The Wizard of Naples: Science and Celebrity in the Renaissance and Beyond

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Abstract: This chapter looks at the serendipitous encounter between the surgeon Leonardo Fioravanti (1517–1588) and the magus Giovan Battista Della Porta (1535–1615) as a mirror reflecting a distinctively Renaissance phenomenon, one that has also gained a foothold in modern culture: scientific celebrity. Mention of it invites a third participant in the story, the contemporary mathematician and astronomer Galileo Galilei (1564–1642), a Renaissance scientific celebrity more familiar to moderns. Renaissance celebrity, whether of artists, authors, or popes, was always to some degree a performance art. Each of the characters of the chapter became scientific celebrities that performed in different roles and different spaces: Della Porta the aristocrat in court culture, Fioravanti the popular healer in print culture, and Galileo the court favorite and hero of the new scientific virtuosi. By interweaving the lives of these three characters, so different from one another yet in their own ways each characteristically Renaissance, the chapter explores, by way of a story, the question of how Renaissance scientific celebrities were made and how being a celebrity shaped the practice of science.

Keywords: Renaissance, Magic, Science, Celebrity, Secrets, Della Porta, Fioravanti, Galileo.

1. Introduction

Sometime in the 1550s, somewhere in Naples, a Bolognese surgeon by the name of Leonardo Fioravanti (1517–c. 1594) met a Neapolitan gentleman who showed him a magic mirror. "The mirror looked like any other," the surgeon recalled years later,

> but was so artfully contrived that when a person stood before it he saw more than a dozen monstrous figures spring out of it, like ghosts. The mirror struck terror in all who gazed into it. Nothing more astonishing in this art had ever been seen before.[1]

The reflection in the wizard's magic mirror was so deeply etched in the surgeon's mind that he remembered it vividly decades later.

Who might have shown the Bologna surgeon the marvelous magical mirror that reflected "monstrous" images that struck terror into observers? The surgeon

[1] Fioravanti 1567, 55. On Fioravanti, see Eamon 2010.

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didn't identify the wizard of Naples, but his description of the magician perfectly matches the young Neapolitan aristocrat and would-be magus Giovan Battista Della Porta (c. 1535–1635). Fioravanti identifies the wizard as a gentleman—and so Della Porta was, the strapping young son of Nardo Antonio Della Porta, a wealthy Neapolitan nobleman.[2] Only a teenager when the encounter took place, the precocious Della Porta would soon become a celebrity, first in the ornate court culture of Naples, then all of Italy, and at length throughout the world, renowned as Europe's greatest magus. A single book made Della Porta a superstar: the phenomenally successful *Magia naturalis*. The book was a sensation when published in Italian (in 15 editions) and was translated into French, German and Dutch. Barely a pamphlet when first printed in 1558, the book was reprinted in a vastly expanded edition of 1589, in which the self-proclaimed magus described experiments and demonstrations aimed not just to discover nature's secrets but to put nature to work, demonstrating that principle in phenomena such as magnetism and optics, including lenses and mirrors identical to the one that captivated Leonardo Fioravanti (Della Porta, 1558; 1589). Fittingly, Della Porta would also become Italy's most celebrated comic playwright, whose plays, most performed in court settings and full of tricks and surprises, delighted audiences as much as his demonstrations of natural magic. Della Porta's comedies imitated *Commedia dell'arte* and its passion for the marvelous, planted firmly in the principle of exaggeration.[3] His science and comedy walked hand in hand, both stylized beyond all pretense to reality. Enacting *meraviglia* to provoke wonder in the viewer guided both (Kodera 2012).

There's no record indicating where the Bolognese surgeon witnessed the wonders produced by the Neapolitan *wunderkind*—though he'd seen marvels aplenty performed in the piazzas by charlatans. He says that "everyone marveled" at the vision coming out of the mirror, suggesting that others were present, as in a performance space. It might have been in the Della Porta residence in Naples, or in the family estate in nearby Vico Equense, where he was known to demonstrate magical experiments before select audiences. More likely, I think, it was in the court of the Spanish Viceroy of Naples, Don Pedro of Toledo. The courts of Renaissance Italy were performance spaces, where jesters, playwrights, acrobats, and magicians enacted spectacles meant to please the prince. In the aristocratic courts of Naples, where Spanish and Italian polite culture melded, the city itself was a performance space whose stage was the Mediterranean Sea, displaying Naples's wealth and Spain's imperial power. During Toledo's rule, thanks to Spain's massive colonial wealth and the Viceroy's vision, Naples was transformed from a decaying classical city into a magnificent expression of the baroque, and the viceregal court was the pinnacle of that expression.[4]

[2] For Della Porta's biography, I rely on Clubb 1965; and Fiorentino 1911. Among the many studies of Della Porta's natural science and magic, see in particular Verardi 2018, Muraro 1978; Eamon 1994; 2017.

[3] On Della Porta's comedy, see Clubb 1965, chapter 7.

[4] Toledo's reign as Viceroy is treated comprehensively in Hernando Sánchez 1994.

Though hated by powerful local barons because he was a foreigner whom they thought had usurped their prerogatives, Toledo was in fact an enlightened colonial ruler who modernized the city's architecture and urban layout, transforming its medieval center, with its warren of narrow streets, into a broad thoroughfare lined with busy shops and elegant residences with massive baroque facades carved from marble and stone. The Via Toledo, as the street is now called, was designed by Neapolitan architect Ferdinando Manlio (d. 1570), a genius of Renaissance urban design whose work in Naples drew praise from visitors like Vincenzo Scamozzi, the famed Venetian architect. Scamozzi (1548–1616), whose six volume *L'idea della architectura universale* (1615) was considered by contemporaries to be the greatest architectural work since Vitruvius's *Della architectura*, visited Naples in 1579 and marveled at the grandeur of the city's architecture, gasping that its streets seemed to have been "made by a majestic hand." Under Toledo's rule, the city of Naples was transformed into a grand performance space, where the glory of the Spanish Viceroyalty was enacted.

We know Fioravanti was within the Viceroy's orbit because when he arrived in Naples in 1549 he bore a letter of introduction from his former patron, the Spanish viceroy of Sicily Juan de Vega, and with it entered Toledo's court, where he would soon serve as one of the viceroy's family surgeons (Fioravanti 1570, 71r.). Fioravanti noted that that "all the princely courts of the world" were furnished with the sorts of mirrors and optical devices he saw demonstrated by the wizard of Naples (Fioravanti 1567, 55). As the poet Torquato Tasso remarked, illusion was the very substance of court culture, and it took myriad forms, from the court buffoon's sleight-of-hand to the passion for anamorphic art. The capacity of mirrors to create distortions was a rehearsal in miniature of the prince's power to shape the world at will.[5] Della Porta's famous magical demonstrations would make his Naples residence a coveted stop on the European virtuosi's Grand Tours of Italy. For visitors lucky enough to have an introduction from a person of rank and privilege, Della Porta would do tricks with loadstones and exhibit the surprising properties of lenses and mirrors such as one that frightened the bewildered Leonardo Fioravanti.

Leonardo, by contrast, was no *wunderkind*. We know little about his early years other than his manifest frustration with medicine as it was then practiced. Disgruntled, restless, in 1548 at the age of 30, he writes,

> I went out into the world, solely with the intention of traveling around the world in order to gain knowledge of natural philosophy, so that I might be able to practice medicine and surgery better than I could in those days when I began my work (Fioravanti, 1570, 17v).

He "walked the world and ploughed the seas" in search of what he called the *Magna Medicina* or "Great Medicine"—a super-medicine and panacea that

[5] For the significance of wonders and distorting mirrors in the courts, see Daston and Park 1998, 100–8.

would cure all diseases (Fioravanti 1582, 136). Fioravanti was not the first to dream of such a marvelous cure: claimants of the Great Panacea also included numberless professional *ciarlatani* who roamed every street and piazza of Italy.

In what follows I want to look at the serendipitous encounter between the surgeon Fioravanti and the magus Della Porta as a mirror reflecting a distinctively Renaissance phenomenon, one that has also gained a foothold in modern culture: scientific celebrity. Mention of it invites a third participant in the story, the mathematician and astronomer Galileo Galilei (1564–1642), a Renaissance scientific celebrity more familiar to moderns. Renaissance celebrity, whether of artists, authors, or popes, was always to some degree a performance art. Each of the characters of my essay became scientific celebrities that performed in different roles and different spaces: Della Porta the aristocrat in court culture, Fioravanti the popular healer in print culture, and Galileo the court favorite and hero of the new scientific virtuosi.

As a celebrity scientist, Della Porta was unmatched. He was not only the original Renaissance scientific celebrity but also the most widely known. While his famous natural magic demonstrations thrilled virtuosi who came from all over Europe to visit him in Naples, his *Magia naturalis*, originally published in Latin and translated into multiple languages, was a bestseller, read by academics and virtuosi, merchants, artisans, and a wide spectrum of the middle class. Fioravanti's celebrity, on the other hand, was confined to popular culture, yet his cultivated roguish character and his gleeful put-downs of the regular doctors, masterfully portrayed in his popular books, endeared him to middle class readers who had grown frustrated with the supposed "expert" doctors of the day. As we will see, both were eventually overshadowed by Galileo, whose savvy self-fashioning as an explorer of the heavens and his electrifying discoveries with the newly invented telescope ensured his memory in posterity. By interweaving the lives of these three characters, so different from one another yet in their own ways each characteristically Renaissance, I shall explore, by way of a story, the question of how Renaissance scientific celebrities were made and how being a celebrity shaped the practice of science. Della Porta, in his day by far the most widely celebrated of the trio, is the lead character in the story, while Fioravanti and Galileo play equally important roles in giving perspective on an important but little examined aspect of Renaissance science and self-fashioning.

2. The Renaissance Invention of Scientific Celebrity

Celebrity scientists were hardly unique to the Renaissance. The modern era has produced its share, including Jonas Salk, who discovered the polio vaccine, saving countless lives, and more recently Anthony Fauci, a controversial celebrity who guided US public health policy during the Covid-19 pandemic as antivaccination zealots and opponents of the lockdown challenged his leadership at every turn. Then there is the tragic figure of J. Robert Oppenheimer, the theoretical physicist who led the Manhattan Project that created the atomic bomb, whose name and face were plastered all over the media, including on

the cover of *Time* magazine, and was acclaimed a scientific hero. Brilliant, complex, and fascinating, Oppenheimer was defined almost as much by his flaws as by his prodigious talents. His soul-wracking guilt over what he had wrought is as much a part of his story as his remarkable achievement. Though distant in time from the age of Della Porta and Fioravanti, such modern examples of scientific celebrity share many commonalities with that age, illustrating my claim that the prototype of the modern scientific celebrity was the Renaissance magus. Juxtaposing the parallel lives of Giovan Battista Della Porta and Leonardo Fioravanti teaches us about an identity that is both glaringly modern and quintessentially Renaissance.

When Leonardo arrived in Naples in 1549, he found a city unlike any in Italy. A subject territory of the Spanish Monarchy, Naples was ruled by a Spanish Viceroy and host to hundreds of Spanish noblemen, soldiers, literati, and fortune seekers. Spanish Naples was in every way a royal city—except for the absence of a king. The residence of dozens of princes, dukes, and marquises, and countless lesser nobility, Naples was the jewel of the Spanish Crown (Marino 2011, 27). Its intellectual climate was nourished by academies—dozens of them—where the literati met to discuss the literature, arts, and affairs of the day, or concocted experiments aiming to reveal new "secrets of nature," the occult properties that caused nature to behave as it did.

One of the academies was called the *Accademia Segreta*, the Academy of Secrets, formed in the 1540s by the humanist Girolamo Ruscelli and some friends who met periodically to "make diligent inquiries and true anatomies of the operations of nature."[6] The *Segreti* proposed to "anatomize" nature by means of experiments, which for them meant collecting and trying out recipes for all manner of distilled drugs, cosmetics, dyes, alloys, and precious metals. So went the helter-skelter style of experimenting that earned Ruscelli and others like him the moniker "professors of secrets." The Academy of Secrets published its discoveries in a bestselling book titled (pseudonymously) *The Secrets of Alessio Piemontese*, which was published in Naples in 1555 (Piemontese, *pseud.* 1555). A blockbuster, the work was published in more than 300 editions and translations into a dozen different languages, making it by far the most popular scientific book of the early modern period and the model for hundreds of similar books of secrets.[7] The work's real author, as Ruscelli reveals in a preface to another book of secrets, was none other than himself, Girolamo Ruscelli, the founder of Europe's first scientific society: the *Accademia Segreta* (Eamon and Paheau 1984).

In addition to the courtly world of elite science, Naples also harbored an underworld of science that flourished among artisans, pharmacists, and ordinary people who experimented daily in workshops, pharmacies, and marketplaces. It was a culture of makers who, in making, trading, and experimenting on things

[6] Ruscelli 1567, 3v. In addition, see Eamon and Paheau 1984.

[7] Eamon 1994; Stijnman 2012. On the problematic identity of Alessio Piemontese, see Eamon 1979.

created knowledge—though a radically different kind of knowledge than the *scientia* taught in the universities. When Leonardo arrived in Naples he quickly found his niche in this demimonde of experimenters. Imitating the city's fashionable academies, he created his own "little academy" (as he called it), comprising himself and five friends who met in Fioravanti's lodgings to do alchemical experiments (Fioravanti 1570, 234–36).

Giovan Battista Della Porta too, created an academy of experimenters, one very likely modeled on Ruscelli's *Academia Segreta* (Gliozzi 1950). He called his club the *Academia secretorum naturae*, the "Academy of Nature's Secrets." Della Porta himself mentioned the academy in the preface to the second edition of his *Magia naturalis* in twenty books (1589). Its members, who met in Della Porta's palatial residence in Naples, all belonged to the Neapolitan elite. The Della Porta circle, as much a social circle as an intellectual one, included polymaths of all sorts, men (and possibly some women) whose interests ranged from poetry and drama to natural history, along with curious aristocrats who wanted to be seen in fashionable places. The group did alchemical experiments, demonstrated the optics of mirrors and lenses and the strange properties of magnets, and proposed ways to improve crops and make households more efficient. The academy's guiding principle was that science should produce useful results, not sterile arguments over theoretical questions. Della Porta's *Magia naturalis*, consisting largely of recipes and experiments in medicine, the crafts, optics, and other "secrets of nature," is so similar to Ruscelli's *Secreti nuovi* and to the *Secreti* of "Alessio Piemontese" that there can be no mistaking its close relationship to the aims of experimental science articulated by Ruscelli. Indeed, the *Magia naturalis* reads like a manifesto for a new scientific methodology: that of science as a *venatio*, a hunt for "new secrets of nature" (Eamon 1994). The nearly identical names of the two academies, their proximity in time and place, and the similarity of their experimental methodologies, was surely no coincidence.

Della Porta dedicated his *Magia naturalis* (1558) to King Philip II of Spain, the young monarch who ascended to the throne just two years earlier. Then, like many aristocratic youths of his generation, he embarked on a customary Grand Tour of Europe, which took him to Germany, France, and Spain. His most important stop was Madrid, where in 1563 or 1564 the young magus proudly presented his book on natural magic to the young king. Della Porta would have found Philip's court a space perfectly suited to his style as a magus: a magnificent theater in which the principal actor—the king himself—was permanently on stage. What impression his magic may have made on King Philip is impossible to say. No record of the meeting survives.[8] He certainly wasn't the first Italian with big ideas to seek the king's patronage. The son of a minor Neapolitan nobleman, he couldn't claim an impressive lineage and didn't yet have the reputation he would later gain as a magus. Like most visitors who had an audience

[8] Although we do not know Della Porta's exact itinerary, he probably visited Spain in the mid-1560s: Clubb 1965, 13.

with the distant and private monarch, Della Porta was probably greeted politely, then dismissed with a few anodyne remarks whose exquisite courtesy never failed to impress. But Della Porta knew that the audience with the King of Spain would boost his credentials.

Returning to Naples after his grand tour Della Porta accommodated to the political order. A popular playwright, he catered his comedies to a Spanish audience and to Counter-Reformation demands for didacticism. But he quickly learned that by dabbling in natural magic he courted danger. Having friends in high places helped him when, in 1574, he was summoned by the Inquisition in Rome and questioned about his views on magic and witchcraft. He defended himself by pointing out that in his book he made a firm distinction between natural magic and witchcraft. "Magic is of two sorts," he wrote, "one wicked, full of superstitions and incantations, and revealed by demons." The other magic is natural, indeed is "the consummate natural knowledge, a perfect philosophy." The Tribunal let him off with a slap on the wrist and a warning—which, needless to say, he heeded.[9]

Della Porta's reputation soared. He published an expanded Latin edition of *Natural Magic* in 1589, featuring his nonstop experimental activity since the first edition. The book, translated into Italian, English and German, would serve four generations of Europeans as the authoritative treatise on natural magic. No European intellectual who hoped to be at the forefront in the investigation of the secrets of nature could ignore it.

It's not difficult to understand the wide appeal of the *Magia naturalis* among academics and ordinary readers alike.[10] The book's hundreds of experiments touched on subjects ranging from metalworking to perfumery and from preserving fruits and vegetables to making fireworks. The recipes weren't just useful and entertaining, they were also examples on paper of the remarkable power of natural magic. Natural magic, its proponents argued, was a science of making, not a science of reasoning from the first principles of Aristotle's metaphysics. It promised concrete results, not just confirmations of what the Schoolmen said.

News spread rapidly of Della Porta's extraordinary scientific demonstrations. Thanks largely to Della Porta's monumental work, natural magic emerged in the Renaissance as Europe's most advanced research science, more promising even than the fields of astronomy and anatomy, where modern historians locate the origins of the Scientific Revolution. In hindsight, natural magic looks like one of the more spectacular dead ends of the history of science, but its agenda in the Renaissance was as electrifying and as promising as the search for the human genome is in ours. Natural magic promised to unveil "secrets" of nature that enabled the magus to accomplish marvels in improving human welfare.

[9] Clubb 1965, 52. For a more recent treatment of Della Porta's views on witchcraft, see Verardi 2018, 123–45.

[10] For a summary of Della Porta's natural philosophy, see Muraro 1978.

In *Magia naturalis*, Della Porta also offered a theory to account for magical action. Although he subscribed to the Aristotelian hylomorphic doctrine of substance as a composite of matter and form, Della Porta believed that it was unable to account for the special "properties" of things, the unique, insensible qualities that give rise to magical operations. Following Aristotle,[11] he explained that the four elements—earth, air, fire, and water—contain within them the common, "primary" qualities, hot, cold, dry, and moist. In addition to the uniform qualities of matter, every object has its own peculiar properties that cannot be accounted for in terms of the four elements alone, necessitating the action of what Avicenna had termed the "specific form" (Verardi 2022, 91–4). The power of the loadstone to attract iron, for example, is peculiar to it and not to other stones or earthy substances. Della Porta, as a natural magician, explained the action of these unusual properties by invoking the power of sympathy, or attraction, which governs the world. The force of sympathy is so strong that it has the power of assimilating the world and making all things identical to one another, causing their individuality to disappear. Left alone, sympathy would render the entire world into a single, uniform identity. That is why sympathy is compensated for by its twin, antipathy, which maintains the uniqueness of things and prevents their assimilation into uniformity. This accounts for the bewildering particularity of things, each with its own unique properties and powers. The identity of things—that is, the fact that they can resemble others and be drawn to them without collapsing into sameness and thus losing their individuality—is assured by the constant counterbalancing of sympathy and antipathy.

But how is experience to weave its way through this dense network of correspondences and hidden similitudes, Della Porta wondered. How can we ever discover nature's secrets in such a labyrinth? The answer is that nature puts a mark on things: The outward appearances of things provide clues or signs pointing to the properties that would otherwise be totally hidden from view. These "signatures," or visual likenesses, are the signs God implanted in nature in the form of resemblances of outward appearance that enable us to conjecture that a certain thing will have an influence on some other thing. Signatures are the clues leading one to understand and "see" the inner workings of nature. Signatures enable us to know, for example, that the herb *Scorpius*, which resembles the scorpion, is a good remedy against the scorpion's sting, and that the wine-colored amethyst prevents drunkenness. The entire world is encoded in a dense patchwork of hieroglyphics and signs that conceal the secrets within.[12]

[11] On the magical Aristotelianism of the Renaissance, see Verardi 2023, 61–81.

[12] Della Porta explains his doctrine of signatures in several works on physiognomy, including *Phytognomonia* (1588), which purports to discover the hidden medicinal qualities of plants from the analogy of the outward forms of the plants with organs of the human body and the stars. For discussion of Della Porta's version of the doctrine, see Verardi 2018, 19, 96–101. On *Phytognomonia*, see Müller-Jahnke 1990.

3. Court Culture and Print Culture: Two Pathways to Celebrity

The Della Porta residence in Naples made the city a mecca for literati from all over Europe and a necessary stop on the customary Grand Tour. Della Porta wrote on a multitude of subjects: cryptology, astrology, physiognomy, horticulture, and much more. And he was an engaging wit, as his comic plays bear witness. But people came not just to engage in polite conversation with the wizard of Naples but also to witness his extraordinary demonstrations of magic: mirrors that reflected outlandish visions, fire balls shot into the air, lighting the night skies, invisible writing, water clocks, "wonders of the lodestone," and mirrors that displayed images of viewers suspended in the air, "like birds in flight"—all productions of the new Renaissance science of natural magic. No wonder it was said that the two biggest tourist attractions of Naples around the year 1600 were the Pozzuoli baths and Giovan Battista Della Porta (Clubb 1965, xi).

Although Della Porta was a talented performer of magical experiments, to him natural magic wasn't just smoke and mirrors. It was a serious science that demonstrated a way to discover nature's inner forces and put them to work. If you could identify nature's occult powers you could apply them to improve on nature, whether in growing better crops, making stronger metals, or beautifying women. He could barely contain his enthusiasm for alchemy, calling it the "art to be preferred above all others." Because it imitates nature, alchemy displays natural processes in an environment controlled by the magus. "This most useful art," he wrote, "emulates nature, assisting it in producing wondrous effects beyond any ever seen or scarcely believed possible." As Della Porta lyrically expressed it, the art of distillation, the supreme alchemical discovery, "follows and resembles the showers and dew of heaven, as the daughter the mother" (Della Porta 1658, 254–55). Della Porta's experiments were marshalled to demonstrate the power of occult forces and the magus's ingenuity in manipulating them.

As Della Porta entertained guests at his residence in Naples, Leonardo Fioravanti burnished his brand. He left Naples in 1555 and settled briefly in Rome to practice surgery but was chased out by a "cabal of physicians" after challenging the treatment recommended by the powerful Roman physician Realdo Colombo in the case of a young Venetian who had been wounded in a street brawl.[13] Facing charges of malpractice, he moved to Venice to find a printer willing to publish his first book, *Capricci medicinali* ("Medical Caprices"), in which he touted his "new way of healing." Leonardo found not only a publisher but also a promoter in the printer Ludovico Avanzo, a small publisher specializing in scientific and medical literature. The *Capricci medicinali* was a smash hit. Avanzo reprinted it four times before a succession of printers picked it up, ultimately producing a total of 15 Italian editions along with translations into English, French, and German, making the New Way of Healing and its inventor known throughout Europe. With Avanzo and other Venetian presses he would eventually publish

[13] Fioravanti recounts his conflict with Colombo in *Tesoro*. See Fioravanti 1570, 73r–74r. In addition, see Eamon 2010, 145–48.

another eight books and become a celebrated author renowned for his radical medical ideas. Milking the legend of Alessio Piemontese, he elevated himself in the popular press as a model professor of secrets: an innovative, crafty, untiring experimenter driven to discover nature's secrets. A celebrity, he had arrived.

Fioravanti's Venetian years were by all accounts his happiest. He relished in his celebrity and cherished friendships with like-minded experimenters, including the Milanese master of optics Ettore Ausonio. Among his business partners was the pharmacist Decio Bellobuono, with whom he concocted a scheme to repopulate the decaying Istrian town of Pola.[14] Improbably, given his unconventional medical doctrines, in 1548 he managed to convince a committee of medical professors the University of Bologna to award him the degree of Doctor of Medicine, along with the honorific knighthood that went with the degree. In those days university graduate degrees didn't require matriculation but were instead awarded on the basis of a disputation, an art that Leonardo had honed over decades while promoting his "new way of healing." The Bologna faculty knew they were in the presence of a home-grown celebrity healer and weren't about to lose the chance to exploit the opportunity at hand. They awarded him the degree by a unanimous vote. Thereafter he would introduce himself on the title pages of his books as "Leonardo Fioravanti, Doctor and Knight." A group of disgruntled Venetian physicians sent an angry letter to the Bologna medical faculty protesting Fioravanti's newly acquired doctorate, but there was nothing they could do—legally anyway—to stop him from practicing medicine in Venice.

It was the beginning of the end of Fioravanti's halcyon days in Venice. His unconventional medical ideas and his scathing critiques of the doctors eventually got him into trouble with the authorities. But unlike Della Porta, who benefitted from having friends in high places when the Inquisition hounded him, Fioravanti skipped town. He left Venice around 1570 and moved to Milan, like Naples a city within the Spanish political sphere. There again he clashed with the doctors, and this time did jail time. From his prison cell, incarcerated for "not medicating in the canonical way," he issued an audacious challenge to the city's *Protomedico*, or public health minister, which he insisted would confirm the truth of the New Way of Healing:

> Let there be consigned to me alone twenty or twenty-five sick people with diverse ailments and an equal number with similar infirmities to all the physicians in Milan; and if I don't cure my patients quicker and better than they do theirs, let me be banished forever from this city.

It seems doubtful the city physicians called Fioravanti's bluff; in any event, the court set him free (Eamon 2010, 262–64).

In 1576, Fioravanti finagled a letter of introduction from the Neapolitan viceroy's agent, and with it in hand followed in Della Porta's footsteps by traveling to

[14] On Ausonio, see Dupré 2005. On the proposal to revive the city of Pola, see Eamon 2010, 228–33.

Madrid, hoping for an audience with King Philip. He was admitted to the court but his experience there was completely different from Della Porta's. Unlike the Neapolitan magus, who fit comfortably in the ornate world of the Spanish court, Leonardo became immersed in the king's smoke-filled alchemical world, with its swarms of adepts busying themselves before gigantic alchemical furnaces that Philip had installed in the royal gardens at his retreat in El Escorial to produce medicinal drugs and cosmetic waters for the court (Rey Bueno 2009). Alchemy was emerging on the European scene as one of the most advanced and innovative scientific practices of the time, and Philip's court was the most advanced state-sponsored alchemical laboratory in Europe. Seizing the opportunity, Fioravanti's lifelong quest for the *Magna Medicina,* the Great Medicine or universal panacea, drove him to concoct daring, dangerous alchemical drugs. Determined to make his mark and convinced of the truth of his doctrine, he overreached. One of his treatments was so severe it may have led to the death a patient, who, unluckily for Leonardo, happened to be a powerful courtier's servant. After a summary trial, he was expelled from Castile (Eamon 2005).

Fioravanti returned to Naples, chastened but unapologetic. His last book, *On Physic*, published in 1582, was an enthusiastic apologia for his life's work and a vigorous defense of the "new way of healing" (Fioravanti 1582). Thereafter he disappears from the historical record. In all probability he died in Naples around 1594. Poor Leonardo. Years of alchemical experimenting in poorly ventilated rooms had taken its toll. Prolonged exposure to heavy metal vapors may, in fact, account not only for his death but also for the paranoia and depression he exhibited in his last writings. Breathing mercury vapors messes with the brain.

Leonardo Fioravanti was the most celebrated professor of secrets of the age, revered by countless admirers and reviled by many enemies. His celebrity was entirely the result of his masterful self-fashioning. Like the hero of a picaresque novel, he invented and reinvented himself time and again as the situation demanded and opportunity provided, and proudly deployed his clashes with dogmatic medical authorities to create a story of himself that resonated with readers who distrusted expertise and sought alternative ways of healing. Fioravanti obliged with the New Way of Healing, in fact a return of medicine to a pristine Golden Age when humans were close to nature and healing was uncorrupted by the vanity and greed of physicians. His therapeutic system stemmed from the natural way of healing, he said, a method discovered by the "earliest physicians." He regaled readers with gruesome war stories from his stint as a military surgeon in Africa and with accounts of marvelous folk cures he'd witnessed, like the strange herb an old Spanish woman in Naples used a to cure a gentleman of the clap when all the doctors had given up on him. And he posed as the discoverer of the Magna Medicina, the great panacea that healed all illness.

In late Renaissance Italy, literary celebrity and status were not measured alone by the number of books a writer might sell. More importantly, it was measured by the patronage one received from princes and by the recognition one gained in courts. By that measure Della Porta succeeded brilliantly. Celebrity came easily to Giovan Battista Della Porta. A consummate performer who was

at home in the court, he displayed and performed his natural magic experiments where it mattered most. Court culture perfectly suited his style of science, and he moved easily from court to court as multiple princes vied for his services. In 1579, he entered the service of Cardinal Luigi d'Este and spent several years at the brilliant Estensi court at Ferrara.[15] He wrote plays for the Cardinal, sent him reports of his experiments, and dedicated to him the enlarged edition of his *Magiae naturalis* (1589). The Holy Roman Emperor Rudolf II and the duke of Florence sent ambassadors, while the duke of Mantua came in person to see the Neapolitan wizard.

For Della Porta, the quintessential virtuoso, natural magic no less than comedy was a spectacle. He delighted in exhibiting marvels and took pride in his reputation as a seer and wonderworker (Kodera, 2014). But as carefully as he cultivated his reputation as a magus he nurtured his relations with princes. Natural magic was not only an instrument for fashioning nature according to human desires; it was also, Della Porta learned, an instrument for self-fashioning in the court. An imperious "survey of the entire course of nature," natural magic befitted the image of the prince. Indeed, the magus was in a sense a prince-in-miniature. He could read the secret signs in nature, he understood the physiognomy of things, their uses, and what the heavens portended. Having secrets, investigating secrets, and collecting secrets was important cultural capital in the Renaissance court. But that doesn't mean his experiments and performances lacked scientific merit or influence. His experiments on magnetism, for example, impressed William Gilbert, whose *De magnete* ("On Magnetism") is recognized as the first scientific treatise on the subject. And many notable contemporaries—including the astronomer Johannes Kepler—credited Della Porta with the idea that gave birth to the telescope.

In the spring of 1604 Della Porta, now universally recognized as Europe's greatest magus, welcomed to his home an 18-year-old Roman aristocrat named Federico Cesi (1585–1630), the Marquis of Monticello. The young prince introduced himself to the old magus by explaining that he was struggling to save from dissolution a fledgling "brotherhood of searchers of the arcane sciences" that he and a group of companions had formed in Rome. Cesi named the group the Accademia dei Lincei (Academy of Lynxes). Their emblem was the keen-eyed lynx, inspired by the *impresa* Della Porta had chosen for the 1589 edition of his *Natural Magic* and the book's preface describing the natural philosopher as "examining things with lynx-like eyes the things that are manifest in nature, so that he may zealously put them into practice"—a concise definition of natural magic. (Fig. 1) Cesi had come to Della Porta, he explained, because he had founded the society as an attempt to put Della Porta's idea of science as a hunt for rare secrets of nature into practice (Piccari 2007). Though he hated court life, Cesi knew Della Porta's worth in cultural and intellectual credit. The world-famous

[15] Eamon 1994, 227–28. See also Findlen 1994. Della Porta's relations with the Estensi court are detailed in Campori 1872.

magus had a name that would bring luster to his newly formed society. He also had a large library and an impressive cabinet of curiosities, which Cesi hoped he would bequeath to the newly-formed academy (Olmi, 1987, 38). Flattering the old wizard, he offered Della Porta the position of head of the Lincei's newly formed Neapolitan branch. Della Porta enthusiastically accepted and promptly enlisted some companions as the branch's first members.

Figure 1 – Title page of Giambattista Della Porta, *Magiae naturalis* (1589). At the top of the page is the figure of the lynx, with the motto *aspicit et incipit* (it sees and inspects), implying that the lynx not only perceives the surface of things but also penetrates the inside of things to discover the hidden causes of phenomena. The opened lockets surrounding the page illustrate the many kinds of secrets revealed by natural magic. (Public domain).

4. Fortune and Chance in the Making of Scientific Celebrity

In 1610, a new star appeared on the scientific horizon. That year Galileo Galilei, then an obscure astronomy professor at the University of Padua struggling to support a growing household by teaching mathematics and casting horoscopes, published a bestselling book, *Siderius Nuncius* ("The Starry Messenger"), revealing unexpected phenomena in the heavens he'd discovered with the newly-invented telescope (Heilbron 2010, 157). The work made him an instant celebrity,

even though unlike all of his subsequent books it was published in Latin. Letters of congratulation poured in not just from philosophers and scientists but also from playwrights and poets, both men and women, helping to cement his reputation among a wider audience. The poet Margherita Sarrocchi (1560–1617), renowned for her erudition in mathematics and natural philosophy as well as for her epic poetry, corresponded with Galileo in several exchanges. "I remind you that I am your servant and pray you to consider me such," she wrote in one of her letters to the astronomer, "for you may find those who surpass me in strength and merit, but not in affection toward you" (Ray 2016, 73).

The *Siderius Nuncius* was the springboard that enabled Galileo to obtain a lucrative position in the court of the Cosimo II de' Medici. Instantly, Galileo ceased to be an academic and became a courtier, with all the benefits and dangers the position carried with it (Biagioli 1993). Della Porta, then 76 years old, grumbled that Galileo failed to credit him for his part in the invention of the telescope—the "secret of the eyeglass" as he called it—but didn't press the point. Once Cesi persuaded Galileo to join the Lincei, the society's fortunes changed. Galileo's electrifying discoveries gave the Lincei a new sense of direction and purpose. The esotericism of natural magic gave way to the "republic of letters" and to Galileo's often repeated assertion that the book of nature was written in the language of mathematics. Almost immediately, Galileo's influence on the society began to eclipse that of Della Porta. Abandoning its dilettantish preoccupation with secrets, the Lincei committed itself to the Galilean program.

Yet Della Porta's style of science—reading the book of nature as if it were written in hieroglyphics to be deciphered—didn't die out. In fact, it grew in stature and prominence in the Spanish Baroque, where it fit comfortably. Della Porta saw nature as infinitely metaphorical and packed with meaningful resemblances and correspondences that could be deciphered by experimentation. Visitors still flocked to visit the old magus and be enthralled by his scientific demonstrations. The renowned Spanish writer Francisco de Quevedo was one of Della Porta's guests during the wizard's later years. Quevedo reported that Della Porta showed the poet an *aposento de espejos*, or mirror chamber—a circular chamber whose walls were lined with intersecting mirrors that projected multiple images of viewers who entered it. The seemingly infinite proliferation of apparitions in Della Porta's mirror chamber reminded Quevedo, a zealous champion of the Counter-Reformation, of the vanity of thinking about things that are impossible to understand—matters of faith, for example. "How often does the intellect vainly ponder that which is nothing, will be nothing, and is impossible?" he wrote (Quevedo 1958, 1411). Like the observer in Della Porta's mirror chamber, the mind goes nowhere when it concerns itself with things it cannot know, gently reminding the old wizard that there were limits to the pursuit of knowledge.

In 1613, two years before his death, Della Porta complained to Cesi that admirers visited him in droves, disturbing his studies. For every guest bent on philosophical enlightenment, he groused, there were four or five attracted by

his reputation as a wizard (Clubb 1965, 52). Although he claimed to be irritated by the crowds, he willingly obliged visitors with a demonstration of one sort or another. He'd become a carnival act, entertaining guests with experiments and tricks and fortune-telling, and grew weary of it.

As for Leonardo Fioravanti, although he craved fame he never found it. In the final analysis he mistook celebrity for fame. Fame, in contrast to celebrity, implies a reputation that transcends the immediate moment, whereas celebrity is bound to a specific time and place and culture. Leonardo longed for everlasting fame, but what he got instead was a brief shining moment of celebrity. Yet even he, the great professor of secrets so easily duped by the Neapolitan wizard's magic mirror, he too played a role in the great transformation historians call the Scientific Revolution. In touting the idea that a magic bullet can be found to cure every sickness, Fioravanti and his ilk were both unabashed braggarts and prophets of modern medicine. Their martial style of healing contravened the core idea of Hippocratic and Galenic medicine: that disease is an imbalance of humors, therefore recovering natural physiological balance is the key to health. In place of complex regimens to readjust bodily humors, Renaissance empirics offered quick and easy solutions you could buy "over the counter," so to speak. The Enlightenment dream that health is something money can buy was born from Renaissance scientific celebrity. Like an earthquake, radical reformers like Fioravanti shook the foundations of Galenic medicine and promised a completely new arsenal of remedies to combat illness. No wonder the established doctors called them charlatans: the charlatans threatened their livelihoods.

Galileo was not just a celebrity but also, in the minds of many contemporaries, a hero who bravely stood up to the Inquisition in defense of the truth. He received endless praise in his lifetime and after from admirers and opponents alike. Poets showered him with odes proclaiming his astronomical discoveries. Even Cardinal Maffeo Barberini (before becoming Pope Urban VIII and having condemned Galileo for heresy) composed an elegy in the astronomer's honor (Segre 1998, 389). Comparisons of Galileo with Columbus became a refrain, repeated time and again in congratulatory letters and elegies (Heilbron 2010, 164–65). After his death in 1642 Galileo was virtually canonized as the epitome of Renaissance genius and the equal of Michelangelo, an image constructed largely by his student and biographer Vincenzio Viviani. It was no small feat, given that in 1632 Galileo had been condemned by the Roman Inquisition for the heresy of advocating the heliocentric Copernican cosmology. In his biography Viviani played down the significance of the trial and portrayed Galileo as a practical man who based his conclusions on sheer common sense, who merely proposed the Copernican system as an alternative hypothesis, and piously recanted his error (Segre 1998, 389). Viviani's biography marks the beginning of the shaping of the myth of Galileo as a scientific genius and martyr of science.

The hagiography of Galileo flourished in the Enlightenment, when Galileo became a symbol of the heroic scientist standing up before repressive authority, and of the triumph of science over irrationality and superstition. The effusive hagiography reached a pinnacle in Cristiano Banti's polemical painting, *Galileo*

Before the Inquisition (1857), a picture "worthy of being the stage setting for an opera of the period," as historian Pietro Redondi laconically described it (Redondi 1987, 321–22). In Banti's famous work[16], Galileo is depicted as a robust, muscular man (he was in fact a 70-year-old suffering from arthritis at the time of the trial) standing up for the truth before narrow-minded clerics, looking disdainfully past his judges, toward the future.

Like Della Porta, Galileo embraced court culture. He framed his identity as a celebrity scientist in the limelight of the brilliant court of the Florentine Grand Duke Cosimo II d'Medici (Biagioli 1993, 36ff.). How an obscure mathematics professor at the University of Padua managed to secure a place at the Medici court (along with a remarkable 1,000 scudi stipend) is explained by the logic of patronage: gift-exchange. Protocol demanded that anyone aspiring to earn the favor of a patron had to offer a gift worthy of the prince whose patronage he sought. In a stroke of genius, Galileo dedicated the *Siderius nuncius* to the Grand Duke, and named the newly-discovered four moons of Jupiter the "Medicean Stars" after Cosimo and his three brothers, a gift to his prospective patron "in the hope that this name will bring as much honor to them as the names of other heroes have bestowed on other stars" (Drake 1957, 25. See also Westfall 1985, 19). Along with the book and his "gift" of the Medicean Stars, Galileo sent Cosimo the very telescope with which he had made the discovery. A master of the art of self-fashioning, Galileo crafted an image of himself as the great explorer of the heavens, the Starry Messenger and "new Columbus" who brought news of momentous discoveries. Galileo was not only a celebrity but also the most famous Renaissance scientist: which goes to prove that celebrity is fleeting, while fame is lasting.

5. Conclusion. The Performance of Scientific Celebrity

The three personifications of Renaissance scientific celebrity I've discussed in this essay—Della Porta, Fioravanti, and Galileo—may on the face of it seem an improbable trio. But bringing together the three Renaissance personages, so different from one another, lends support to my suggestion that scientific celebrity was a Renaissance invention. Like other inventions, celebrity didn't happen by accident, but only by design and calculated performance. Leonardo Fioravanti became the most celebrated professor of secrets of the age by adopting the persona of the pícaro, the clever Spanish jokester who lives by his wits and outsmarts the doctors. Della Porta became a celebrated wizard not only through his writings but also by the masterful stagecraft of his experimental demonstrations in the performative space of the court. Galileo made his mark by taking advantage of the events of the moment, and with his cultivated eloquence entertained the court with the surprising news of his discoveries. He was the Starry Messenger who brought smiles of satisfaction to his patron's face.

[16] Image available at: <https://commons.wikimedia.org/wiki/File:Galileo_facing_the_Roman_Inquisition.jpg> (Accessed December 7, 2025).

The tradition of making science entertaining has a long history. Historians usually date its beginnings to the 18th century, when famous popular science lecturers like John Keill gave demonstrations of electricity, magnetism, and optics.[17] But in fact, the lineage originated much earlier, with Della Porta and his monumental work on natural magic, a book that was quite literally a textbook for the self-fashioning of a Renaissance magus. The wizard of Naples was the precursor of a legion of celebrity science lecturers who roved Europe and America three centuries later, giving physics demonstrations for a fee, all aimed at making science "not dull and tedious, but delightful, alluring, and captivating," as an 18th century popular science textbook explained (Riskin 2008, 43). Unsurprisingly, many of the staples of the popular science demonstrations—including the magic lantern, a sort of primitive moving picture machine—made their first appearance in Della Porta's *Natural Magic*.

Making science fun had a serious intellectual purpose, and Della Porta can be credited with being the first to demonstrate that principle. The purpose of his startling, daring, and amusing demonstrations hinged on the principle that knowledge entered the mind through the senses; therefore, to teach natural science to the uninitiated, one must display the hidden properties of things as strikingly as possible, translating theory into physical sensations (Riskin 2008, 46). Philosophical propositions needed to be rendered visible; mathematical laws had to be depicted. Enabling people to see and comprehend difficult scientific principles proved to be a better strategy than constructing logical proofs, the traditional method of natural philosophy. Some demonstrations were literally shocking, as when, in 1746, Jean-Antoine Nollet reportedly shocked 200 Cistercian monks in their monastery in Paris with an electrostatic machine, all sensational happenings performed onstage with an enthralling technical setup, visually displaying the costume and paraphernalia of the magus-cum-scientist (Riskin 2008, 58).

The Swiss historian Jacob Burckhardt famously claimed that the pursuit of fame was a hallmark of the rise of the modern individual, which Burckhardt located in the Italian Renaissance (Burckhardt 1954; see also John Jeffries Martin 2004, 4–12). As I have suggested in this essay, to Burckhardt's taxonomy of Renaissance individualism we can add celebrity, which is quite different from fame but is nevertheless both quintessentially Renaissance and quintessentially modern. And Della Porta, the great wizard of Naples, was quintessentially a Renaissance scientific celebrity. Although like all celebrity his was fleeting, it captured the imagination of contemporaries and enabled Della Porta to craft a persona of the scientist that endured for more than two centuries: the scientist as a magus whose knowledge of the inner workings of nature enabled him to reveal wonders like magic mirrors and novelties in the heavens, but also devastating weapons like the one J. Robert Oppenheimer engineered at Los Alamos, New Mexico.

[17] Riskin, 2008, 44. In addition, see Schaffer 1983; Hankins and Silverman 1995, and Coppola 2016.

Oppenheimer's hubris was the hubris of the Renaissance magus. The parallels of his life with those of Della Porta, Fioravanti, and Galileo are notable. Della Porta, the magus who performed wonders for a courtly audience, seems eerily to foreshadow Oppenheimer, the magus who deployed breakthroughs in theoretical physics to mastermind the creation of the most powerful weapon ever known. In an uncanny retelling of the humiliation Della Porta and Galileo suffered in the face of the Roman Inquisition, in 1954 Oppenheimer was persecuted for alleged communist sympathies by a political committee in an inquiry whose odds were stacked against him. And like Fioravanti long before, Oppenheimer was betrayed by enemies who tried to ruin his reputation and, for a time, succeeded.[18] Such coincidences are reminders of the often baffling complexity of history, and suggest that in creating new narratives of the origins of modern science, we don't have to choose between Della Porta, Fioravanti, and Galileo as actors. We need them all.

References

Aquilecchia, Giovanni.1968. "Appunti su G. B. Della Porta e l'inquisizione." *Studi secenteschi* 9: 3–31.

Biagioli, Mario. 1993. *Galileo Courtier: The Practice of Science in the Culture of Absolutism*. Chicago: University of Chicago Press.

Burckhardt, Jacob. 1954. *The Civilization of the Renaissance in Italy*, translantion by S. G. C. Middlemore. New York: Random House.

Campori, Giuseppe. 1872. "Gio. Battista Della Porta ed il Cardinale Luigi d'Este." *Atti e Memorie delle RR. Deputazione di Storia Patria per le Provincie Modenese e Parmensi* 6: 165– 90.

Clubb, Louise. 1965. *Giambattista Della Porta, Dramatist*. Princeton: Princeton University Press.

Coppola, Al. 2016. *The Theater of Experiment: Staging Natural Philosophy in Eighteenth-Century Britain*. Oxford: Oxford University Press.

Daston, Lorraine and Katharine Park. 1998. *Wonders and the Order of Nature, 1170-1750*. New York: Zone Books.

Della Porta, Giovan Battista. 1558. *Magiae naturalis sive miraculis rerum naturalium, libri IV*. Naples: Matthias Cancer.

Della Porta, Giovan Battista. 1588. *Phytognomonia Jo. Baptistae Portae Neap. octo libris contenta*. Naples: Horatium Salvianum.

Della Porta, Giovan Battista. 1589. *Magiae naturalis libri viginti*. Naples: Horatium Salvianum.

Della Porta, Giovan Battista. 1957 (1658). *Natural Magick*. New York: Basic Books.

Drake, Stillman. 1957. *Discoveries and Opinions of Galileo*. New York: Doubleday.

[18] In 1954 Oppenheimer was called before the Gray Board, a proceeding by the United States Atomic Energy Commission that interrogated him about his background, actions, and alleged communist sympathies. His reputation was badly tarnished when his security clearance was revoked, effectively ending his career in public service. He was later rehabilitated and awarded the 1963 Enrico Fermi Award.

Dupré, Sven. 2005. "Ausonio's Mirrors and Galileo's Lenses: The Telescope and Sixteenth-Century Practical Optical Knowledge." *Galilaeana. Journal of Galilean Studies* 2: 145–80.

Eamon, William (2017). "A Theater of Experiments: Giambattista Della Porta and the Scientific Culture of Renaissance Naples." In *The Optics of Giambattista Della Porta (ca. 1535-1615): A Reassessment*, edited by Arianna Borrelli, Giora Hon, and Yaakov Zik, 11–38. Cham (Switzerland): Springer.

Eamon, William, and Françoise Paheau. 1984. "The *Accademia Segreta* of Girolamo Ruscelli. A Sixteenth-Century Italian Scientific Society." *Isis* 75: 327–42.

Eamon, William. 1979. "The *Secreti* of Alexis of Piedmont, 1555." *Res Publica Litterarum* 2: 43–55.

Eamon, William. 1994a. "Science as a Hunt." *Physis* 31: 393–432.

Eamon, William. 1994b. *Science and the Secrets of Nature: Books of Secrets in Medieval and Early Modern Culture*. Princeton: Princeton University Press.

Eamon, William. 2005. "The Charlatan's Trial: An Italian Surgeon in the Court of King Philip II, 1576-1577." *Cronos* 8: 1–30.

Eamon, William. 2010. *The Professor of Secrets: Mystery, Medicine, and Alchemy in Renaissance Italy*. Washington: Smithsonian.

Findlen, Paula (1994). *Possessing Nature. Museums, Collecting, and Scientific Culture in Early Modern Italy*. Berkeley: University of California Press.

Fioravanti, Leonardo. 1567. *Dello Specchio di scientia universale*. Venice: Vincenzo Valgrisi.

Fioravanti, Leonardo. 1570. *Il tesoro della vita humana*. Venice: Heredi di Melchior Sessa.

Fioravanti, Leonardo. 1582. *Della fisica*. Venice: Heredi di Melchior Sessa.

Fiorentino, Francesco. 1911. "Della vita e delle opere di Giovan Battista de la Porta." In *Studi e ritratti della rinascenza*, 235–93. Bari: Laterza & Figli.

Gliozzi, Mario. 1950. "Sulla natura dell'*Accademia de' Secreti* di Giovan Battista Porta." *Archives internationales d'histoire des sciences* 12: 536–41.

Hankins, Thomas L., and Robert J. Silverman. 1995. *Instruments and the Imagination*. Princeton: Princeton University Press.

Heilbron, John. 2010. *Galileo*. Oxford: Oxford University Press.

Hernando Sánchez, Carlos José. 1994. *Castilla y Nápoles en el Siglo XVI. El Virrey Pedro de Toledo: Linaje, estado y cultura: 1532-1553*. Junta de Castilla y León: Consejería de Cultura y Turismo.

Kodera, Sergius. 2012. "Giambattista Della Porta's Histrionic Science." *California Italian Studies* 3, 1. <http://escholarship.org/uc/item/5538w0qd>.

Kodera, Sergius. 2014. "The laboratory as Stage. Giovan Battista Della Porta's Experiments." *Journal of Early Modern Studies* 3: 15–38.

Marino, John A. 2011. *Becoming Neapolitan. Citizen Culture in Baroque Naples*. Baltimore: Johns Hopkins University Press.

Martin, John Jeffries. 2004. *Myths of Renaissance Individualism*. London: Palgrave MacMillan.

Müller-Jahnke, Wolf-Dieter. 1990. "Die *Phytognomonica* Giovan Battista Della Porta als medizinische Signaturenlehre." In *Giovan Battista Della Porta nell'Europa del suo tempo*, a cura di Maurizio Torrini, 93–99. Naples: Guida.

Muraro, Luisa. 1978. *Giambattista Della Porta mago e scienziato*. Milan: Feltrinelli.

Olmi, Giuseppe. 1987. "La colonia lincea di Napoli." In *Galileo e Napoli*, a cura di Maurizio Torrini, 23–58. Naples: Guida.

Piccari, Paolo. 2007. *Giovan Battista Della Porta: il filosofo, il retore, lo scienziato*. Milan: FrancoAngeli.
Piemontese, Alessio, pseud. 1555. *Secreti del reverendo donno Alessio piemontese*. Venice: Sigismondo Bordogna.
Quevedo, Francisco. 1958. *Obras completas I: Obras en prosa*, Cuidado de Felicidad Buendia. Madrid: Aguilar.
Ray, Meredith K. 2016. *Margherita Sarrocchi's Letters to Galileo: Astronomy, Astrology, and Poetics in Seventeenth-Century Italy*. New York: Palgrave Macmillan.
Redondi, Pietro. 1987. *Galileo Heretic*. Princeton: Princeton University Press.
Rey Bueno, Mar. 2009. "La mayson pour distiller des eaües at El Escorial: Alchemy and medicine at the court of Philip II, 1556–1598." *Medical History* 53, Supplement S29: 26–39.
Riskin, Jessica. 2008. "Amusing Physics." In *Science and Spectacle in the European Enlightenment*, edited by Christine Blondel, and Bernadette Bensaude-Vincent, 43–63. Aldershot: Ashgate.
Ruscelli, Girolamo. 1567. *Secreti nuovi di maravigliosa virtù*. Venice: Heredi di Marchio Sessa.
Schaffer, Simon. 1983. "Natural Philosophy and Public Spectacle in the Eighteenth Century." *History of Science* 21: 1–43.
Segre, Michael. 1998. *In the Wake of Galileo*. New Brunswick (NJ): Rutgers University Press.
Stijnman, Ad. 2012. "A short-title bibliography of the *Secreti* by Alessio Piemontese." In *The Artist's Process: Technology and Interpretation*, edited by Sigrid Eyb-Green, Joyce H. Townsend, Mark Clarke, Jilleen Nadolny, and Stefanos Kroustallis, 32–47. London: Archetype Publications.
Verardi, Donato. 2018. *La scienza e i segreti della natura a Napoli nel Rinascimento. La magia naturale di Giovan Battista Della Porta*. Florence: Firenze University Press.
Verardi, Donato. 2022. "Art and Magic of Animated Statues in the Renaissance Period. The Secret Virtues of Albertus Magnus' Talking Head in Giambattista Della Porta's *Natural Magick*." In *Magical Materials in Renaissance Philosophy, Literature, and Art*, edited by Rebekah Compton, and Donato Verardi, 83–106. Lugano: Agorà & Co.
Verardi, Donato. 2023. "The image of Aristotle as a Magus and the Aristotelian foundation of magic in early modern Italy." In *Aristotelianism and Magic in Early Modern Europe*, edited by Donato Verardi, 61–81. London: Bloomsbury.
Westfall, Richard. 1985. "Science and Patronage: Galileo and the Telescope." *Isis* 76: 1–38.