The In/visible Woman: Mariangela Ardinghelli and the Circulation of Knowledge between Paris and Naples in the Eighteenth Century

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Source: *Isis*, Vol. 104, No. 2 (June 2013), pp. 226-249
Published by: The University of Chicago Press on behalf of The History of Science Society
Stable URL: http://www.jstor.org/stable/10.1086/670946

The In/visible Woman

Mariangela Ardinghelli and the Circulation of Knowledge between Paris and Naples in the Eighteenth Century

By Paola Bertucci*

ABSTRACT

Mariangela Ardinghelli (1730–1825) is remembered as the Italian translator of two texts by the Newtonian physiologist Stephen Hales, *Haemastaticks* and *Vegetable Staticks*. This essay shows that her role in the Republic of Letters was by no means limited to such work. At a time of increasing interest in the natural history of the areas around Naples, she became a reliable cultural mediator for French travelers and naturalists. She also acted as an informal foreign correspondent for the Paris Academy of Sciences, connecting scientific communities in Naples and France. Unlike other learned women of the time, Ardinghelli was neither an aristocrat nor a member of the ascendant middle class. The essay discusses the strategies she devised to build her authority and her choice of anonymity at the apex of her popularity, when she translated scientific texts by contemporary celebrities such as the abbé Nollet and the comte de Buffon. It argues that, in spite of Ardinghelli's historical invisibility, for her contemporaries she never became an "invisible assistant": she constructed layers of selective visibility that allowed her authorship to be identified by specific audiences, while protecting herself from social isolation or derision.

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It is a real pleasure to express my gratitude to the several people who facilitated the difficult—and at times adventurous—research leading to this essay: the librarians at the Biblioteca Nazionale and the archivists at the Archivio di Stato in Naples, the archivists at the Biblioteca della Società Siciliana di Storia Patria in Palermo, Kirsten van deer Veen at the Smithsonian Institution Libraries, Lorenza Chiantini at the Biblioteca dei Fisiocritici in Siena, and Florence Greffe at the Archives de l'Académie des Sciences in Paris. I am grateful to Marta Cavazza, Paula Findlen, Massimo Mazzotti, and Mary Terrall for their insightful comments on earlier drafts and to Lucia Dacome and Ivano Dal Prete for sharing relevant research material with me. I have received valuable feedback from audiences at the Department of Italian and the Pre-Modern Women, Gender, and Sexuality Working Group at Yale, the Early Modern European History Seminar at Cambridge, the University of Minnesota, the Centre Koyré in Paris, and the Istituto per gli Studi Filosofici in Naples. Finally, I wish to acknowledge Carlo Smaldone's intercession with the late Tommaso Vitrioli, who allowed me to search for Ardinghelli's letters in his dusty family archive at Reggio Calabria (unsuccessfully, alas!). I hope that one day these intriguing letters will resurface.

Isis, 2013, 104:226–249

0021-1753/2013/10402-0002$10.00

A FEW YEARS after his journey through Italy in 1765, the French astronomer Joseph Jérôme de Lalande wrote that Mariangela Ardinghelli, a learned woman who lived in Naples, was "at the head of all the illustrious women who make the glory of their sex in Italy." At the time of Laura Bassi, Clelia Grillo Borromeo, Maria Gaetana Agnesi, and Anna Morandi Manzolini—Italian women whose learned reputations had crossed the Alps—Lalande's statement was more than a compliment. As he explained, Ardinghelli was known in the Republic of Letters as the author of the annotated Italian translations of Stephen Hales's *Haemastaticks* and *Vegetable Staticks* (published in Naples in 1750–1752 and 1756, respectively). Yet this would hardly have sufficed to single her out at a time when the international celebration of Bassi as the first woman professor in Europe was ongoing and Agnesi's decision to withdraw from the scholarly world was still widely regretted.[1] Indeed, Lalande was aware that Ardinghelli's standing in the domain of natural knowledge was only partially represented by her published translations. His appreciation of the learned lady derived from channels of communication and exchange that were only selectively visible in the Republic of Letters. As a member of the Paris Academy of Sciences, he knew that she was the only woman whose letters were regularly read at the academy's meetings over the course of two decades. For his fellow academicians, Ardinghelli was *de facto* a foreign correspondent, recruited by the abbé Jean-Antoine Nollet during his journey through Italy in 1749. Nollet played a key role in the making of Ardinghelli's international reputation. An acclaimed celebrity in the field of experimental physics, in 1753 he published a volume on electricity in which he defended his theories against those of Benjamin Franklin. It took the form of nine letters addressed to contemporary savants who had distinguished themselves in the field; the first was addressed to Ardinghelli. A footnote explained that she was the author of the Italian translation of Hales's *Haemastaticks* and a "very virtuous young lady, who in a short time has made a lot of progress in the field of physics."[2] This public declaration of esteem made Ardinghelli widely known, yet it was only one of the ways in which Nollet sponsored her in the scholarly community. Through informal conversations, he encouraged several French academicians to engage in correspondence with the Neapolitan *savante* and to visit her on their tours through the Italian states. When they arrived in Naples, they were already aware that Ardinghelli was not only the translator of Hales's works; she was also a correspondent of the academy who contributed meteorological data, information on the natural history of the Neapolitan territory, and reports on unusual medical cases. Acting as a mediator between the Neapolitan and the French communities of naturalists, she

[1] Joseph Jérôme de Lalande, *Voyage d'un françois en Italie, fait dans les années 1765 et 1766* (Yverdon, Switzerland, 1769), Vol. 6, p. 238 (here and throughout this essay, translations into English are mine unless otherwise indicated). On Bassi see Paula Findlen, "Science as a Career in Enlightenment Italy: The Strategies of Laura Bassi," *Isis*, 1993, *84*:441–469; Gabriella Berti Logan, "The Desire to Contribute: An Eighteenth-Century Italian Woman of Science," *American Historical Review*, 1994, *99*:785–812; and Marta Cavazza, "Between Modesty and Spectacle: Women and Science in Eighteenth-Century Italy," in *Italy's Eighteenth Century: Gender and Culture in the Age of the Grand Tour*, ed. Findlen, Wendy Wassyng Roworth, and Catherine Sama (Stanford, Calif.: Stanford Univ. Press, 2009), pp. 274–302. On Borromeo see Dario Generali, ed., *Clelia Grillo Borromeo Arese* (Florence: Olschki, 2011). On Agnesi see Massimo Mazzotti, *The World of Maria Gaetana Agnesi, Mathematician of God* (Baltimore: Johns Hopkins Univ. Press, 2007). On Morandi see Rebecca Messbarger, *The Lady Anatomist: The Life and Work of Anna Morandi Manzolini* (Chicago: Univ. Chicago Press, 2011).

[2] J. A. Nollet, *Lettres sur l'électricité* (Paris: Guerin & Delatour, 1753), p. 1. On the controversy between Franklin and Nollet see Jessica Riskin, *Science in the Age of Sensibility: The Sentimental Empiricists of the French Enlightenment* (Chicago: Univ. Chicago Press, 2002), Chap 3.

facilitated the establishment of networks of learned communication and exchange between Naples and Paris. Lalande was among those who benefited from her intercession.

The international celebrity that resulted from her translations and from the publication of Nollet's letter, however, was a double-edged sword. As Paula Findlen has shown, sudden popularity could be dangerous for an unmarried woman who ventured into the domain of scientific learning. In Old Regime society, the *femmes savantes* were targets of ferocious satire and poisonous gossip, which did not spare even aristocratic ladies such as the marquise Emilie du Châtelet.[3] Ardinghelli devised original strategies to carry on with her work. While Laura Bassi decided to get married and Maria Gaetana Agnesi retired to a life of religious devotion and philanthropy, Ardinghelli chose for herself the protection of anonymity at the apex of her popularity. As Mary Terrall has argued, concern for one's reputation was one of the reasons that induced eighteenth-century authors to opt for anonymity. I will show that in withdrawing into anonymity Ardinghelli did not share the fate of the invisible technicians and assistants who populated contemporary experimental and observational settings, or of other female translators whose contributions were appropriated or hidden by their male counterparts.[4] Ardinghelli constructed layers of visibility for her work; these allowed her authorial persona to be identified by selected audiences while remaining virtually invisible in historical accounts. It was at the Paris Academy of Sciences that Ardinghelli's activity was most visible. Even though her name was mentioned in the academy's official publications only twice, Lalande and his colleagues were familiar with her original contributions through correspondence, personal acquaintance, or word of mouth. Paradoxically, for an institution that did not admit women, her portrait medallion, sculpted by the celebrated Jean Jacques Caffieri in 1755, hung in the academy's meeting room (see Figure 1). A similar medallion could be admired in Nollet's well-attended physics cabinet.[5]

By analyzing the ways in which Ardinghelli constructed layers of selective visibility, I show that her activity as a translator and, even more, her letters to Nollet bridged learned communities that operated on both sides of the Alps. Her role was not in the least transparent: like cultural mediators and go-betweens who operated on a global scale, she collected, selected, and circulated data, acting as a node in networks of cultural exchange and learned travel.[6] Unlike them, however, she did not exercise her role by traveling. Quite

[3] Paula Findlen, "The Scientist's Body: The Nature of a Woman Philosopher in Enlightenment Italy," in *The Faces of Nature in Enlightenment Europe*, ed. Gianna Pomata and Lorraine Daston (Berlin: Berliner Wissenschafts-Verlag, 2003), pp. 211–236. On Du Châtelet see Mary Terrall, "Emilie du Châtelet and the Gendering of Science," *History of Science*, 1995, *33*:283–310; and Judith Zinsser, *Dame d'Esprit: A Biography of the Marquise Du Châtelet* (New York: Penguin, 2008).

[4] Mary Terrall, "The Uses of Anonymity in the Age of Reason," in *Scientific Authorship: Credit and Intellectual Property in Science*, ed. Mario Biagioli and Peter Galison (London/New York: Routledge, 2003), pp. 91–112. On invisible assistants see Steven Shapin, "The Invisible Technician," *American Scientist*, 1989, *77*:554–563.

[5] A memoir by Ardinghelli on locust infestation was mentioned in the *Histoire de l'Académie des Sciences pour l'année 1765* (Paris, 1768), p. 24; another memoir on the 1767 eruption of Vesuvius was mentioned in the *Histoire de l'Académie des Sciences pour l'année 1767* (Paris, 1770), pp. 26–27. There is a reference to Ardinghelli's portrait in the academy's meeting room in Diego Vitrioli, *Elogio di Angela Ardinghelli* (Naples: Nobile, 1874), p. 45; there is a reference to the medallion in Nollet's physics cabinet in Nollet's will, published in Hector Quignon, *L'abbé Nollet, physicien* (Paris: Champion, 1905), p. 65.

[6] On the circulation of natural knowledge on the global scale see Simon Schaffer, Lissa Roberts, Kapil Raj, and James Delbourgo, eds., *The Brokered World: Go-Betweens and Global Intelligence, 1770–1820* (Sagamore Beach, Mass.: Science History Publications, 2009). Recent perspectives on the circulation of science in early modern Europe are discussed in a special issue of the *British Journal for the History of Science* on "Circulation and Locality in Early Modern Science," edited by Mary Terrall and Kapil Raj (2010, *43*[4]).

Figure 1. *Portrait medallion of Mariangela Ardinghelli, sculpted by Jean Jacques Caffieri in 1755. Archives de l'Académie des Sciences, Paris. © Académie des Sciences—Institut de France.*

the opposite: it was by being firmly anchored in her own locale that she made natural knowledge circulate.

SITUATING ARDINGHELLI: NAPLES

In the age of the Grand Tour, the voyage through the Italian peninsula was a journey through ancient civilizations and unique natural creations, a journey into a collective past that promoted individual growth, refinement, and learning. If Rome was the Grand Tour's undisputed capital, for travelers interested in natural wonders Naples was a destination not to be missed. The city enjoyed a breathtaking position on the sea, with the spectacle of erupting Vesuvius in the background; visits to the Phlegraean Fields were as frequent as

fatiguing excursions up to the volcano's crater or trips to the newly opened archaeological site of Herculaneum.[7] Naples was the third most densely populated European metropolis, after London and Paris. Travel literature influenced by Montesquieu's theory of climate constructed it as a land of hot-blooded people, naturally inclined to laziness and larceny. The people of Naples constituted tourist attractions in themselves: if the lower classes' loudness and amplified gestures served, by contrast, to define foreign politeness and refinement, encounters with the local learned community proved essential in the construction of the cosmopolitan ideal of the Republic of Letters.[8] Travel literature turned local celebrities into living monuments, exclusive destinations for intellectually oriented travelers. At the same time, after-tour conversations and private correspondence constructed a larger arena for Italian savants who never traveled. The international reputation of Mariangela Ardinghelli was largely due to the culture of the Grand Tour. Described as "one of the city's rarities" by Marie-Anne du Boccage, who met her in 1757, Ardinghelli became a destination for several learned savants on their journeys through the Italian peninsula.[9]

Unlike other learned women of the time, Ardinghelli was not an aristocrat; neither was she a member of the ascendant middle class. Her family, originally from Florence, was "one of the most distinguished and ancient of Italy"; in the sixteenth century, when the Medici rose to power, her ancestors fled Tuscany for the Kingdom of Naples and acquired the status of "patricians of Aquila," which granted them voting rights in the city of Aquila, in the eastern part of the kingdom. Her father Nicola, however, married the Neapolitan Caterina Piccillo against his parents' will, with the result that he was deprived of his titles and privileges and "obliged to confine himself within the limits of a very modest fortune, which does not allow him to maintain his house and status in proportion to his birth."[10]

[7] On Italy and the Grand Tour there is an extensive bibliography that cannot be fully listed here. See at least Cesare de Seta, *L'Italia del Grand Tour: Da Montaigne a Goethe* (Naples: Electa, 1996); Andrew Wilton and Ilaria Bignamini, eds., *Grand Tour: Il fascino dell'Italia nel XVIII secolo* (Milan: Skira, 1997); Franco Venturi, "L'Italia fuori dall'Italia," in *Storia d'Italia*, Vol. 3: *Dal primo settecento all'Unità d'Italia* (Turin: Einaudi, 1973), pp. 985–1481; Barbara Naddeo, "Cultural Capitals and Cosmopolitanism in Eighteenth-Century Italy: The Historiography of Italy on the Grand Tour," *Journal of Modern Italian Studies*, 2005, *10*:183–195; and Findlen *et al.*, eds., *Italy's Eighteenth Century* (cit. n. 1).

[8] On French responses to the Italian learned communities see Françoise Waquet, *Le modele français et l'Italie savante: Conscience de soi et perception de l'autre dans la République des lettres (1660–1750)* (Rome: Ecole Française de Rome; Paris: Diffusion de Boccard, 1989). On Naples and enlightened cosmopolitanism see Melissa Calaresu, "Looking for Virgil's Tomb: The End of the Grand Tour and the Cosmopolitan Ideal in Europe," in *Voyages and Visions: Toward a Cultural History of Travel*, ed. Jas Elsner and Joan Pau Rubiés (London: Reaktion, 1999), pp. 138–161; and Calaresu, "From the Street to Stereotype: Urban Space, Travel, and the Picturesque in Late Eighteenth-Century Naples," *Italian Studies*, 2007, *62*:189–203.

[9] Marie-Anne du Boccage, *Recueil des oeuvres de Madame Du Bocage*, Vol. 3 (Lyon: Perisse, 1764), p. 295. In addition to Du Boccage, Lalande, and Nollet, Ardinghelli was publicly praised by the Swedish naturalist Jacob Jonas Bjornstahl in his travel account: Jacob Jonas Bjornstahl, *Napoli: La sirena vipera* (Naples: Guida, 1994), p. 75.

[10] This information on the Ardinghelli family comes from J. A. Nollet, *Journal du voyage en Piémont et Italie*, Bibliothèque Municipale de Soisson, MS 150, fols. 170v–171. In the nineteenth century Ardinghelli became the subject of posthumous patriotic biographies that described her as a noblewoman, in spite of the fact that she was listed among the non-nobles in the "Great Book of Public Debt of the Kingdom of Naples": Maria Cristina Ermice, *Le origini del Gran Libro del debito pubblico del Regno di Napoli e l'emergere di nuovi gruppi sociali (1806–1815)* (Naples: Istituto Italiano per gli Studi Filosofici, 2005), p. 203. On Ardinghelli as a noblewoman see M. A. Parenti, "Elogio della Signora Maria Angela Ardinghelli, patrizia aquilana," in *Galleria di giovanette illustri italiane* (Fuligno: Tomassini, 1841); and Carlantonio De Rosa (marchese di Villarosa), *Elogio della Signora Maria Angela Ardinghelli, patrizia aquilana* (Naples: Manzi, 1825). Even her portrait by Caffieri (see Fig. 1) described her as a Neapolitan noblewoman (*nobilis Neapoletana*). For further information on the Ardinghelli family see C. G. di Crollalanza, ed., *Giornale araldico-genealogico-diplomatico* (Fermo, 1874), Vol. 1, pp. 165–168.

Both foreign travelers and Italian commentators noted Ardinghelli's calm endurance of her social condition:

> She is foreign to any kind of public or private entertainment, such as theaters or other parties, which she never attempts to attend, since she lives entirely retired at home. She has kept her heart free from any whimsical passion, never wanting any juvenile correspondence. In truth, she is an example of modesty, countenance, and, when it comes to talking or doing, of circumspection; but what is most remarkable is that she is always the same, without ever complaining about her status, in which she lives happ[il]y as if she were amidst comforts and luxury.

In the course of a long conversation with Ardinghelli, Madame Du Boccage came to admire the "studious simplicity" that, she added, "probably makes her happier with her very modest fortune than the princesses of her country, surrounded by squires and pages."[11]

Ardinghelli was an only child, having lost her brother in childhood—a condition that made her future prospects particularly uncertain: providing her with a proper dowry was a difficult task for her father, who resorted to the ennobling virtues of education.[12] As in the cases of her contemporaries Laura Bassi and Maria Gaetana Agnesi, a coterie of men arranged Ardinghelli's entrance into the public arena. Working with the best tutors available in Naples, she studied mathematics, natural philosophy, English, and French; by the age of fourteen she had mastered Latin, demonstrating that she was able not only to translate but also to compose verses. Nicola Ardinghelli did not choreograph spectacular occasions designed to exhibit Mariangela's culture and learning, in the style of Don Pietro Agnesi, but he created the conditions that allowed his daughter to become well known among the cultivated Neapolitan elite, possibly with a view toward increasing her chances of marrying a generous professional.[13] His hopes for his daughter fit well with the ambitions of local savants, who were trying to capitalize on a renewed interest in cultural activities.

In the 1730s there was great excitement in Naples owing to the arrival of a new king. After centuries as a province under foreign rule, Naples became an autonomous kingdom in 1734 thanks to Charles of Bourbon's victory over the viceroy who administered the city on behalf of the Augsburg family. Charles established his residence in Naples and was determined to revive its cultural life. He supported the renovation of the university system, opened the San Carlo Theater, and started the digging of the archaeological site of Herculaneum. Members of the local aristocracy embraced the king's enthusiasm for

[11] Giammaria Mazzuchelli, *Gli scrittori d'Italia, cioè Notizie storiche e critiche intorno alle vite e agli scritti dei letterati italiani* (Brescia: Bossini, 1753), Vol. 1, p. 980 (letter written by Paolo Quintilio Castellucci); and Du Boccage, *Recueil des oeuvres de Madame Du Bocage*, Vol. 3 (cit. n. 9), p. 295.

[12] Only daughters were particularly exposed to misfortune without a good dowry, which their fathers or other male relatives were obliged by law to provide (either for marriage or so they could enter a convent). See Gérard Delille, *Famille et proprieté dans le Royaume de Naples (XVe–XIXe siècle)* (Rome: Editions de l'Ecole des Hautes Études en Sciences Sociales, 1985); and Annunziata Berrino, *L'eredità contesa: Storie di successioni nel Mezzogiorno prenapoleonico* (Rome: Carocci, 1999). On the debates regarding marriage in eighteenth-century Italy see Luciano Guerci, *La sposa obbediente: Donna e matrimonio nella discussione dell'Italia del Settecento* (Turin: Tirrenia, 1988).

[13] On Bassi and Agnesi see the works by Cavazza, Findlen, and Mazzotti cited in note 1, above. Ardinghelli's status was in some ways similar to that of Cristina Roccati, a Newtonian learned woman who lived in a very small city in the Republic of Venice and whose scholarly vicissitudes were closely related to her father's fortunes. See Paula Findlen, "A Forgotten Newtonian," in *The Sciences in Enlightened Europe*, ed. William Clark, Jan Golinski, and Simon Schaffer (Chicago: Univ. Chicago Press, 1999), pp. 313–318.

cultural activities as a mark of their loyalty to the Crown. In the 1740s one of the most powerful Neapolitan aristocrats, Ferdinando Spinelli, prince of Tarsia, organized a public library and a museum with a collection of scientific instruments in his palace. Ardinghelli's natural philosophy tutor, Giovanni Maria Della Torre, was the curator of Spinelli's physics cabinet and a member of the "Accademia Spinella," a newly constituted scientific academy that gathered in the Tarsia museum.[14]

Local savants rode the wave of enthusiasm that the arrival of Charles of Bourbon excited among Neapolitan aristocrats. Their interests found fertile ground in Palazzo Tarsia, whose powerful owner saw in scientific patronage a way of attracting the king's favor. Spinelli celebrated the official opening of his public library in 1747, following the birth of the crown prince, with a spectacular inauguration ceremony dedicated to the king. The event sanctioned Ardinghelli's popularity among the Neapolitan elite. In strict order—the women first, then the men—a number of guests recited celebratory poems that would later be published in a volume dedicated to King Charles. Ardinghelli spoke last among the ladies—after two poets and Eleonora Barbapiccola, the Italian translator of Descartes's *Principles of Philosophy*—and astonished the audience as the only one to compose a poem in Latin. Word of mouth circulated quickly in Naples, extolling the young woman who so daringly addressed the king as the nymph Parthenope, the mythical founder of Naples, and exalted the Newtonian, experimental orientation of Spinelli's temple of knowledge.[15]

The cultural milieu in which Ardinghelli emerged as a talented young lady was not new to learned women, but it is difficult to assess whether there was any degree of interaction or reciprocal support among them. Barbapiccola was an outspoken advocate of female education, but we do not know what she thought of Ardinghelli and her Newtonian poem. No record exists of any contact between Ardinghelli and her Neapolitan contemporary Faustina Pignatelli, princess of Colubrano, who participated in a Newtonian intellectual circle that did not interact with that of Palazzo Tarsia.[16]

Palazzo Tarsia was the place where Ardinghelli cultivated her interests in natural philosophy, under the supervision of Della Torre and other celebrated local savants, such as the astronomer Vito Caravelli and the professor of moral philosophy Niccolò Bam-

[14] Charles of Bourbon (or Charles VII of Naples, a title he never used) became King Charles III of Spain in 1759. See Franco Venturi, *Settecento riformatore*, Vol. 1 (Turin: Einaudi, 1972); and Raffaele Ajello, "La vita politica napoletana sotto Carlo di Borbone," in *Storia di Napoli*, 10 vols. (Naples: Società Editrice Storia di Napoli, 1967), Vol. 7, pp. 461–984. On Spinelli's library see Vincenzo Trombetta, *Storia e cultura delle biblioteche napoletane* (Naples: Vivarium, 2002). On his academy and museum see Paola Bertucci, "The Architecture of Knowledge: Science, Collecting, and Display in eighteenth-century Naples," in *New Approaches to Naples c.1500-c.1800: The Power of Place*, ed. Melissa Calaresu and Helen Hills (Aldershot: Ashgate, 2013, forthcoming).

[15] Mariangela Ardinghelli, "Partenope parla al suo sovrano," in Niccolò Giovio, *Componimenti diversi per la Sacra Real Maestà di Carlo Re delle Due Sicilie, nella solenne apertura della Biblioteca Spinelli del principe di Tarsia* (Naples: De Muzj, 1747), pp. 40–42. In her poem, Ardinghelli praised the instruments that allowed for pursuit of the "wonderful hidden forces of nature"; she mentioned, in particular, a "wonderful" orrery that demonstrated the planets' motions around the sun and a telescope "designed by the great mind of Newton, the first glory of the English land."

[16] On Barbapiccola and on the problem of women's education in Italy more generally see Paula Findlen and Rebecca Messbarger, eds., *The Contest for Knowledge: Debates over Women's Learning in Eighteenth-Century Italy* (Chicago: Univ. Chicago Press, 2005). Pignatelli was elected a member of the Bologna Institute of Sciences and was one of the protagonists of a dialogue on the *vis viva* by the institute's secretary, Francesco Maria Zanotti. On scientific circles in Naples see Aldo Brigaglia and Pietro Nastasi, "Bologna e il Regno delle Due Sicilie: Aspetti di un dialogo scientifico (1730–1760)," in *Scienza e letteratura nella cultura italiana del Settecento*, ed. Walter Tega and Renzo Cremante (Bologna: Il Mulino, 1984), pp. 211–232; and Bertucci, "Architecture of Knowledge" (cit. n. 14).

macaro. The palace was one of the most active experimental sites in Naples. It was there that Neapolitan savants first encountered the electrical machine, thanks to performances staged by the Saxon itinerant demonstrator Peter Johann Windler in 1747. The science of sparks and shocks was all the rage in European courts, palaces, and academies, and in Naples too these displays attracted large audiences to Palazzo Tarsia. In addition to the spectacle of sparks in the dark, Spinelli's guests could admire Ardinghelli as she addressed questions in Latin about the nature of electrical phenomena to the foreign demonstrator.[17] It is not surprising that misleading information about her age began to circulate at that point: her admirers cast her as younger than she was, transforming a marriageable girl into a talented child still under the care of her instructors.[18] At a time when visibility and exhibition were delicate issues for a woman's reputation, Palazzo Tarsia represented a safe arena for Ardinghelli. There she was Della Torre's, Caravelli's, and Bammacaro's prodigy; unlike Laura Bassi, she did not have to suffer offensive remarks about experimenting alone with men in the dark. On the contrary: she was depicted in the plates of Windler's *Tentamina de causa electricitatis* while engaged in electrical experiments, the only woman surrounded by several men (see Figure 2).[19]

The savants that gathered in Palazzo Tarsia strove to weave intellectual connections with the Royal Academy of Sciences in Paris. Their Francophilia was dictated by both intellectual and political concerns: the prince of Tarsia was very close to the Bourbon King Charles, who assiduously maintained good relations with the French branch of the family. In 1747 the Neapolitan academicians sought the attention of Georges-Louis Leclerc de Buffon at the Royal Academy of Sciences in Paris with an official letter that announced the constitution of the Spinella Academy, a Neapolitan institution modeled on the French one. It is no coincidence that Ardinghelli's translation of Stephen Hales's *Haemastaticks* was dedicated to the marquis De L'Hôpital, former French ambassador in Naples, whom the Neapolitan academicians had indicated would be the ideal mediator between the two institutions. Ardinghelli's dedication to De L'Hôpital was a contribution to the Neapolitan academicians' attempt to establish connections with the Royal Academy of Sciences in Paris.[20]

[17] Mazzuchelli, *Gli scrittori d'Italia* (cit. n. 11), Vol. 1, p. 979. On the arrival of the electrical machine in Naples and in the other Italian states see Paola Bertucci, *Viaggio nel paese delle meraviglie: Scienza e curiosità nell'Italia del Settecento* (Turin: Bollati Boringhieri, 2007).

[18] When Nollet visited Naples in 1749, Della Torre told him that Ardinghelli was seventeen; in his *Letters on Electricity*, published in 1753, Nollet wrote that she was sixteen; in 1750 Giovanni Lami wrote that she was seventeen; De Sauvages stated that she translated Hales in 1750, at the age of sixteen; Placido Troyli asserted, in *Istoria generale del Regno di Napoli*, published in 1752, that she was not older than eighteen (Vol. 4, p. 209). Ardinghelli's year of birth is differently reported by various biographers. I believe that she was born in the second half of 1730, which is consistent with all the available data: 1730 is Ardinghelli's date of birth in her earliest biography, published in 1753 in Mazzuchelli's *Gli scrittori d'Italia*; on 31 May1751, she explained to Giovanni Lami that she was twenty and not seventeen, as he had stated (letter in Biblioteca Riccardiana, Florence, MSS Riccardiano 3701, fol. 76); in her portrait now in the archives of the French Academy of Sciences in Paris, sculpted in 1755, she was said to be twenty-four (see Fig. 1). It is of course possible that she was born in 1731 and that the date in Mazzuchelli's volume is incorrect. Almost all nineteenth-century biographers of Ardinghelli followed Carloantonio De Rosa, who specified that she was born on 28 May 1728: however, he did not provide any source for this date and I could find no evidence for it.

[19] See Cavazza, "Between Modesty and Spectacle" (cit. n. 1); and Findlen, "Scientist's Body" (cit. n. 3). For an analysis of Windler's plate as representing the experimenters of Palazzo Tarsia, including Della Torre and Ardinghelli, see Bertucci, "Architecture of Knowledge" (cit. n. 14).

[20] Archives de l'Académie des Sciences, Paris (hereafter **AASP**), *Procès Verbaux*, Vol. 67 (1748), fol. 31 (letter from the Neapolitan academicians). On Hales see D. G. C. Allan and R. E. Schofield, *Stephen Hales: Scientist and Philanthropist* (London: Scholar, 1980). Hales's work, which offered a Newtonian understanding of physiological processes and was often mentioned in Italian writings on medical electricity, was likely requested by Della Torre, who

Figure 2. *Plate from Petrus Joannes Windler,* Tentamina de causa electricitatis *(Naples, 1747), representing the experimenters of Palazzo Tarsia around the electrical machine. Courtesy of the Bakken Museum of Electricity in Life, Minneapolis.*

ARDINGHELLI'S AUTHORIAL "ELSEWHERE"

Ardinghelli conceived of her translations as travels of knowledge, in which she acted as a guide and cultural mediator. She made clear to her readers that her work was not merely an exercise in foreign languages. Translators often acted as commentators, their authorial voice confined to potentially subversive footnotes.[21] Annotated translations allowed learned

was then trying to incorporate electrical phenomena within a Newtonian framework. On Newtonianism in Italy see Vincenzo Ferrone, *Scienza, natura, e religione: Sistema newtoniano e cultura italiana nel primo Settecento* (Naples: Jovene, 1984), even though this work almost completely overlooks Della Torre. Della Torre's Newtonianism is openly declared in Giovanni Maria Della Torre, *Scienza Della Natura*, 2 vols. (Naples: Porsile, 1748).

[21] This was the case, for example, with the annotated Latin version of Jacques Rohault's Cartesian *Traité de Physique* (published in 1713 in Naples with the false indication of Köln), which introduced Newtonian ideas in continental Europe; see Ferrone, *Scienza, natura, e religione*, p. 91.

women such as Ardinghelli to exert their authorial power by glossing the original texts with critical commentaries, without exposing themselves to ridicule as illegitimate authors. The footnotes constituted a text within the text, one that borrowed the original writer's authority.[22] Ardinghelli, however, did not limit herself to the notes. In her translations she created two other literary spaces in which she made herself visible as an original author: the dedication and a section titled "To the Reader." If the dedication revealed her ambition to make herself known to members of the French upper class who were interested in Naples and its surroundings, in her message to the reader she highlighted her work of translation as a process of critical evaluation, validation, and certification. She explained that while she was working from the French translation of the original English text, by the Montpellier physician François Bossier de Sauvages (who also added comments in footnotes), she needed to have the original English text at her side because in places the French translation was "completely meaningless." De Sauvages, she explained, had carelessly replaced English measurements with French ones, without converting their corresponding values. After repeating all the calculations, Ardinghelli inserted the corrected formulas in the footnotes. Readers could check her corrections, as she distinguished her own footnotes from De Sauvages's by italicizing them. Ardinghelli also claimed a better understanding of Hales's work, based on her correspondence with the English author, that allowed her to rephrase sentences that were unclear: "I have endeavored to make clear in the text the Author's meaning: so, sometimes, I found it more convenient to paraphrase a few sentences rather than to translate them."[23]

Those who read Ardinghelli's translation thus enjoyed three works in one: Hales's, De Sauvages's, and Ardinghelli's (see Figure 3). They knew that they were reading a more accurate translation than their French counterparts: they could attend to De Sauvages's objections to Hales while at the same time being guided by Ardinghelli's comments in italics, inserted directly in the text. Like other learned women of the time, Ardinghelli found an original way of inhabiting the Republic of Letters, sharing only to a point the gentlemanly code that characterized this virtual space. As a woman author, she needed to balance visibility with modesty. Hence, her approach differed substantially from that of De Sauvages, who emphasized that he had replicated Hales's experiments with a view to challenging his results. Ardinghelli, instead, explained: "if you, learned reader, happen not to know what kind of work, and how praiseworthy, Stephen Hales's *Haemastaticks* is, you would certainly distrust the judgment that I, as its translator, could offer you; since I do not enjoy any authority in the literary world."[24] This declaration was an acknowledgment that her status differed from that of her male colleagues, who could freely evaluate each other's work. They performed experiments together and testified to each other's credibility; how could a woman claim authority without trespassing beyond the invisible line

[22] On science in translation see Scott L. Montgomery, *Science in Translation: Movements of Knowledge through Cultures and Time* (Chicago: Univ. Chicago Press, 2000). On Italian women translators of scientific texts see Paula Findlen, "Translating the New Science: Women and the Circulation of Knowledge in Enlightenment Italy," *Configurations*, 1995, *2*:167–206. For an interpretative framework on women translators see Lori Chamberlain, "Gender and the Metaphorics of Translation," *Signs*, 1988, *13*:454–472; and Mirella Agorni, *Translating Italy for the Eighteenth Century: British Women, Translation, and Travel Writing (1739–1797)* (Manchester: St. Jerome, 2002).

[23] Stephen Hales, *Emastatica, o sia, Statica degli anamali: Esperienze idrauliche fatte sugli animali viventi* [trans. Ardinghelli] (Naples: Raimondi, 1750 [Vol. 1], 1752 [Vol. 2]), Vol. 1, "A chi legge," unpaginated (quotations and reference to Ardinghelli's correspondence with Hales). The two volumes are bound together; Vol. 2 is titled *Esperienze ed Osservazioni di Stefano Hales, intorno a' calcoli che si trovano nella vescica, e nei reni.*

[24] Hales, *Emastatica* [trans. Ardinghelli], Vol. 1, "A chi legge."

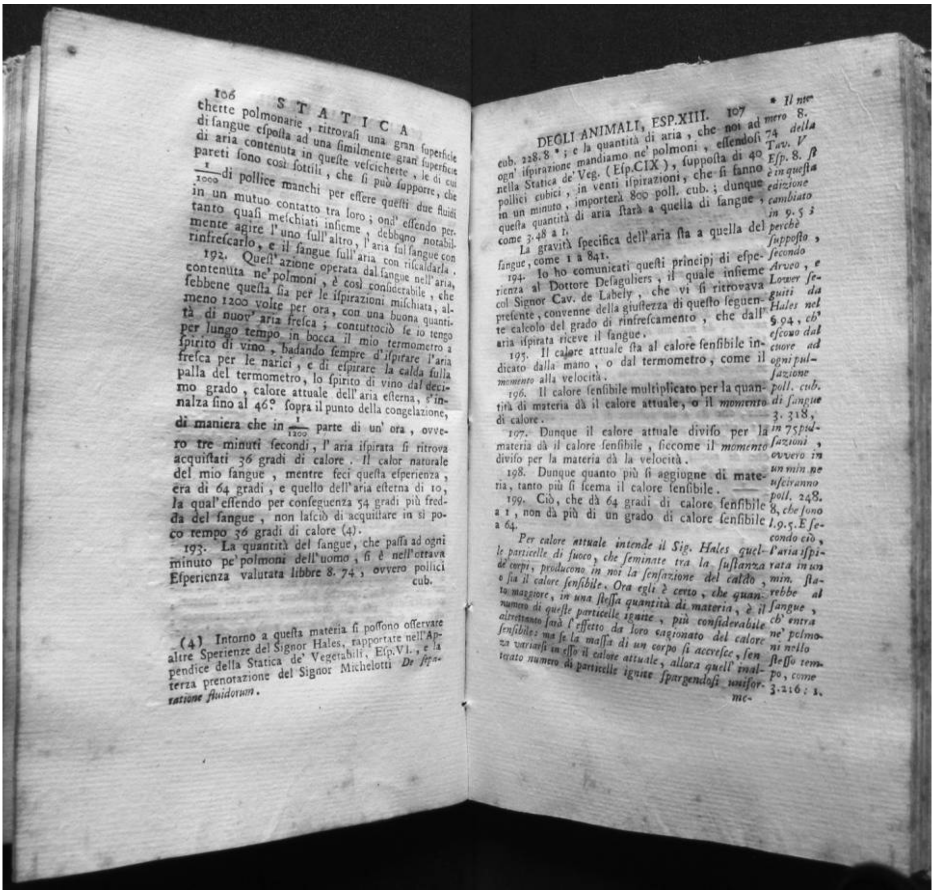

Figure 3. *Page from Stephen Hales,* Emastatica, o sia, Statica degli animali *[trans. Ardinghelli] (Naples, 1750): the numbered footnote on the bottom left is by De Sauvages, the italicized note marked by an asterisk on the right margin and the italicized text inserted in the main page (on the right) are by Ardinghelli. Courtesy of Medical Historical Library, Yale University.*

of decency or inviting ridicule? Eighteenth-century learned women devised different strategies to acquire reputation and credit. These strategies were deeply rooted in the local context that supported the trajectory of each *femme savante*.[25] In the case of Ardinghelli, there was a tension between her endorsement of shared (gendered) codes of cultural sociability and her construction of a unique "elsewhere" from which she spoke authoritatively to her readers. In striking contrast to the literary technologies employed by her male colleagues, she never mentioned any other human presence while presenting the results of her experiments, nor did she quote any mathematical authority in support of her corrections of Hales and De Sauvages. In her notes she created a literary as well as a mental space where she invited readers to accompany her through her critical reflections.

[25] It is useful to compare, e.g., the trajectories of the Italian learned women (discussed by Cavazza, Findlen, Messbarger, and Mazzotti; see note 1, above), with those of Emilie du Châtelet (discussed by Terrall and Zinsser; see note 3, above) and Maria Winkelmann. On Winkelmann see Londa Schiebinger, "Maria Winkelmann at the Berlin Academy: A Turning Point for Women in Science," *Isis*, 1987, *78*:174–200.

They would become familiar with her way of reading other people's works and with her way of thinking about natural phenomena. Thus, they were called to trust her rephrasing of sentences that were unclear in the main text. Readers were also called to appreciate her particular efforts to translate Hales's work from the English into the Neapolitan context: "Since these experiments by Mr. Hales on the waters that people drink in London can be of no use for us who are so far from that city, I have deemed [it] necessary, in imitation of him, to examine some waters mainly from Naples, to determine which ones among them can reasonably be regarded as the noblest and the purest."[26] In the act of performing the experiments, she made visible no one but herself. As a woman with "no authority in the literary world," she could exempt herself from complying with the unwritten rules of testimony, credit, and trust that applied to more controversial experimental settings.[27]

RECEPTION

Ardinghelli's authorial strategy met with success. The space in which she dialogued with her reader was publicly praised and made widely available in the laudatory review that Giovanni Lami, editor of the popular *Florence's Literary News*, published in 1751. He described Ardinghelli as an "excellent mathematician" and published an excerpt from her "To the Reader," which made clear to a wider audience that her work was not simply the rendering in Italian of an English work, but the result of reviewing, recalculating, and replicating experiments—in short, a real translation of natural knowledge. Lami also noted her decision to dedicate the work to Paolo Gallucci, marquis de L'Hôpital, former French ambassador in Naples. Not only was he a relative of one of the brightest mathematicians of the age; he was also of Florentine descent, just like Ardinghelli herself. Lami's review was an obvious attempt to appropriate Ardinghelli's merits for Tuscany: he reminded his readers that "Florentine blood" circulated in her veins, which made her a "prosperous and thriving sprout of Tuscany." A fellow citizen of Galileo, Ardinghelli, unlike other women, found her "delight" in "sublime philosophical and mathematical speculations." As a Tuscan in Naples, Ardinghelli was in good company. The powerful prime minister, Bernardo Tanucci, was Tuscan, as was Father Paolo Quintilio Castellucci, an Arcadian poet and a member of the Accademia dei Fisiocritici of Siena, one of the most ancient scientific academies in Europe. These connections proved very fertile for Ardinghelli, who professed herself proud of her Tuscan roots. In 1765 Tanucci made it possible for her to obtain a pension, while Castellucci eagerly sponsored Ardinghelli among Tuscan savants.[28] He dedicated to her a poem published in Siena under the name of Cinto Ceraerso and proposed her election to the Accademia dei Fisiocritici, which was unanimously granted in 1759.[29] In 1753, Castellucci compiled a short biographical profile on Ardinghelli for Giammaria Mazzuchelli's *Italian Writers*.

[26] Hales, *Emastatica* [trans. Ardinghelli] (cit. n. 23), Vol. 2, pp. 28–29.

[27] On gentlemanly codes of trust see Steven Shapin, *A Social History of Truth: Civility and Science in Seventeenth-Century England* (Chicago: Univ. Chicago Press, 1994).

[28] *Novelle Letterarie di Firenze*, 1751, pp. 276–280; Biblioteca Riccardiana, Florence, MSS Riccardiano 3701, fol. 77 (letter from Ardinghelli to Lami, 31 May 1751, expressing pride in her Tuscan roots); and Archivio di Stato, Naples, *Segreteria di Stato di Casa Reale*, Affari Diversi b868, 325 (Ardinghelli's letter of thanks to Tanucci, 20 Sept. 1765). I am grateful to Lucia Dacome for attracting my attention to this document.

[29] Archivio dell'Accademia dei Fisiocritici, Siena, *Verbali delle sedute accademiche*, Vol. 1: *1690–1768* (2 June 1759); *Carteggio, 1759, 156 [12]* (2 July 1759); and *Novelle Letterarie di Firenze*, 1751, p. 726. Founded in 1691, the Accademia dei Fisiocritici endorsed an experimental approach to the study of nature; see Eric Cochrane, *Tradition and Enlightenment in the Tuscan Academies, 1690–1800* (Chicago: Univ. Chicago Press, 1961).

Ardinghelli's bold criticism of De Sauvages, whom she attacked for being unclear and for defending old-fashioned medical theses, reached France and was endorsed by the editors of the *Bibliothèque Universelle*, who expressed their distaste for the vitalist theses that were finding fertile ground in Montpellier. After an initial attempt to discount his colleagues' support of Ardinghelli's opinions as nothing but gallantry, De Sauvages came to appreciate the popularity that ensued from the publication of the Italian version of his comments on *Haemastaticks*. In 1763 he acknowledged the role that Ardinghelli had played in building up his international reputation: in the long dedication to her that opened his influential *Nosologia Methodica* he declared that, thanks to the "most learned and noblest" Neapolitan lady, several naturalists in various Italian states had become interested in establishing connections with him, he had been elected a member of the Bologna Academy of Sciences and of the Botanical Society in Florence, and a number of his works had been translated into Italian.[30]

Ardinghelli's work pleased Hales enormously; he encouraged his "sweetheart" (as he called her) to translate *Vegetable Staticks* as well. Like *Haemastaticks*, the work had already been translated into French by a prestigious translator: Georges-Louis Leclerc, comte de Buffon, who at the time was the director of the Jardin des Plantes and the author of the first volumes of the celebrated *Histoire Naturelle*.[31] Ardinghelli acknowledged the merits of the French translation, which clarified obscure experiments and added illustrations to guide the reader, but she also pointed out that there were mathematical mistakes in both versions. As before, she prepared her translation working with both the English and the French editions by her side; she commented, corrected, replicated experiments, and criticized. She dedicated this new work to another Frenchman, the duke of Penthièvre, fleet admiral of France, who visited Naples and met her in 1755. This new dedication called the reader's attention to Naples as a destination for travelers interested in unique natural phenomena. Ardinghelli explained that the duke's itinerary—culminating with the ascent of Vesuvius and visits to the Solfatara and the Grotta del Cane on the outskirts of Naples—demonstrated that "the science of the wonderful effects of Nature is well worthy of gentlemen and princes." By associating her name with that of Buffon, Ardinghelli attracted the attention of French reviewers, who praised her contributions. The success of her new translation was such that Joseph-Aignan Sigaud de La Fond, the editor of the new edition of the French version of *Vegetable Staticks*, translated and added her notes to the text, specifying in each case that they were by "Mademoiselle Ardinghelli."[32] By that time, it was her name that added prestige to a foreign translation.

TRANSLATING ARDINGHELLI: PARIS

Ardinghelli's family encouraged the public display of her learning. Their home was in Largo della Pignasecca, conveniently located a few minutes' walk from Palazzo Tarsia, in

[30] *Journal de Medicine* (Chirurgie, tome III), Aug. 1755, pp. 83–84; and François Bossier de Sauvages, *Nosologia Methodica* (Amsterdam: De Tournes, 1763), dedication. On De Sauvages see Elizabeth Williams, *Cultural History of Medical Vitalism in Enlightenment Montpellier* (Aldershot: Ashgate, 2003), Ch. 3.

[31] Salvatore Rotta, *L'Illuminismo a Genova: Lettere di P. P. Celesia a F. Galiani* (Florence: La Nuova Italia, n.d.) (letter from Celesia to Galiani, 1755, in which Hales's use of "sweetheart" is noted); and Stephen Hales, *La statique des vegetaux et l'analyse de l'air* [trans. Buffon] (Paris: Debure l'Aîné, 1735).

[32] Stephen Hales, *Statica de'vegetabili, ed analisi dell'aria* [trans. Ardinghelli] (Naples: Raimondi, 1756), unpaginated dedication; *Journal des Sçavans*, 1759, p. 567 (praise from French reviewers); and Hales, *La statique des végétaux, et celle des animaux* [ed. Sigaud de La Rond] (Paris: Imprimerie de Monsieur, 1779).

an area that was increasingly attracting aristocratic interest.[33] There, in the fashion of the time, Ardinghelli hosted *conversazioni* attended by scholars with Newtonian sympathies, local professionals, and foreign savants. It was there that the abbé Nollet met her in 1749, during his journey through Italy. Encounters with local savants were essential to the culture of learned travel, and Nollet was eager to consolidate connections with Italian naturalists. For their part, the Neapolitan savants that gathered in Palazzo Tarsia welcomed any possibility to build alliances with French colleagues. At the time Ardinghelli was little known outside the city, as her translation of *Haemastaticks* was still in progress. Della Torre exhibited her to Nollet as a fresh curiosity for the learned, an emerging talent that the abbé would find irresistible. Nollet carefully noted all Della Torre told him about Ardinghelli's life and family and became a habitué at her *conversazioni*: during the two weeks he stayed in Naples, he spent four evenings *chez* mademoiselle Ardinghelli, where he met several Newtonians from various Italian states.

Nollet was impressed by Ardinghelli's intellectual abilities and developed an attachment to her that blurred the borders of codified relationships, dangerously mixing the attitude of a sponsoring patron with that of an affectionate confidant. On his return to Paris, he forwarded some mathematical challenges she had composed to the mathematician Alexis Clairaut and complied with her request to receive works by Pierre-Louis de Maupertuis and Louis Bourguet, as well as his own works.[34] He talked a lot about the young Mariangela to his colleagues, inviting his fellow academicians to engage in correspondence with her and encouraging French travelers on their way to Naples to make her acquaintance. Over the years he wrote her seventy letters in which scientific subjects were discussed along with more personal matters, such as the loss of her father or the price of a set of glass jewels.[35] The abbé's warm enthusiasm for Ardinghelli, however, was promptly misunderstood. The abbé Le Blanc, a fashionable Parisian author and a protégé of Madame de Pompadour, had no doubt that Ardinghelli had made a fool of Nollet. In 1751, while in Naples with de Pompadour's brother, Le Blanc met Ardinghelli and subsequently insinuated that Nollet's passion for her was not merely intellectual. Ardinghelli firmly rejected Le Blanc's hints:

> this week I have received a letter from the Parisian academician whose head, Your Lordship says, I have turned. I am sorry that you still entertain this false opinion, even though I have endeavoured to get this bizarre idea out of your mind. Believe me, the above mentioned academician has nothing for me but extreme goodness and undeserved esteem. It is indeed true that his goodness and his esteem are constant, and I am not sure that Your Lordship's are the like.[36]

[33] Elena Manzo, *La merveille dei principi Spinelli di Tarsia: Architettura e artificio a Pontecorvo* (Naples: Edizioni Scientifiche Italiane, 1997).

[34] Clairaut responded to Ardinghelli's challenges, but she remained skeptical about his analytical geometry; they exchanged several letters through the years. See Vitrioli, *Elogio di Angela Ardinghelli* (cit. n. 5), pp. 41–42.

[35] Nollet, *Journal du voyage en Piémont et Italie* (cit. n. 10), fol. 191v; and Vitrioli, *Elogio di Angela Ardinghelli*. Diego Vitrioli, who was Ardinghelli's distant relative, claimed to own over a hundred letters that various French savants sent her over the years. In his *Elogio* he quotes from these letters, which, he says, were given as a legacy by Ardinghelli herself to her nephew Tommaso Vitrioli (Diego's father), who lived and studied with her for four years when she was an old woman. In addition to Nollet, Ardinghelli's correspondents included De Mairan, Clairaut, Leroy, and D'Arthenay. The last descendant of the Vitrioli family, another Tommaso, kindly let me look for the letters in the family archive in Reggio Calabria. To my great disappointment, they seem to have disappeared.

[36] Biblioteca Comunale, Forlì, *Autografi Piancastelli, Ardinghelli* (23 Jan. 1751). The letter's addressee is not specified, yet several details enable me confidently to identify him as the abbé Le Blanc: Le Blanc was the author of *Letters on the English and French Nations*, mentioned in Ardinghelli's letter as her addressee's work; he was

Le Blanc's malicious characterization of the relationship between Ardinghelli and Nollet is hardly surprising, and it was a warning sign for Ardinghelli. Intellectual liaisons between a woman and a man who shared interests in natural knowledge were commonly understood as dalliances, in the fictional as well as in the real world. From the time of Bernard le Bovier de Fontenelle's *Conversations on the Plurality of Worlds* (1686) through that of Emilie du Châtelet and Voltaire, Parisian society could scarcely conceive of any conversation about the physical world involving a lady and a gentleman without at least some suggestive overtones. Nollet, for his part, made no secret of his intellectual infatuation with Ardinghelli. He commissioned the medallion that he held in his physics cabinet until his death, and, even more important, he addressed the first of his *Letters on Electricity* to her. He was convinced that she deserved to be elected a member of the Paris Academy of Sciences, had this been possible for any woman.[37] Nollet made his high regard for the Neapolitan *savante* explicit by reading some of the letters she wrote to him at the academy's meetings. He engaged in a literal and metaphorical process of translating the information offered by Ardinghelli to Paris: he extracted from the letters the content that he thought relevant, put it into French, and read it at the academy, where his excerpts were often transcribed in the minutes. There are references to fourteen letters by Ardinghelli in the volumes of the minutes of the academy's meetings in the twenty years that elapsed from her introduction to Nollet at the end of 1749 to his death in 1770. Compared with the seventy letters that Nollet wrote to her, this number seems to indicate that the abbé kept most of her letters to himself. Probably he became aware that his open enthusiasm for Ardinghelli was a double-edged sword. What he read to his colleagues were impersonal *extraits* of her letters, from which he erased all personal details. It was by rendering her a disembodied mind that he made Ardinghelli *de facto*, if not formally, a corresponding member of the Paris Academy of Sciences.[38]

THE POWER OF DISTANCE

It was not only foreign curiosity about the Italian *filosofesse* that sanctioned Ardinghelli's celebrity. Place and distance played an equally important role. Even though Lami, Castellucci, and their circles celebrated her as a Florentine glory, Ardinghelli was firmly rooted in the Neapolitan context. She made it clear that she would never leave her family, to the point of rejecting a marriage proposal from the French architect Julien Leroy and the perhaps more appealing possibility of becoming the scientific tutor to the royal princesses at Versailles.[39] At a time of cosmopolitanism and naturalistic journeys, Ardinghelli did not seek to experience travel herself; instead, she became a reliable local reference for a number of naturalists who were interested in the geomorphology of the Neapolitan territory. In the second half of the eighteenth century, for foreigners interested in the natural history of the earth, Naples became an open-air laboratory of naturalistic experimentation that could be properly accessed only with the collaboration of local

in Italy in 1751; and he was one of Buffon's correspondents. I am grateful to Ivano Dal Prete for sharing this letter with me.

[37] Vitrioli, *Elogio di Angela Ardinghelli* (cit. n. 5), p. 13. On suggestive conversations in Paris see Mary Terrall, "Salon, Academy, and Boudoir: Generation and Desire in Maupertuis's Science of Life," *Isis*, 1996, *87*:217–229.

[38] On gender and the disembodiment of knowledge see Londa L. Schiebinger, *The Mind Has No Sex? Women in the Origins of Modern Science* (Cambridge, Mass.: Harvard Univ. Press, 1989).

[39] Vitrioli, *Elogio di Angela Ardinghelli* (cit. n. 5).

scholars.[40] Nollet's own experiments in such mysterious places as the Grotta del Cane, described in the official publication of the Paris Academy of Sciences and translated for the Royal Society in London, could not have occurred without the mediation of local colleagues who provided instruments, materials, and dogs.[41] Ardinghelli's *conversazioni* became meeting points where local savants arranged excursions for foreigners to Vesuvius, Solfatara, and the Grotta del Cane. If in the later eighteenth century the publication of the abbé de Saint Non's beautifully illustrated *Picturesque Voyage; or, Description of the Kingdom of Naples and Sicily* (1781–1786) codified the southern Italian landscape as "picturesque," in the 1750s French savants were already captivated by Naples's unique landscape and its natural masterpiece, Mount Vesuvius. The drama of lava spouts and blazing lapilli erupting from the volcano, counterposed against the loud and impressionable Neapolitan crowd, made for a colorful tale that Buffon related to entertain the Parisian *beau monde*. In the comfort of fashionable salons, he read accounts by the abbé Le Blanc "to a great number of people."[42] Vesuvius became an important actor in his *Histoire Naturelle* as well.

Neapolitan savants were well aware of the exotic charms that Vesuvius exerted on foreigners and insisted on their own irreplaceable role in the philosophical understanding of its phenomena. As Della Torre emphasized in his lavishly illustrated *History and Phenomena of Vesuvius* (1755), a quick ascent to the crater could provide only a glimpse of the variety of phenomena that the volcano constantly offered to Neapolitans and often led short-term visitors to draw erroneous conclusions. Unsurprisingly, Vesuvius was the topic that figured most prominently in the letters from Ardinghelli that Nollet read at the Paris Academy of Sciences. She was perceived as a dispassionate and reliable source whose accounts were dramatically different from the colorful stories that entertained Parisian salon society. With the ruins of Herculaneum and Pompeii firmly in the minds of armchair or actual travelers, the erupting Vesuvius evoked terrifying visions in the collective imagination: even Nollet's account of his ascent to the crater indulged in apocalyptic overtones meant to turn common fear into heroic love of knowledge.[43] Ardinghelli provided crucial firsthand information on eruptions with remarkable *sang-froid*. In collecting information to forward to the academy, she disregarded accounts that did not contain the kinds of details that would prove useful in the natural history of volcanoes: even a journal of a new eruption that was compiled for the Neapolitan royal family did not meet her selection criteria, as it did not contain as many "physical observations as I wished." On the contrary, even in the midst of the most frightening eruptions, Ardinghelli hastened to write to Nollet, striving to collect valuable data while

[40] Interest in the natural history of the Phlegraean Fields and Vesuvius predated the eighteenth century, yet the naturalist journey to southern Italy became a codified travel experience only in the second half of the century, when literary best sellers popularized the edifying experience of experimenting on top of Vesuvius or in the Phlegraean Fields. The best-known work of the kind is Patrick Brydone's *A Tour through Sicily and Malta* (London, 1776).

[41] The Grotta del Cane (the Dog's Grotto) was a cave on the outskirts of Naples where a mysterious vapor that hovered low to the ground killed animals that were forced to breathe there. Usually the experiments were performed on a dog (hence the cave's name) that was revived as soon as it was able to breathe outside the cave. For Nollet's report see Abbé Nollet, "Suite des expériences et observations en différent endroits d'Italie," in *Mémoires de l'Académie des Sciences de Paris pour l'année 1750* (1754), pp. 54–106; see also "Extract of the Observations Made by the Abbé Nollet on the *Grotta de Cane*," *Philosophical Transactions of the Royal Society*, 1751, *47*:48–61.

[42] H. Nadault De Buffon, ed., *Buffon: Correspondance générale* (Geneva: Slatkine, 1972), Vol. 1, pp. 76–77.

[43] Giammaria Della Torre, *Storia e fenomeni del Vesuvio* (Naples: Raimondi, 1755), pp. 82–83; and Nollet, "Suite des expériences et observations en différent endroits d'Italie" (cit. n. 41), pp. 84–85.

putting a bridle on her emotions. She explained on one occasion that "Mount Vesuvius burst open with a terrible noise," erupting a "vast stream of burning matter, which soon split into several branches," the largest of which she could see from her house. Noise as in a "huge storm" and the constant trembling of several palaces caused widespread confusion that prevented her from gathering all the accurate details she wanted; yet she was able to speculate that "the matter that burst inside this mountain is at a much deeper level than is commonly believed; otherwise, the mere pressure of the air could not give such an extended shock." In the course of the eruption three inches of ashes "in the form of rain" fell over Naples: observing the sediment deposited on the sheets that hung on the clothesline of her balcony, she concluded that it was made of "calcinated sand" and sent a sample to Nollet.[44]

This report gained Ardinghelli a public mention in the 1767 volume of the *Histoire de l'Académie*. By then her letters had won the respect of the members of the Paris Academy of Sciences. In 1754, when the French consul in Naples sent a hurried description of the latest eruption of Vesuvius, the French academicians added in their minutes that the event had been confirmed "with all the details" by Mademoiselle Ardinghelli.[45] It was her word that translated reliable knowledge of unrepeatable phenomena from Naples to Paris. Thanks to Nollet's translation of her letters, it became obvious that she was a reliable provider not only of firsthand information on the eruptions of Vesuvius but also of meteorological data and reports of unusual medical cases.[46]

In contrast to the authorial strategies she employed in her translations of Hales's works, in the less public context of her letters to Nollet Ardinghelli demonstrated a reliance on several local scholars and informants, although she presented herself as an uncompromising arbiter of the information that she received and passed on to the academy in Paris. In 1758 she informed Nollet of a monstrous birth that had occurred in Sicily in 1755. The three-year delay in reporting this phenomenon was due, she explained, to her intention to provide the French institution with a detailed description of the case: she could now include a drawing by the Benedictine monks who had dissected the corpse, which was subsequently displayed in their cabinet of curiosities in Palermo. Ardinghelli circulated natural knowledge according to the same protocols she set for herself when she translated foreign texts: she collected, selected, and reviewed accounts, asked for clarifications or further details, and rearticulated the report before offering it to her readers. Her selective criteria proved challenging even for the most reliable of informants such as Castellucci,

[44] AASP, *Procès Verbaux*, Vol. 76 (1757), fol. 55; and AASP, pochette 21 novembre 1767. In addition to these letters, Ardinghelli sent information about Vesuvius in 1754 (*Procès Verbaux*, Vol. 74 [1755], fol. 1); in May 1757, when she sent a drawing of the new hillock that was created as a result of a new eruption (*Procès Verbaux*, Vol. 76 [1757], fol. 333); in 1758 (*Procès Verbaux*, Vol. 77 [1758], fols. 160–165); in 1759 (pochette 10 mars 1759); and in 1761 (this letter is only mentioned in *Procès Verbaux*, Vol. 80 [1761], fol. 22). Thus seven of the fourteen letters from Ardinghelli that Nollet read at academy meetings pertained to Vesuvius.

[45] *Histoire de l'Académie des Sciences pour l'année 1767* (Paris, 1770), pp. 26–27; and AASP, *Procès Verbaux*, Vol. 74 (1755), fol. 1.

[46] In 1750 Ardinghelli reported on heavy rains that caused floods in various Italian cities (AASP, pochette 16 janvier 1751); in 1751 she reported on the damage caused by hail in Naples and the subsequent decision of the king to give citizens tax relief (*Procès Verbaux*, Vol. 70 [1751], fol. 527); in 1752 and 1753 she reported on a case of a woman with hardened skin (pochette 18 novembre 1752; and *Procès Verbaux*, Vol. 72 [1753], fol. 33); in 1758 she described the effects of lightning on Naples (*Procès Verbaux*, Vol. 77 [1758], fols. 160–165) and a monstrous birth (*Procès Verbaux*, Vol. 77bis [1758bis], fols. 482–483); and in 1759 she reported on unusual weather in Naples (*Procès Verbaux*, Vol. 78 [1759], fol. 352).

whom she criticized because in his report on a bladder stone developed by a woman in Siena he neglected to measure the stone's volume.[47]

Without attempting to bridge the distance between Naples and Paris physically, Ardinghelli presented herself as an intellectual connector between the two places. Not only French savants interested in the Neapolitan context, but also Neapolitan savants hoping to attract the attention of the Paris Academy of Sciences, benefited from her mediations. With the publication of Nollet's *Letters on Electricity* in 1753, the first of which was addressed to Ardinghelli, it became clear to learned Neapolitans that she had achieved an international reputation that most of them did not enjoy. A number of scholars sought her collaboration in the hope of improving their own international credentials. One of them was Naples's most eclectic inventor and alchemist, Raimondo di Sangro, prince of San Severo, whose ambition to be elected a foreign member of the French Academy of Sciences had not met with Nollet's favor during the latter's visit to Naples in 1749. In 1753 Di Sangro published a letter on his alchemical discoveries addressed to Nollet in which he referred to his own contacts with Ardinghelli.[48] Though Di Sangro's ambitions remained unfulfilled, the physician Carlo Curzio was more successful in achieving visibility in France thanks to Ardinghelli's correspondence with Nollet. She sent the abbé a report on the "extraordinary" (*stravagante*) case of a woman whose skin had become "as hard as wood" who was cured by Curzio. Nollet read the letter to the academy and was charged with asking Ardinghelli for further details. The subsequent exchange of letters culminated with Curzio's publication of a dissertation—also translated into French—dedicated to Nollet, in which Curzio acknowledged her role as a mediator.[49]

Even after Nollet's death Ardinghelli continued to make knowledge circulate between Naples and Paris. The astronomer Lalande, who met her in 1765, relied on her to inform his Neapolitan colleagues about his most recent work and to send him updates on the latest Italian publications. For their part, Neapolitan savants sought Ardinghelli's intercession to gain the astronomer's attention, animated by the hope of appearing at least in a footnote in the next edition of his successful *Voyage of a Frenchman in Italy*. One of Della Torre's pupils, Domenico Diodati, sought Ardinghelli's intercession to obtain from Lalande a breakdown of the expenses that could be anticipated for a French edition of Neapolitan texts.[50] The circulation of knowledge between Naples and Paris had no privileged direction, yet it often passed through Ardinghelli.

SELECTIVE VISIBILITY

In making Ardinghelli known at the Paris Academy of Sciences, Nollet decided what image of her to offer to his fellow academicians. Those who had not met her in person

[47] AASP, *Procès Verbaux*, Vol. 77bis (1758bis), fols. 482–483.

[48] San Severo mentioned that Della Torre performed experiments in his palace. It is likely that Ardinghelli was involved as well, since the prince refers to his interactions with her: in particular, he explained that it was she who gave him Nollet's book on electricity. See Principe di San Severo, *Lettres écrites par Monsieur le Prince de S. Sevére de Naples à Mons.r l'Abbé Nollet de l'Académie des Sciences à Paris* (Naples: Raimondi, 1753). There is another reference to Della Torre in Principe di San Severo, *Dissertation sur une lampe antique trouvée à Munich en l'année 1753* (Naples: Morelli, 1756), p. 79.

[49] Carlo Curzio, *Discussioni anatomicho-pratiche di un raro, e stravagante morbo cutaneo* (Naples: Di Simone, 1753); and Curzio, *Dissertation anatomique et pratique sur une maladie de la peau d'une espèce fort rare et fort singulière* (Paris: Vincent, 1755).

[50] Biblioteca Nazionale, Naples, MSS XX.71 (letters from Ardinghelli to Diodati). On Diodati see Franco Strazzullo, *Carteggi eruditi del Settecento* (Naples: Fondazione Pasquale Corsiscato, 1993).

relied on secondhand accounts that came mostly from him. He erased the personal element of their relationship from the *extraits*, yet he underscored Ardinghelli's intellectual talents. Not only was she an efficient correspondent; she was also able to challenge Clairaut on mathematics and to criticize with subtle reasoning the theory on the origin of spring waters that the Italian physician Antonio Vallisneri proposed at the beginning of the century following the calculations of Edme Mariotte. Her objections, duly noted in the academy's minutes, were not easily answered by the *académiciens*.[51]

Ardinghelli's presence in the Republic of Letters had multiple dimensions. Her contributions in connecting Naples and Paris were visible in certain circles and yet invisible in others. The French translator of Curzio's dissertation, for example, omitted her name, with the result that readers of the French text could see only the interaction between Curzio and Nollet. A pirated edition of her translation of *Haemastaticks* that appeared in 1756 bore no trace of Ardinghelli: her name did not appear on the front page, her dedication to the marquis De l'Hôpital had disappeared, and her celebrated notes were eliminated. The erasure of translators, assistants, and go-betweens once natural knowledge is secured has been variously addressed; I wish to show that Ardinghelli did not passively suffer the exclusion of women from the academic world, nor did she fight against it. She skillfully maneuvered the tacit rules of the Republic of Letters and the gender codes of Old Regime society, turning into a strength what could have been a fatal weakness: her own sex. If "going public" was potentially dangerous for women authors, Ardinghelli constructed layers of visibility for her work and for her interactions with male naturalists.[52] Thus she devised original strategies to avoid derision and social stigma while creating her own space of action and authority.

A few years after the successful publication of her translations of Hales's texts, and the international recognition that ensued, Ardinghelli began to hide her work under a veil of anonymity. In 1761 she produced an anonymous translation of the abbé Nollet's *Letters on Electricity*, the first of which—as we have already noted—was addressed to Ardinghelli herself. In the original edition, Nollet added a footnote in which he gave a few biographical details on Ardinghelli, with words of praise for her dedication to the sciences. In Ardinghelli's anonymous translation there was no trace of this footnote. Not only did Ardinghelli avoid being visible as the author of the Italian translation; she also erased herself from the text.[53] What induced her to turn to anonymity? Although we must rely on circumstantial evidence alone, it is likely that her change in attitude derived from the loss of her father, the male protector thanks to whom a virgin could go public without losing her respectability: Ardinghelli mourned the loss of her father in her letters to Nollet, and Lalande recorded that when he met her in 1765 only her mother was alive. In any case,

[51] AASP, *Procès Verbaux*, Vol. 77bis (1758bis), fols. 486–489. On Vallisneri see Dario Generali, *Antonio Vallisneri: La figura, il contesto, le immagini storiografiche* (Florence: Olschki, 2008).

[52] Curzio, *Dissertation anatomique et pratique sur une maladie de la peau d'une espèce fort rare et fort singulière* (cit. n. 49); and Stephen Hales, *Emastatica, o sia Statica degli animali* (Naples, 1756) (the name of the publisher of this pirated edition is not indicated). The issue of women's invisibility in twentieth-century scientific work has been addressed by Naomi Oreskes, "Objectivity or Heroism? On the Invisibility of Women in Science," *Osiris*, 1996, *11*:87–113. For a remarkable eighteenth-century case of exclusion see Schiebinger, "Maria Winkelmann at the Berlin Academy" (cit. n. 25). On the dangers of going public see Elizabeth C. Goldsmith and Dena Goodman, *Going Public: Women and Publishing in Early Modern France* (Ithaca, N.Y.: Cornell Univ. Press, 1995).

[53] A previous translation of Nollet's work, published in 1755 in Venice, maintained the footnote: compare J. A. Nollet, *Lettere sull'elettricità* (Venice: Pasquali, 1755), with Nollet, *Lettere intorno all'elettricità* [trans. Ardinghelli] (Naples: Raimondi, 1761).

her choice of anonymity did not signal a withdrawal from scientific activities. She maintained her correspondence with foreign savants and continued to participate in local events, hoping to obtain the patronage of the new queen, Maria Carolina of Saxony, the sister of Marie Antoniette and of the grand duke of Tuscany. On the occasion of the marriage of the new king of Naples, Ferdinando IV, Ardinghelli wrote a celebratory poem dedicated to the queen that was praised in the Paris edition of the *Journal des Sçavans*.[54] It was nothing new for Ardinghelli to write poems of this kind. In addition to the renowned verses in Latin that she read at Palazzo Tarsia in 1747, she composed several other poems that indicate her participation in Neapolitan cultural life and her activity as a private instructor.[55] In 1768 Ardinghelli produced two anonymous translations that suggest that she might have interacted with local Masonic circles: François de la Mothe Le Vayer de Boutigny's *On the King's Authority on the Age Necessary to Take Religious Vows* and François Fénelon's *Telemachus*. The latter text, in particular—a widely read edifying poem on the adventures of Ulysses' son, republished several times in the course of the seventeenth and eighteenth centuries—became emblematic of one of the key themes of Neapolitan Freemasonry: the education of the virtuous through a gradual path of initiation. Most likely these translations, together with her activity as a private instructor, served Ardinghelli as a good source of income to support herself and her mother after the death of her father.[56]

When Lalande met her in 1765, she had already begun to publish anonymously, but she confided to him her authorship of these translations as well as of other works of her own conception. In a later edition of his *Voyage d'un françois en Italie*, Lalande revealed Ardinghelli's original authorship by declaring that "her modesty prevented her from publishing works that belong but to herself."[57] In 1770 the *Journal des Sçavans* disclosed that she was also working on a translation of Buffon's *Natural History*. It is possible that Ardinghelli had hoped to work on such a translation as early as 1751, when she begged Le Blanc to intercede for her with Buffon, to no avail. The first Italian translation of

[54] Lalande, *Voyage d'un françois en Italie* (cit. n. 1), Vol. 6, p. 238; Mariangela Ardinghelli, *Nelle faustissime nozze delle Sacre reali Maestà Ferdinando IV e Maria Carolina d'Austria* (Naples: Raimondi, 1768); and *Journal des Sçavans*, 1769, pp. 636–637.

[55] In a poem written on the occasion of the death of Nicola Fraggianni, Ardinghelli addressed him as "my student." The poem is published in De Rosa, *Elogio della Signora Maria Angela Ardinghelli, patrizia aquilana* (cit. n. 10), p. 37. Tommaso Vitrioli, Ardinghelli's distant relative, studied with her for four years; see Vitrioli, *Elogio di Angela Ardinghelli* (cit. n. 5), p. 37.

[56] François de la Mothe Le Vayer de Butigni, *Dell'autorità del re sopra l'età necessaria alla professione solenne de' religiosi* [trans. Ardinghelli] (Naples: Gravier, 1768); and Francesco di Salignac della Motte-Fénelon, *Le avventure di Telemaco* [trans. Ardinghelli] (Naples: Gravier, 1768). Ardinghelli's authorship of these translations was revealed in 1769 in the Amsterdam edition of the *Journal des Sçavans* (1769, *41*, p. 438) and in 1770 in the Paris edition (1770, p. 305). On religious life in eighteenth-century Naples see Romeo De Maio, *Società e vita religiosa a Napoli nell'età moderna (1656–1799)* (Naples: Edizioni Scientifiche Italiane, 1971). On the cultural importance of Fénelon's *Telemachus* in the seventeenth and eighteenth centuries see H. C. Barnard, ed., *Fénelon on Education* (Cambridge: Cambridge Univ. Press, 1966). On Freemasonry in eighteenth-century Naples see Anna Maria Rao, "La massoneria nel Regno di Napoli," in *Storia d'Italia: Annali 21* (Turin: Einaudi, 2006), pp. 513–542. Ardinghelli's dedication of her translations of the two volumes of Nollet's *Letters on Electricity* (1761 and 1768) to the wife and daughter, respectively, of the prince of San Severo, Grand Master of Freemasonry, in addition to her known contact with him in the early 1750s, provides further support for the suggestion that she was connected to local Masonic circles. On the Neapolitan press see Rao, ed., *Editoria e cultura a Napoli nel 18. secolo* (Naples: Liguori, 1998).

[57] Joseph Jérôme de Lalande, *Voyage en Italie* (Paris: Desaint, 1786), Vol. 7, pp. 228–229. Aldo Brigaglia and Pietro Nastasi suggest in "Bologna e il Regno delle Due Sicilie" (cit. n. 16) that Ardinghelli could be the author of a manuscript memoir on animal motion kept in Palermo, at the Biblioteca Siciliana di Storia Patria. However, I have compared Ardinghelli's handwritten letters with this manuscript: the handwriting is so remarkably different that I have to dismiss this hypothesis.

Buffon's *Natural History* was published anonymously in Naples between 1772 and 1779. According to a nineteenth-century commentator, this translation was the work of several authors, and I think that we would not be guessing in saying that Ardinghelli was one of them. The second volume of the Neapolitan translation presents a long footnote in italics in which the translator adds to Buffon's list of authors who wrote on Vesuvius the *History and Phenomena of Vesuvius* by Della Torre and other works by former members of the Accademia Spinella.[58] The footnote is in the style of those in Ardinghelli's previous works and strongly suggests her contribution to the enterprise.

What are we to make of her desire not to be fully visible in the public sphere? In answering this question, we should not forget Ardinghelli's social circumstances. She was not a "lady of quality" who could boast with impunity of her place in the Republic of Letters, and after the loss of her father she was particularly exposed to derision and ridicule. Despite the protections she was offered in her early years, Ardinghelli's environment was only apparently welcoming toward learned women. The letters that the Neapolitan-based Ferdinando Galiani and Paolo Celesia exchanged during the latter's European tour were full of sarcastic remarks on women's aspirations to learning. While in Paris, Celesia remarked that it was "a pain" to listen to all the ladies "mangling algebra," and he asked Galiani to "suffer in peace" the "nuisance" of forwarding a letter to Ardinghelli. The life of a Neapolitan woman without a male protector could be very harsh. Indeed, the nuns who lived in a convent not too far from Ardinghelli's house had to be escorted by the police when walking downtown to prevent sexual harassment by men in the streets.[59] As a nonaristocratic, unmarried, learned woman, Ardinghelli had to be very careful not to cross the subtle line between admiration and indecency. Usually this border was guarded by the men who supported women's ascent in the public sphere. Unlike Laura Bassi, who decided to get married after suffering the insulting insinuations of her colleagues and fellow citizens, Ardinghelli did not hasten into marriage, probably fearing that she would have to give up her scientific work. Yet she did withdraw from the perils of going public, protecting herself under the veil of anonymity. Her choice was a mark of compliance with societal codes of behavior, rather than a cover meant to hide her work. In many circles the authorship of her anonymous translations was an open secret. The address to the reader that Ardinghelli authored anonymously for Nollet's *Letters on Electricity* included remarks on the first appearance of the electrical machine in Naples that would reveal her identity to local readers. The abbé Nollet was even less circumspect, boasting of the translation of his work that Ardinghelli produced.[60]

Ardinghelli was well aware of the contemporary debates on women's education and of the ferocious satires against the *femmes savantes*. Following Eleonora Barbapiccola's example, she was an advocate of women's education. Her choice to dedicate her translation of *Haemastaticks* to the marquis De L'Hôpital was not dictated by the French

[58] *Journal des Sçavans*, 1770, p. 305; Biblioteca Comunale, Forlì, *Autografi Piancastelli, Ardinghelli* (23 Jan. 1751) (seeking Le Blanc's intercession with Buffon); *Storia naturale generale, e particolare, del Sig. De Buffon*, Vol. 2 (Naples: Raimondi, 1772), pp. 272n–273n (the translation that eventually appeared); and Giovanni Boschi, *La vita e i tempi di Buffon* (Naples: Tipografia S. Pietro a Maiella, 1879), p. 421 (suggestion that the translation was the work of several authors).

[59] Rotta, *Illuminismo a Genova* (cit. n. 31), pp. 148, 100; and Antonio Illibato, *La donna a Napoli nel Settecento* (Naples: D'Auria, 1985).

[60] Nollet, *Lettere intorno all'elettricità* [trans. Ardinghelli] (cit. n. 53), "A chi legge." Pietro Nastasi first suggested, on the basis of these remarks, that Ardinghelli might be the author of this translation: Pietro Nastasi, "I primi studi sull'elettricità a Napoli e in Sicilia," *Physis*, 1982, *24*:237–264. For Nollet's boast see Biblioteca Ambrosiana, Milan, Letters to Paolo Frisi, MS Y 153 sup., fols. 135–135v.

ambassador's lineage and kinship with the homonymous celebrated mathematician alone; it was his stance on female education that encouraged the young Neapolitan to address her work to him: "I would be sorry, most excellent Sir, for the several, even learned, men who stupidly (in my opinion) disapprove of scientific studies for women, were there not wiser and judicious others, who approve of them and commend them." For a time, she found several such men in Naples and abroad. Later in life, as an unmarried, aging woman taking care of an elderly mother, Ardinghelli sought the support of a number of powerful women who operated in Naples. If her 1768 poem dedicated to the new queen of Naples was a clear bid for royal protection, she also sought the patronage of the wife and daughter of the prince of San Severo by dedicating her translations of Nollet's *Letters* to them.[61]

The veil of invisibility that Ardinghelli cast over herself and her work was transparent in certain contexts. Yet it protected her respectability, and above all it secured for her a safe space where she could continue her work.

CONCLUSION

Not long before 1777, after the death of her mother, Mariangela Ardinghelli married the magistrate Carlo Crispo and followed him to his homeland in Calabria, the southernmost province of the Kingdom of Naples. From a village that she described as "small" and "mediocre," she maintained her correspondence with Lalande and with Neapolitan scholars. Like Di Sangro and Curzio decades earlier, Crispo welcomed the possibility of expanding his own network through her acquaintances, hoping to obtain a higher position in Naples; Ardinghelli, for her part, spared no effort to advance his career, interceding for him with her lawyer friends in the city.[62] Once they settled back in the capital she devoted herself to juridical matters, helping her husband with his work; all her public activities in the field of natural philosophy ceased. According to a nineteenth-century biographer, she left Naples during the revolution of 1799 and did not witness the ensuing restoration headed by Queen Carolina, who mercilessly repressed the opposition by condemning to death those involved with the revolutionary movement, including the physician Domenico Cirillo and the journalist Eleonora Fonseca Pimentel.[63] Ardinghelli returned to Naples during the Napoleonic years; she continued to teach privately and to interact with local intellectuals. She died in 1825, twenty-four years after Crispo. Her will, which distinguishes between her own possessions and those that she inherited from her husband and from her mother, indicates that she had a respectable independent income arising from investments, rental properties, and private loans to aristocrats.[64] It is likely that at least part

[61] Hales, *Emastatica* [trans. Ardinghelli] (cit. n. 23), Vol. 1, unpaginated dedication. For a reference to Ardinghelli's commitment to her mother see Lalande, *Voyage d'un françois en Italie* (cit. n. 1), Vol. 6, p. 238. The first volume of Ardinghelli's Italian translation of Nollet's *Letters*, published in Naples in 1761, was dedicated to Raimondo di Sangro's wife, Carlotta Gaetana D'Aragona, who was known for her devotion to scientific studies; the second volume, published in 1769, was dedicated to Di Sangro's daughter, Carlotta, whom Ardinghelli praised for her interest in the philosophical sciences.

[62] Biblioteca Nazionale, Naples, MS XX.71 (Ardinghelli's letters to the lawyer and classics scholar Domenico Diodati); fol. 106 is a letter from Carlo Crispo to Diodati. In this respect, Ardinghelli's strategies resembled those of Laura Bassi; see Findlen, "Science as a Career in Enlightenment Italy" (cit. n. 1).

[63] On Ardinghelli as "the glory of the forum"—and on her absence from Naples during the revolution of 1799—see Vitrioli, *Elogio di Angela Ardinghelli* (cit. n. 5). See also Pietro Napoli Signorelli, *Vicende della coltura nelle Due Sicilie*, Vol. 5 (Naples: Flauto, 1786), p. 497. On the revolution see Anna Maria Rao, ed., *Napoli 1799: Fra storia e storiografia* (Naples: Vivarium, 2002).

[64] Archivio Vitrioli, Reggio Calabria, *Testamento di Mariangela Ardinghelli* (first version, dated 1818); and

of her income derived from her work as a translator and her activity as a private instructor. By manipulating layers of visibility, she was able to remain a respectable actor within the Neapolitan learned scene and to capitalize on her learning.[65]

Ardinghelli acted as a go-between for learned communities in Paris and Naples. Like similar actors who operated on a global scale, she made natural knowledge circulate by translating contents and procedures to and from the context in which she operated. Unlike most such go-betweens, however, and other Neapolitans who bridged the distance between Paris and their hometown, she did not travel: it was natural knowledge that traveled through her mediation. As eighteenth-century learned tourists knew, travel was a profoundly transformative experience. Natural knowledge too was transformed through Ardinghelli's translations: she adapted foreign knowledge to the Neapolitan context, modifying experiments so as to make them locally meaningful, and selected from among the reports she received those that deserved to be passed on to Paris. She became a reference point for Parisian savants interested in the natural history of the Neapolitan territory as well as for Neapolitans who sought international recognition. The analysis of her activities as a go-between who translated knowledge and connected distant communities provides a fascinating counterpoint to geographies of enlightened Europe that placed Italy, and especially the Kingdom of Naples, at the periphery of the Republic of Letters.[66] Not only does it show a Northern European interest in the geomorphology of the Neapolitan areas and in the opinions of Neapolitan savants; it highlights the responses of local communities to such interest and the negotiations through which encounters between locals and foreigners took place. Riding the wave of the ongoing exoticization of Naples and surrounding areas promoted by works such as William Hamilton's *Campi Phlegraei* (Naples, 1776) and Saint Non's *Picturesque Voyage*, local savants claimed their crucial role in providing access and information.[67] Ardinghelli was one of them. She was not the only local mediator who made transactions and encounters between distant communities possible, but she was the only woman to exercise such a role regularly. She did so by devising original strategies to maintain her intellectual status and authority. Her activities complicate what we know about the role of mediators and go-betweens in the travels of knowledge by adding the dimension of gender. As a woman, the only daughter of a disinherited patrician, she had to negotiate her place in the international

Archivio Notarile, Naples, *Notaio Iascone*, fol. 80 37/28 (last version, dated 1821). From her husband Ardinghelli inherited real estate and investments worth a total of 5,696 *ducati*, which brought her an annual income of 156 *ducati*; her own properties amounted to 2,241 *ducati*, yielding an annual income of about 260 *ducati*. Her mother's rented lands brought an annual income of only 22 *ducati*. As the widow of a functionary, she also received a pension from the state of 300 *ducati* each year: Archivio di Stato, Naples, Min. Finanze 1754, 20 July 1802 (letter from Ardinghelli to Giannoccoli). This amount was equivalent to the average salary of a university professor. Ardinghelli left most of her land to a religious charity in Naples; the land she inherited from her mother she left to the sons and daughters of a distant relative. It is likely that she distributed most of her personal possessions to friends while still alive. Her will lists a lawyer friend, Giacomo Brussone, as her executor; small presents were left to servants and to a younger friend, Caterina Castiglione, a learned woman poet, loved by the Neapolitan scholar Giuseppe Maria Galanti.

[65] Soon after her marriage, Ardinghelli worried about 1,600 *ducati* she had loaned to a Neapolitan gentleman who then fled Naples, to the despair of many investors. Given that her inheritance from her mother brought her only 22 *ducati* per year, we can conclude that Ardinghelli had her own revenues even before her marriage: Biblioteca Nazionale, Naples, MSS XX.71 (letters from Ardinghelli to Diodati), fol. 117.

[66] See Waquet, *Le modele français et l'Italie savante* (cit. n. 8), on French prejudices about Italian savants; see also Clark *et al.*, eds., *Sciences in Enlightened Europe* (cit. n. 13).

[67] Calaresu, "From the Street to Stereotype" (cit. n. 8); and Bertucci, *Viaggio nel paese delle meraviglie* (cit. n. 17), Ch. 10.

Republic of Letters as well as in her local context, dodging the perils of going public. She complied with contemporary rules of social behavior by constructing layers of selective visibility. As a result, she did not become invisible to her contemporaries. Quite the contrary: through a subtle game of showing and hiding, she carved out a safe space where she exerted intellectual and cultural authority, from Naples to Paris and back.