, political, and social—for those who control it and for those who use it. As such, all bodies of water have a history, which changes over time while simultaneously reflecting the contexts of a specific place and culture.

Thermal springs have a history, too. Thermal springs are naturally occurring, hot mineral waters that develop in underground areas with volcanic activity and on the edges of the earth’s tectonic plates. Although unique, thermal springs are not exclusive to one area of the world. In fact, the polycentric development of thermal springs in nearly every global region suggests the significance of this environmental feature in societies everywhere (see Appendix at the end of this article for a World History lesson module on this topic). Vibrant bath-going activities, whether for medical treatments, as part of religious practices, or simply for rest, relaxation, and entertainment, developed throughout history and bath-going remains a popular pursuit in diverse locations such as Scandinavia, Japan, the United States, and Italy, to name just a few, making thermal springs and baths unique lenses through which to study the past and the present of our shared history.

In the early modern period, the Tuscany region of Italy was especially rich in thermal water as the geological makeup predisposed the area to many thermal springs in the hill-sides surrounding Florence, Pisa, and Siena. These natural resources, their corresponding infrastructure, and their associated baths needed special attention since they were not just natural resources that required preservation but were part of the public health resources available to treat a range of medical conditions. Many of these mineral springs had been used since the era of the ancient Etruscans and the Romans certainly knew about and used thermal waters throughout the Italian peninsula and elsewhere in the Roman world. For example, in his *Natural History*, Roman author Pliny the Elder (ca. 23–79 CE) devoted all of Book XXXI to discussing water throughout the Roman Empire. Referencing the Campania
region in the southern Italian peninsula, Pliny claimed “nowhere however is water more bountiful than in the Bay of [Baia],” which was a popular vacation destination for Roman patricians since the thermal springs there were “good for sinews, or feet, or for sciatica . . . for dislocation or fevers.”¹ Unlike Roman thermae, the large bathing complexes consisting of several pools with piped-in and artificially heated water that served primarily hygienic and social purposes in urban locations, the more rurally located thermal baths were used for medicinal purposes—to treat specific diseases and conditions—as opposed to just cleansing the exterior of the human body. Consequently, in an era with limited options for medical care, thermal baths provided a crucial source of medical treatment for residents and visitors alike.

This paper explores efforts made by ruling Medici grand dukes during the sixteenth century to manage thermal baths within Tuscany. I argue that the grand dukes used different governmental measures to address specific issues related to the thermal water at San Giuliano Terme near Pisa, the baths at Montecatini near Florence, and the Bagni [baths] di San Casciano in the Sienese countryside. Although not directly aimed at sustainability, these measures inadvertently helped to preserve natural thermal water in Tuscany, making it available for citizens and visitors then and in succeeding centuries. Much of the existing scholarship on Tuscan baths tends to focus on one specific bath, such as the work of Mirella Scardozzi or Anna Maria Quaglia on the San Giuliano Terme in the modern era, or a cluster of baths, such as Didier Boisseuil’s study of Sienese baths from antiquity to the fifteenth century.² My intent here is to investigate Tuscan thermal baths systemically during the early modern period to see how the baths worked as a network within Tuscany. This study may help students of world history, living in an age of increasing water insecurity, to realize how long humanity has struggled with managing natural resources while also balancing the varied economic, social, political, and medical needs of the people who relied on those resources.

Sixteenth-century Tuscany witnessed many political changes that impacted oversight of the natural resources of the region. The waning years of the fifteenth century saw the ousting from politics of the main branch of the Medici family in the years following the death of Lorenzo “Il Magnifico” de’ Medici (1449–1492), the tumultuous rule of the Dominican monk Girolamo Savonarola (1452–1498), and the brief leadership of Piero de’ Medici (1472–1503). The first three decades of the sixteenth century brought continued turbulence as French and Spanish dynasties fought both over and in the Italian peninsula, and two Medici popes seized control of Florence but ruled from a distance in Rome. The most recent calamity, the siege of Florence that began in October 1529, was the product of a partnership between Holy Roman Emperor Charles V (1500–1558) and Pope Clement VII de’ Medici (1478–1534) to oust the French from the peninsula once and for all and officially restore the Medici to Florence. The siege lasted ten months, and by August 1530, the
city was no longer a republic, but a protectorate of Spain ruled locally by a cadet branch of the Medici family. Not royalty like in other European states, the Medici dukes, and grand dukes after a papal decree in 1559 elevated their status, self-styled themselves as a royal monarchy, which permitted a smooth, hereditary line of succession from one Medici grand duke to the next for a remarkable two-hundred-year period of stability known as the principato mediceo. After the last, childless Medici grand duke died in 1737, Tuscany passed to the Habsburgs of Lorraine, who ruled into the nineteenth century.

In the middle of the sixteenth century during the reign of Cosimo I de’ Medici (r. 1537–1574), Tuscany witnessed more turmoil as open hostilities between King Henry II of France and Emperor Charles V brought the theater of war back to Tuscany in 1553 as the French came to the aid of Siena against a combined imperial and Florentine army. Two years of warfare in the Tuscan hillside followed, with Siena eventually falling in 1555 to Charles V, who almost immediately passed the Sienese territory on to Cosimo I (see Image 1 below). The Peace of Cateau-Cambrésis in 1559 confirmed that Siena was no longer independent,
but a territory under Florentine control. Years of war caused disruption and damage to the Tuscan countryside, but the annexation of Siena brought an area especially rich in thermal water into ducal control. Cosimo I and his immediate successors understood the value in thermal water, and that it needed government oversight if the water were to serve as a public health amenity to the people of Tuscany.

Public health in premodern Europe was different from our modern understandings and practices. Although the emphasis on demographics and statistics is a hallmark of the development of public health reforms in the nineteenth century, premodern governments enacted laws and practices that we associate with public health, such as water and sewage management, emergency measures during times of epidemics, and the employment of doctors to treat the poor. Despite lack of terminology or an understanding of germs as the cause of contagion, a burgeoning public health movement related to clean water and air in Florence is evident from the thirteenth century. Concerns about miasma, or “bad air,” prompted ongoing government attention to drain swampy areas, to dredge the Arno River to keep it flowing and prevent stagnant, smelly water buildup, and to keep the city’s streets and waterways clean from refuse, strong odors, and pollution. For example, as Richard Trexler has shown, the Florentine republic issued several laws in the fourteenth and fifteenth century that prohibited the dumping of lime, stones, and other debris into the Arno that might cause the water to divert its path and flood homes or create stagnant pools and forbade the poisoning of the water and the fish it contained.

In the scheme of public health, Tuscan thermal baths occupied a liminal position between natural resources and sites of medicine and healing. On the one hand, the natural springs and fabricated bath facilities were tangible resources prone to pollution through environmental conditions or the habits of the users. On the other, the baths provided medical treatments not widely available in Italy, were spaces where physicians worked and treated patients, and were spaces where sick people gathered, potentially spreading disease and epidemic. Additionally, visitors often resided for weeks in the bath town, potentially behaving in illicit ways that could be offensive to other bath-goers as well as the town residents. Dorothy Porter has argued that it was the enactment of public health-related legislation in the medieval and early modern periods that spurred the centuries-long civilizing process of states controlling and regulating the behaviors of their citizens. Johan Goudsblom asserted, rather, that it was individual concern about self-restraint, shame, and offending others, and not necessarily the government oversight or concern about contagion or public health, that influenced changing social behaviors. Although it seems apparent that regulating the thermal springs and the behavior of the users at baths can be interpreted as part of the long civilizing process, the Medici grand dukes of the sixteenth century had other concerns. Additionally, the development of individual communities and independent land-owning lords in northern and central Italy during the Middle Ages meant that management of the baths was in the hands of whoever owned the land upon which the baths
were located. Consequently, no standard practices for usage or sustainability existed by the sixteenth century. Unlike other institutions or possessions owned by the Medici, thermal baths required varying degrees of government oversight if they were to serve any use at all. Some baths within Tuscany saw more attention from the ducal government than others and not all the natural springs were developed into commercial bath spaces. The differing concerns and varied approaches to those concerns suggests that the early Medici grand dukes did not have a grand scheme in mind for all Tuscan mineral water. What follows is a close look at three different baths in three different parts of Tuscany and the efforts made by the grand dukes of the sixteenth century to preserve these natural resources.

**San Giuliano Terme**

Near Pisa, the San Giuliano Terme was one of the ancient baths still active in the sixteenth century. Originally used by the Etruscans and Romans, the baths passed from the ownership of Matilda, countess of Tuscany, to the commune of Pisa by the middle of the twelfth century. Persistent hostilities between Florence and Pisa in the fifteenth century brought destruction to the baths by the Florentine army in 1405, albeit with a transition of ownership from Pisa to Florence. In 1454, Florence ceded oversight of the baths to the local Consoli del Mare (Counselors of the Sea) of Pisa. In 1494, the Consoli gave the baths to Matteo Franco for a period of fifteen years, after which the baths reverted to Florentine control in 1509. At some point in the early sixteenth century, the baths passed to the private patrimony of the Medici family. A 1568 inventory of Cosimo I’s personal property reveals a large complex of four baths (named Regina, San Lazare, Nervi, and Santa Caterina), multiple houses and apartments, and a church. A list at the end of the inventory designated which properties Cosimo bestowed as income or personal property to support his children; the baths, however, were not given as a source of income for any one child, but, rather seem to transfer with the overall Medici patrimony until late in the principato mediceo. Despite this, the Medici managed the baths as an amenity open for public use.

In June 1597, Grand Duke Ferdinando I (r. 1587–1609) issued a bandó, or proclamation, that listed several ordinances related to the use of San Giuliano Terme. Although some ordinances regulated the price of admission per person or animal for drinking or bathing in the waters, set opening hours at the baths, and permitted residents to rent out rooms to visitors to the baths, other ordinances addressed the behavior of the users and the upkeep within the town. For example, ordinance four prohibited surgeons from performing bloodletting procedures or any other treatment in the baths that would dirty the water. Ordinance five barred anyone with visible skin infections or other obvious illness, or even suspected illness, from entering the water and regulated that the ill “are separated from the more healthy in the baths.” Neither ordinance four or five mention possible contagion as a rationale for enacting these medically oriented prohibitions, which echoes Goudsblom’s assertion that
fear of contagion and pandemic disease were not prime motivators of “civilizing” behavior.\textsuperscript{14} Ordinance seven strictly separates male and female bathers, each gender having their own bath house, and enacted steep penalties for anyone entering the bath of the opposite gender.\textsuperscript{15} Ordinance eight further obligated residents of San Giuliano Terme to keep the streets and piazzas clean and to remove anything that gave off a bad smell or was ugly.\textsuperscript{16} None of these ordinances were particularly uncommon among baths in the medieval or early modern periods. For example, the community of Montecatini included several similar statutes related to the baths within their territory, as will be discussed below. The most common ordinance across locations in Italy and elsewhere was the separation of the sexes with separate baths for male and female bathers. For instance, French essayist Michel de Montaigne (1533–1592) noted that the La Villa spring at the Bagni di Lucca was mostly used for drinking but had a separate bath with shower facilities for women.\textsuperscript{17} During his travels in the eastern Mediterranean, Ottoman diplomat Evliya Çelebi recorded that in the city of Sofia (in modern day Bulgaria) five different hot springs supplied five different baths, with one designated only for women while the other four were designated for men according to their religious faith.\textsuperscript{18} In their study on mineral springs in Mexico, Casey Walsh noted that bathhouses were geared toward women and that the government issued legislation in the late eighteenth century designed to improve the behavior of all users.\textsuperscript{19}

Grand Duke Ferdinando’s \textit{bando} of 1597 seemed designed to clean up the baths by controlling the behavior of the users and the town and is certainly one step in the long “civilizing process” that played out over the span of the early modern period. Writing over a century later in his medical treatise describing the history of these baths, physician Andrea Cocchi noted the “extreme decay” of the baths that prompted the grand duke “to establish the economic and moral rules one must observe during the bathing season.”\textsuperscript{20} It is likely that Ferdinando’s motivation for reforming sanitary conditions at San Giuliano Terme was less about sustainability, or even health, and more about competition with the nearby Bagni di Lucca for visitors and guests who would bring an economic boon to the local economy through rental incomes, medical services, food purchases, and entertainment. Although Lucca is within the territorial boundaries of modern Tuscany, during the \textit{principato mediceo} it was one of the few remaining independent republics in Italy. The baths of La Villa and Corsena in Lucca were already famous tourist destinations by the time Michel de Montaigne visited them in 1581; as he wrote in his diary at the time, “Corsena has the reputation.”\textsuperscript{21} Cleaning up the water and the town, as well as having Girolamo Mercuriale (1530–1606), one of the famed medical professors at the University of Pisa, lecture about the benefits of using the waters, were strategies aimed at making San Giuliano Terme more competitive with its famous neighbor to the north. However, by targeting the behavior of the users, Ferdinando also improved the sustainability of the thermal water. Locals and visitors alike would notice that the water was precious and that everyone had some responsibility to protect this resource by upholding the rules and exhibiting proper behavior.
Bagni di Montecatini

Nestled in the Valdinievole (Val di Nievole), a river valley comprising several small communities and located northwest of Florence, hot and cold mineral water from Montecatini was famed throughout Tuscany by the sixteenth century. Although the origins of the baths in the first and second century are a bit murky, according to Alessandro Bicchierai writing in the eighteenth century when the baths there were undergoing extensive renovations, the baths were functional in the middle ages. Unlike other baths in the hands of private owners, the commune of Montecatini managed these baths. Some of the earliest communal statutes in 1330 focus on the baths. For example, every June, the commune auctioned off the management of the baths to a citizen who could pay the tax rate determined by the chancery. For his success at auction, the new conduttore, or director, was responsible for keeping the baths clean and charging the proper admission, responsibilities akin to a modern property manager, but he did not offer medical advice. This same statute fixed the price of admission; citizens gained free admittance, and foreigners who lived within the commune were charged five soldi for every visit to the baths. The baths were a communal amenity to be shared and enjoyed by people and beasts alike. Consequently, authorities did not take lightly any damage to public property and imposed penalties for any individual or animal causing damage to the baths. Individuals were fined up to five lire for damages or if they were caught stealing while at the baths. Animals could cause actual physical damage to a building or by sullying the pools with excrement; an unruly horse would cost its owner five lire, and owners of offending sheep, goats, and pigs were fined two lire for each animal, all significant fines when, for example, the average earnings for an agricultural worker were the equivalent of a little over seven lire per month (or 91 lire per year). Much like at San Giuliano Terme, the emphasis of this statute is on user behavior that might be offensive to others with little mention of contagion.

Local physician Ugolino Caccini (1345–1425), usually referred to simply as Ugolino da Montecatini, touted the benefits of Montecatini water in his 1417 treatise, Tractatus de balneis, considered by many scholars to be the first scientific work on hydrotherapy. Ugolino mentioned that one of the three baths no longer worked, but that the other two contained salt and were not very hot. He recommended drinking this water first thing in the morning to cure conditions such as scabies, kidney complaints, and decreased appetite. Ugolino also noted that “our magnificent Florentine lords” built a new bath at Montecatini in 1370, signifying Florentine attention and awareness of the baths centuries before the Medici grand dukes were in power.

The commune of Montecatini and its well-known baths saw its fortunes shift due to the Italian wars of the sixteenth century. By the time Florentine and Sienese armies and allies left the plain at the foot of Montecatini in July 1554, the baths were ruined with bathhouses destroyed and conduits to the springs broken, and it was left to the commune of
Montecatini to make repairs.\(^{31}\) In 1569, in a letter addressed to Francesco de’ Medici, Grand Duke Cosimo I’s eldest son, communal chancellors appealed to Florence for a reduction in taxes because “due to the poverty of this commune, we do not have the money to repair and restore the baths here, which have for a long time been very much universally enjoyed for the infirmities of many people.”\(^{32}\) Francesco responded much later by sending two different inspectors to evaluate the still-unrepaired baths in 1572.\(^{33}\) The estimated expense of approximately one thousand *scudi* for the repairs was too much for the tiny commune to pay, and by the end of the decade, Montecatini had had enough and began making overtures of donating the baths directly to Francesco, then the grand duke after Cosimo’s death in 1574.\(^{34}\) Sending representatives to the court in May 1583, the Chancery of Montecatini offered the baths to Francesco:

> The public and general council of the commune of Monte Catini in the Val di Nievoli, in sufficient numbers assembled and preserved, obtained the vote . . . to give and freely donate to the Most Serene Grand Duke of Tuscany, Francesco Medici, our Most High Serene Lord, a gift of the baths of this commune.\(^{35}\)

One of the chancellors wrote at the bottom of his copy of the letter that the grand duke “most willingly accepted” the offer and was very appreciative of the gift.\(^{36}\) Francesco acknowledged the gift and the pleadings of the Montecatini chancellors in a *bando* he issued on July 1, 1583. The *bando* imposed restrictions on the export of water from two springs at Montecatini Terme that were in demand for medicinal use. Arising from a desire to ensure that the water exported from the springs was indeed from those locations, Francesco, with the support of the Guild of Doctors and Apothecaries, stipulated that:

> No conveyance or person can remove or carry water of [the] Tettuccio and Bagnoli [springs] from the Community of Montecatini without a voucher from the Director or tax collector of said water . . . which voucher contains the name of the conveyance, or other person who removes or carries the water, the number of barrels, the day, month, and year that the said water was removed, and such voucher or receipt as written above in any way whatsoever [must be] sealed with the seal of the Community of Montecatini by the tax collector of the water.\(^{37}\)

The proclamation included penalties for vendors who attempted to circumvent the voucher regulation and prevented pharmacies from accepting water without proof of origin:

> Those conveyances or others who remove or carry the said water in violation of the form prescribed above will be under penalty of five *scudi* per load the first time, ten *scudi* per load the second time, and ten *scudi* per load and the loss of their animals for the third time, and apothecaries and other vendors cannot accept the said water from the conveyor without seeing and receiving the said voucher written and sealed by the Community of Montecatini.\(^{38}\)
The *bando* concluded with a stipulation that all penalties collected would be equally divided, with the palace notary office, the Ducal Fisc, the Guild of Doctors and Apothecaries, and the Monastery of San Barnaba each getting a quarter of the revenues.\(^{39}\)

As with San Giuliano Terme, sustainability of the Montecatini water was not the primary motivation for issuing the *bando*. First, generating income through taxes helped the cash flow problems for Montecatini, while also providing funds from penalties to other Tuscan institutions. Second, whether from his own knowledge or upon the advice of the doctors and apothecaries, Francesco’s *bando* regulated an item found on the shelves in most apothecary shops throughout Florence and Tuscany. Historically, medieval doctors had often recommended Tettuccio water, with its mild and pleasant mineral taste, as a good base liquid in which to mix other medicinal ingredients or even to drink on its own to help purge the body of illness.\(^{40}\) The then most recent medical writing touting the benefits of Tettuccio water was papal physician Pompeo della Barba’s commentary, *De balneis Montis Catini commentarius*, written in the 1560s. Giovanni Cipriani has suggested that this work, as well as others written in the 1580s, contributed to Francesco’s ready acceptance of the donation and the issuance of the *bando*.\(^{41}\) It is questionable, however, how wide della Barba’s commentary circulated since it was not published at the time. The Medici most likely knew of the work since della Barba mentioned Baccio Baldini, Florentine court physician, and Grand Duke Cosimo I in the opening paragraph of his written response to
a query from a colleague asking about the benefits of Tettuccio water. Moreover, Grand Duke Francesco had personal experience with the water, having taken Tettuccio water to cure a bout of catarrh in 1586 and again the following year. Together, it becomes apparent that the Florentine court knew about the medical benefits associated with Tettuccio water. Finally, the legislation asserted Francesco’s authority related to natural resources within Tuscany. This law was perhaps an effort at quality control, since without the voucher or the Montecatini seal, unscrupulous apothecaries could easily bottle any water and try to pass it off as “Tettuccio” water. In an amusing anecdote from his travel diary, Michel de Montaigne purchased a bottle of water labelled as Tettuccio water from an apothecary in La Villa during his spring 1581 visit to the Bagni di Lucca. Montaigne noted that the water tasted extremely salty, and he suspected the apothecary of using local water instead of the better-tasting water from Bagni di Montecatini. Essentially, the bando put a stamp of authenticity on barrels of Tettuccio water to assure customers the water was from the source in Montecatini. Sustainability might not have been the objective Francesco had in mind, but the efforts to control exportation signified that this resource was especially valued within the abundant natural resources of Tuscany. Francesco was ahead of his time in this regard as it was only in the late eighteenth century that water became a trendy drink of choice with bottled water from springs across Europe exported and commodified.

Bagni di San Casciano in Siena

The annexation of Siena to the Tuscan territory under Florentine control in the aftermath of the Italian Wars brought not only an expanded domain, but the addition of half a dozen thermal baths into the fold. The rich Sienese countryside had an abundance of natural thermal springs, many dating to the zenith of ancient Etruria in the sixth century BCE and still popular destinations at the start of the early modern period. Ownership of some of the baths in Sienese territory, such as Bagni di Petrioli, Bagno Sarteano, and Bagno Chianciano, was at the communal level, though perhaps influenced by a local noble or regulated at the provincial level by Siena. Others, however, were under private ownership, meaning individuals or families retained ownership even after the fall of Siena.

The effects of the Italian wars on Siena continued long after the final skirmish as local Sienese bureaucrats wrote to the court in Florence about various problems in the territory or matters that needed ducal approval. In one appeal from 1577 that stressed the need to fill vacant seats in the council and to appoint professors of medicine and philosophy to the university, the officials also complained about access to water:

Our ancestors, with great skill and at very great expense and for the great benefit of the city, directed water from near and far through underground aqueducts and holding tanks, which either through passage of time or for some other reason, now need a major restoration so that the water does not go elsewhere, which has already begun, and we fear will get worse.
Although Francesco was grand duke at the time of this appeal, it was his brother and successor Grand Duke Ferdinando I (r. 1587–1609) who turned his attention to the baths in Siena. In 1590, he created a new government position for a public works manager, or *operaio*, who received his appointment directly from the grand duke. Tasked with overseeing all water in Siena, including aqueducts, fountains, and baths, the *operaio* was responsible for the maintenance of water structures and for inspecting any underground water storage places or sources of the water. For the baths specifically, the *operaio* was required to make inspections twice a year, but for the “principal baths of Vignone, San Filippo, and San Casciano,” the *operaio* had to visit three times a year, “ensuring that the waters are conserved, the baths are cleaned, and the buildings maintained.” 47 The extent of the *operaio*’s powers included the ability to requisition any men and beasts necessary to make repairs and to punish perpetrators for any damage to the waters or water structures.48 For his efforts, the *operaio* received a salary of ten *scudi* per month and served for a period of three years, with the possibility of reappointment at the grand duke’s pleasure.49 Considering that a successful sixteenth-century bricklayer earned approximately 52 *scudi* per year, the *operaio*’s...
high salary signals the prominence of the position. This legislation reveals two important aspects. First, it shows how highly Ferdinando valued the Siena waters. His creation of a new position, one that he appointed directly, meant that he was taking an active, personal interest in making sure the baths were properly maintained; he was not leaving this responsibility up to any one of the layers of bureaucrats working in Florence, Siena, or the local bath communities. Second, the revelation that Bagni di Vignone, Bagni di San Filippo, and Bagni di San Casciano were viewed as “principal baths” and therefore required additional attention is the language signifying the importance of these baths to the public.

In particular, the Bagni di San Casciano held historical significance for the Medici grand dukes (see Image 3). Located closest to the border of Tuscany and the Papal States, the baths’ location meant their fortunes changed depending on the political climates of the nearby powers. Associated with the Etruscan king Lars Porsena, the Romans called these springs Balnea Clusinae and both Caesar Augustus and the poet Horace were said to have frequented the baths.50 Many of the ancient marble slabs inscribed with the qualities of the waters and recommendations for usage were still found on site by medieval and early modern physicians, and the occasional Roman artifact sometimes turned up as well. For example, several medieval and early modern physicians mentioned a broken marble tablet found at Bagno Grande in Bagni di San Casciano that referenced the god of medicine Aesclepius and his daughter Hygiea.51 Another artifact, a votive offering inscribed in marble, mentioned the wife of Emperor Lucius Vitellus and her return to health at these baths around the year 69 CE, while another votive found was dated to the Antonine dynasty in the second century CE.52 After the collapse of Roman imperial power in western Europe, the town of Orvieto absorbed the territory around the baths, then known as Balnea Urbis Veteris, with direct ownership in the hands of a series of Orvietan noble families, including the Monaldeschi and the Visconti; by 1340, the territory and the baths were under the dominion of the Republic of Siena, and then quickly passed to Emperor Charles IV in 1355.53 By the end of the fourteenth century, the baths and the surrounding area of Camporsevoli constituted a fief, fought over by the lords of Siena and the Papal State of Orvieto. By the mid-fifteenth century, the Camporsevoli vicarate, including Bagni di San Casciano, was in the hands of the Piccolomini family of Siena and part of the patrimony distributed to family members. Upon his elevation to the papal throne as Pius II in 1464, Aeneas Silvius Piccolomini, then Lord of Camporsevoli, “gave the fief to [his nephews] Andrea and Giacomo Piccolomini, on the condition that should their line lack a male descendant, the fief would revert back to the commune and people of Siena in perpetuity.”54 A 1609 appeal from Siena to the grand duke for permission to change the local podestà (mayor) of San Casciano noted the change in ownership:

The extinction of this said line came to be in the year 1608 upon the death of Lord Scipione Piccolomini, Priore of Pisa, [and] the Most Serene Grand Duke Ferdinando I, of glorious memory, as true Lord of Siena, ordered our colleague Doctor Lattantio Finetti,
then podestà of Cetona, to take possession [of Camporsevoli and San Casciano] with vigor and in accordance with the said papal bull.

This ownership change meant that the Bagni di San Casciano were under more direct control of the Medici government. Even before this, though, the Medici were already patronizing these important baths. In 1607, Grand Duke Ferdinando I ordered a portico built to connect the three individual baths of Santa Maria, San Giovanni, and Ficoncella at Bagni di San Casciano. An inscription on the portico border signifies the ducal patronage:

The Most Serene Ferdinando commissioned this Building constructed for the Public good and permitted his Most Noble Insignia affixed in the year of Our Lord 1607 and Giovanni Battista Guglielmo, Sienese patrician and General Commissioner of Roads and the Baths, most diligently oversaw its execution from the foundation.

The Bagni di San Casciano continued to be a significant bath throughout the seventeenth and eighteenth centuries. Here again, sustainability may not have been the intent; more
likely, the creation of a public works official appointed by the grand duke was another outward sign demonstrating Florentine dominance over Siena and its territory. Siena no longer had the agency to manage this crucial natural resource.

Conclusion

The first two generations of Medici grand dukes succeeded in sustaining these three baths for future generations. Although motivations for legislation and patronage varied, these efforts served to establish the precedence of ducal oversight and involvement with these natural resources. Succeeding generations of Medici rulers continued to attend to happenings related to the baths and supported physicians who worked at and studied the baths. Even more than fifty years after Grand Duke Francesco’s issuance of the *bando*, Francesco Redi (1626–1670), court physician to Grand Duke Ferdinando II (r. 1621–1670) and Grand Duke Cosimo III (r. 1670–1723), frequently recommended Tettuccio water as a treatment, evidence that the water was still prized and an important medicinal product. Although they imposed inspections and other user-related regulations at the baths, the grand dukes generally took a hands-off approach when it came to contracting physicians to work at the baths. However, late in the *principato mediceo* this policy changed. In 1679, Grand Duke Cosimo III appointed Doctor Giovanni Bottarelli as *condotta* [manager] at Bagni di San Casciano, a position he held for at least seven years. Unlike the *conduttore* at Montecatini who bid for the contract and served as a property manager responsible for the upkeep of the baths, this version of the *condotta* position had medical overtones as well since Bottarelli was a practicing physician. Later, in 1720, Cosimo III appointed Jacopo Filippo Bastiani as *condotta* at Bagni di San Casciano; Bastiani held this post for twelve years. Both Bottarelli and Bastiani wrote medical treatises about their respective tenures at the baths; in these treatises, the physicians recounted not only the qualities of each of the twelve baths at the site and their own chemical experimentations with the waters, but also recorded information on the hundreds of patients who visited the baths seeking treatment for everything from kidney stones and arthritis to infertility and skin conditions. Clearly, the baths at San Casciano were still viable natural resources and principal baths that continued to serve numerous people from Tuscany and elsewhere by providing valuable medical care.

After control of Tuscany passed to the Habsburgs of Lorraine in 1737, all three baths underwent extensive renovations in the late eighteenth century (see Image 2 above), ushering in the heyday of “taking the waters” in the nineteenth century. All three baths remain today. A visitor to Tuscany today can drink a glass of the famed Tettuccio water at the spa of the same name (see Images 4 and 5 below) or dine in the modern spa facility at San Casciano dei Bagni that was built around the portico Grand Duke Ferdinando I commissioned in 1607. It is thanks to the sixteenth-century Medici grand dukes who saw a need and created new initiatives at a crucial moment of history that helped sustain thermal waters
for future generations. From this study, we can see how efforts within even one generation can impact the protection and preservation of essential environmental resources.

Appendix

A lesson module on thermal baths for world history courses created in collaboration with Thomas Mounkhall, PhD., a master teacher and frequent contributor to World History Connected.

1. Split class in groups of 3–4 students per group with as many groups as needed based on class size.
2. Assign each group a thermal bath to focus on as follows:
   - Group 1: Bagni di Montecatini—Montecatini, Italy
   - Group 2: Rudas Furdo—Budapest, Hungary
   - Group 3: Archaia Olympia—Ancient Greece
   - Group 4: Ikaho Onsen—Ikaho, Japan
   - Group 5: Manikaran Hot Springs—Manikaran, India
   - Group 6: Banas del Inca—Cajamarca, Peru
   - Group 7: Tirta Empul—Tampaksiring, Bali
   - Group 8: Bath/Aquae Sulis—Bath, England
   - Group 9: Peñon de los Baños—Mexico City, Mexico
   - Group 10: Sarasota Springs—New York, United States
3. Group Tasks: a) Locate thermal baths/springs in time and place; b) Identify any medicinal uses of the baths/springs; c) Identify any religious significance of the
baths/springs; d) Locate images of the baths/springs. Instructor may also require students to research other important aspects related to context, such as political structure, climate and geographical features of the region, major religion(s) of the region, and anything else that might be relevant.

4. In-Class Option: Each group presents its research data in class, including images of the baths/springs (on a flash drive or weblink), and teacher organizes the data on the white board by a graphic organizer that focuses on time, place, medicinal use, and religious significance of each bath/spring. Teacher then leads a class discussion that focuses on the following: a) the polycentric nature of this study in that baths/springs are found in six global regions (Western Europe, Eastern Europe, East Asia, South/Southeast Asia, Latin America, and North America); b) the relationship of thermal baths/springs and medicinal use; and c) the relationship of thermal baths/springs and religious beliefs.

5. Online Option: Each group prepares a discussion board post in which they discuss their research and include images of the bath/spring. Individual students reply to at least two other posts asking questions and making comparisons between the baths/springs. There might be alternate or creative formats for an online option depending on the learning platform; for example, there could be a mapping website where each group creates a pin with information on their assigned bath/spring, or the research could take the form of a travel guide or brochure about the bath/spring. Teacher facilitates discussion online with same focuses as listed above in In-person Option.

**Dr. Beth Petitjean** is a Visiting Assistant Professor of History at Saint Louis University, St. Louis, Missouri, specializing in the history of medicine in early modern Italy and Europe. She teaches World History and History of Medicine survey courses. She earned her PhD in December 2019 from Saint Louis University. Her dissertation, “The Baths and the Medici: Taking the Waters in Grand Ducal Tuscany, 1537–1790,” a portion from which this article was adapted, was awarded the 2019 Distinguished Dissertation Award from the College of Arts and Sciences and the 2019–2020 Dissertation Award from the Department of History, both at Saint Louis University. She is also a 2020–2021 Residential Fellow at the Linda Hall Library of Science, Engineering, and Technology in Kansas City, Missouri. She has earlier published “‘Dear Boccaccio’: Teaching the Black Death Online during the COVID-19 Pandemic,” in *Sixteenth Century Journal* LI/Supplement (2020): 163–165. She wishes to thank Dr. Charles Parker (Saint Louis University) for alerting her to the call for papers for this issue and his advice on the best use for this article of research contained in her dissertation. She would also like to thank Dru Swadener (also of Saint Louis University) for her aid in figuring out the monetary impacts of the bath fines and worker salaries. She can be reached at beth.petitjean@slu.edu.
NOTES


11 Archivio di Stato di Firenze (ASF), Scrittoio delle Regie Possessioni (SRP) 4114, 94r; and Quaglia, “‘Una Più Solida e Magnifica Riparazione’: Le Terme di San Giuliano nell’eta’ Moderna,” 7.


“Ordini da osservarsi alli Bagni di Pisa posti in pié del Monte a S. Giuliano Comune d’Asciano,” cited in Cocchi, *Dei Bagni di Pisa*, 382 fn 1: “VII. Nessun uomo ardisca entrare ne affacciarsi, noiare, o fare insolenza alcuna alli Bagni delle donne, ne le donne similimente possano entrare alli Bagni degli uomini e noiarli, soto le medesime pene e maggiori facciano le agnature.”

“Ordini da osservarsi alli Bagni di Pisa posti in pié del Monte a S. Giuliano Comune d’Asciano,” cited in Cocchi, *Dei Bagni di Pisa*, 383 fn 1 (cont’d): “VIII. Che ciascuno abitante a detti Bagni sia obbligato tener nette e pulite le strade e piazza per quanto sia suo e dicontro alle case e stalle, ne ritengano cosa alcuna che dia cattivo odore o bruttezza.”


Cocchi, *Dei Bagni di Pisa*, 382: “Ma questa estreme decadenza de’ nostri Bagni mosse giusto in quei tempi l’animo eroico di FERDINANDO Primo Gran Duca di Toscana, a fargli nuovamente restaurare, il quale nel di XII Giudno MDXCVII stabili alcuni ordini, massime economici e morali da osservarsi nelle bagnature.”

Michel de Montaigne, *Travel Journal*, 121.

Alessandro Bicchierai, *Dei Bagni di Montecatini Trattato* (Firenze, 1788), 44–46.

Archivio Storico Communale di Montecatini (ASCM), Montecatini, Italy, Stat. 2, f.23r. Many of the communal documents were burned or damaged in a bonfire during the Italian wars; see *Inventario dell’Archivio Preunitario del Comune di Montecatini Terme*, a cura di Lucia Roselli (Ospedaletto, Pisa: Pacini Editore, 2009), 22–23.

ASCM, Stat. 2, f.23r: “Sia tenuto farli nettare a tutte far spese et [faded] li termini delle acque per sua persona e famiglia non paghi niente ma li forestieri anchora che habitono detto comune paghino per bevere di detto acqua soldi cinque per bagnatura.”

ASCM, Stat. 2, f.37r.


Ugolino, *Tractatus de balneis*, 36.


ASCM, Cont. 707, unnum: “Il publico e generale consiglio del comune di Monte Catini di Valdinievoli in sufficienti numero adunato servato et ottenuto il partito . . . a Serenissimo Grand Duca di Toscana Francesco Medici loro Sigore et a Sua Altezza Signore darli et liberamente donarli e farli presente de bagni del [detto] [comune].” Archival documents in Montecatini for the donation date to November 1583, and there is no record of an earlier donation date. However, archival documents between the 1554 fire and the eighteenth century are generally very scarce and not in good condition. The bando issued on July 1, 1583 acknowledges the visit of the representatives on May 10, 1583.

ASCM, Cont. 707, unnum: “Sua Altezza accetto molto volentieri la loro offerta.” See also Cipriani, “Il culto,” fn 32 for other citations of Francesco’s ready acceptance of the Montecatini baths.

“Bando Sopra L’Acque del Tettuccio e de Bagnoli Esistenti nella Corte di Monte Catini di Valdinievole,” in Lorenzo Cantini, Legislazione Toscana: Raccolta e Illustrata dal Dottore Lorenzo Cantini, tomo X (Firenze: Albizziniana da S. Maria in Campo per Pietro Fantosini e Figlio, 1804): “che per l’avenire nedssuno vetturale o altri possino levare e portare le dette acque del Tettuccio e de Bagnuoli della prefata Comunità di Monte Cattini di Valdinievole senza la poliza del conduttore e gabellieri delle dette Acque. . . le quale poliza contenga il nome del vetturale, o altri che la leva e porta, e il numero de barili, il di, il mese, e l’anno che detta acqua si leva e che tal poliza o bulletta, come di sopra scritta in qualsivoglia de duoi modi sia sigillata con il suggello della Comunità prefata di Monte Catini dal gabellieri di dette Acque.”

“Bando Sopra L’Acque del Tettuccio e de Bagnoli,” in Cantini, Legislazione Toscana: “sotto pena alli vetturali e altri cho contra la forma predetta leveranno e porteranno dette Acque per la prima volta di scudi 5 per soma, per la seconda di scudi 10 per soma, per la terza di scudi 10 per soma e della Perdita delle bestie, e che li spatiali o altri non possino accettare le dette Acque dalli vetterali senza vedere e riceverne la detta poliza fatta e sigillata come di sopra del sigillo della Comunità prefata di Monte Catini.”

“Bando Sopra L’Acque del Tettuccio e de Bagnoli,” in Cantini, Legislazione Toscana. The Bando lists the “monache di San Bernaba,” but this is mostly likely a spelling difference for San Barnaba, built in the fourteenth century.

Besides Ugolino da Montecatini’s work on Montecatini, other medical literature on baths included Michele Savonarola, De balneis et thermis naturalibus omnibus Italiae (Ferrara, 1485); Tommaso Giunti, editor, De Balneis omnia quae extant apud Graecos, Latinos et Arabas (Florence, 1553); and Andrea Bacci, De thermis . . . de balneis totius orbis, & de methodo medendi per balneas (Rome, 1571).


Pompeo della Barba, Commentario intorno alle Terme di Montecatini, trans. Enrico Coturri (Firenze, Italy: Olschki, 1962), 85. Coturri mentions that a Doctor Giovanni Baldasseroni wrote a copy of della Barba’s consulto, though it is unknown where he saw the exemplar. Giovanni Targioni Tozzetti included the original Latin in his Viaggi fatti in diverse parti della Toscana per osservare le produzioni naturali e gli antiche monumenti di essa (Firenze, 1751–1754), and Coturri translated the Latin from Tozzetti into Italian for the 1962 monograph.

Montaigne, *Travel Journal*, 125. Montaigne had a low opinion of apothecaries and doctors, generally, but perhaps he had tasted Tettuccio water purchased from a different apothecary shop during his travels in Florence and Tuscany prior to his May 1581 arrival in Lucca.


ASF, Mediceo del Principato (MdP) 2009, unnum: “Con grande Arte e con gradissima spesa dai luoghi convieni e longi si come fu forza a quei nostri Antichi furono condotte le acque per beneficio dig.a Città per vie sotteranee d’aquidotti e buttini i quali per la longhezza del tempo o per altra cagione hanno bisogno di qualche restauro importante, accio non [blurred] mancando e deviando l’acque come gia hanno cominciato, con timore di pregiudizio grandissimo.”


Bastiani, *De’ Bagni di S. Casciano*, 10-13. The inscription, “PRO SALute TIRIARIAE N APOL-LINI SACR,” according to Bastiani, references a woman named Tieraria, wife of Lucius Vitellius, citing Tacitus as his source. However, both Tacitus (*Histories*, book 2) and Suetonius (*Lives of the Caesars*, book 5) mention a woman named Galeria Fundana as Vitellius’s second wife and living in circa 69 CE. The marble slab still exists and is built into the interior wall of the Fonteverde Spa. Regarding the second votive Bastiani mentions that “Marco Vero was raised to the Emperorship in the year of our Lord 180 and that he died in 188.” It is most likely that Bastiani means Emperor Marcus Aurelius, originally named Marcus Annius Verus after his father and grandfather, who reigned as emperor from 161 CE until his death in 180 CE.


ASF, Miscellanea Mediceo (MM) 308, ins. 36, f.1r: “perché Papa Pio Secondo l’anno 1464, come potra’ vedere per l’inclusa copia della sua Bolla esistene in quest’Archivio delle Reformatione al libro detto Caleffetto, la diede in vicariato a Andrea a Jacomo Piccolomini, ed conditione che mancata la lor linea masculina, ricadesse in vicariato perpetuo al Comune e Popolo di Siena.” Andrea and Giacomo were Pope Pius II’s nephews, sons of his sister Laudomia (born circa 1415), who married Nanni Todeschini; their family line is called the Piccolomini-Todeschini line. See “Piccolomini” in Roberto Palmarocchi, *Enciclopedia Italiana* (1935) at [www.treccani.it](http://www.treccani.it) accessed 23 October 2018; and “Andrea di Nanni Piccolomini” in DBI 83 (2015) at [www.treccani.it](http://www.treccani.it) accessed 23 October 2018.
55 ASF, MM 308, ins. 36, f.1r: “Et essendo venuto il Caso dell’estintione della detta linea l’anno 1608 per la morte del Signore Scipione Piccolomini Priore di Pisa, il Serenissimo Gran duca Ferdinando di glorioso memoria, come vero Padrone di Siena, ordinò al Dottore Lattantio Finetti nostro Collega, allora Podestà di Cetona, che ne pigliasse il possesso per vigore et in esecuzione di detta Bolla, come fece sotto il 21 di Settembre di detto Anno.” This appeal is undated and addressed to the “Most Serene Grand Duke” without specifying which one, but the reference to Grand Duke Ferdinando I of “glorious memory” suggests a post-1609 date. However, Cetona and San Casciano reverted to Sienese, and, therefore, Medici control when the Piccolomini-Todeschini line ended in 1608 upon the death of the last living male, Scipione, a priest without issue, who was designated as heir to his relative Alfonso (1550–1591). See “Alfonso Piccolomini (Piccolomini-Todeschini)” in DBI 83 at www.treccani.it accessed 23 October 2018.

56 Bastiani, De’ Bagni di S. Casciano, 21: “Ferdinandus Serenissimus Aedificium ad Publicam construendum utilitatem mandavit, et eius Nobilissima Insignia permisit apponi A.D. M.D.CVII. Idque Johannes Baptista Gulielmus Patritius Senesis Viarum, ac Balneorum Generalis Commissarius, diligentissime a fundamentis est executus.” The portico is extant and part of the Fonteverde Spa in San Casciano dei Bagni, the modern name of the bath town.

57 Francesco Redi, Consulti Medici (Firenze, 1726) and Francesco Redi, Opere. Vols. 2, 4, 5, 6, and 7 (Venice, 1742).

58 See Giovanni Bottarelli, De’i Bagni di San Casciano (Firenze, 1688). It is also possible that Francesco Maria de’ Medici, Cosimo’s younger brother who was serving as governor of Siena at the time, appointed Bottarelli, but he might have needed Cosimo’s approval to do so.

59 Bastiani, De’ i Bagni di San Casciano, 2.

60 For more on Montecatini, see Mirto Bartoletti, Montecatini e le sue terme: 10 secoli (Firenze: edizioni d’arte il Fiorino, 1979) and Marco Innocenti, Montecatini Terme: la sua storia, le sue acque, i personaggi dell’arte e della musica, il Castello, i fasti del Liberty: dal medioevo ad oggi attraverso la grande epopea degli Asburgo-Lorena, Con la collaborazione di Alfredo Innocenti e Gabriella Landi (Montecatini Terme, Italy: Sandro Innocenti, 2002).