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The Unpublished Physical and Astronomical Notes of the Accademia del Cimento*

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Abstract: The Florentine Accademia del Cimento (1657-1667) stands as the first European academy of the Modern Era to prioritize experimentalism as the core of its scientific endeavours during its ten-year existence. Over the span of 1657 to 1667, the academicians carried out approximately a thousand experiments across more than 600 academic sessions. Their work prominently featured the use of scientific instruments and apparatus. While pneumatics and thermology took the lead as predominant research areas, the Cimento also devoted attention to exploring various physical phenomena such as sound and light propagation, and other domains, including astronomy, alchemy/chemistry, and others. However, only a fraction of this extensive body of work found its way into the sole official publication of the Cimento, the *Saggi di Naturali Esperienze* (1667). The rationale behind this selectivity remains a subject of ongoing inquiry and historical research. Fortunately, the experimental history of the Academy remains accessible through unpublished manuscript 'diaries' of the academic sessions, archived at the National Central Library in Florence. This essay aims to shed light on some of these physical and astronomical experiments, therefore contributing to the historiographical narrative that, over the past five decades, has delved into the experimental scientific pursuits of the Cimento.

Keywords: History of Physics, History of Astronomy, Accademia del Cimento, Scientific Academies

1. Introduction: the experimentalism at the Accademia del Cimento

The Florentine Accademia del Cimento, which existed from 1657 to 1667, was a pioneering European scientific academy that made experimentalism the cornerstone of its activities. Established under the patronage of Prince Leopoldo de' Medici (1617-1675) and Grand Duke of Tuscany Ferdinando II (1610-1670), this Academy operated without rigid structures, a constitution, headquarters, or a budget; it had a relatively short lifespan, disbanding in 1667, when Leopoldo was elected cardinal, and many academicians relocated.

Despite its extensive experimental work, most of which remained unpublished, only a fraction of it found its way into the sole official publication of the Cimento, the *Saggi di Naturali Esperienze* (1667), hereafter *Saggi*, leaving the reasons for this selectivity a subject of ongoing historical investigation. Fortunately, the history of the Academy's experimental program is preserved in the unpublished manuscripts at the National Central Library of Florence (Biblioteca Nazionale Centrale di Firenze, hereafter BNCF). The Galilean Fund of the BNCF is divided into five categories: "Anteriori," including the works of Vincenzo Galilei, "Galileo", "Contemporanei", containing documents from the Accademia dei Lincei, "Discepoli", and finally "Posteriori", which primarily includes sources related to the Accademia del Cimento (from Gal. 259 to Gal. 307). These documents include the so-called 'diaries' of the academic meetings (from Gal. 260 to Gal. 262), drafts of the *Saggi*, an assorted collection of "experimental physics", volumes on astronomy and meteorology, and extensive correspondence between academicians, external scholars, and members of the Medici family.

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A single codex, Gal. 260, brings together experiments conducted in 1657, 1658, 1660 and 1662, written by the secretaries Alessandro Segni (1633-1697) and Lorenzo Magalotti (1637-1712), as well as some Cimento's affiliates. Gal. 261 is the likely coeval copy of a diary regrouping experiments carried out from 19 June 1657 to 23 January 1658 and the drawings of the instruments and apparatus employed: the experiments are numbered. Finally, Gal. 262 is the only source covering the entire period of the Academy's activity (from 19 June 1657 to 5 March 1667): it is a late copy (likely eighteenth-century) of the original diary, unfortunately lost, written by an unknown hand, in beautiful handwriting and in two columns, one of which is devoted to the depiction of the instruments used. Analysis of these records helps to shed light on the natural philosophy's debates characteristic of Early Modern Europe, the application of a novel experimental method, the meticulous documentation of experiments (including failed ones), the significance of scientific instruments crafted by court artisans, the roles played by individual experimenters, and many other subjects of great importance for the history of science.

Despite the focus of historiography on the Cimento's research in pneumatics and thermology (topics prominently featured in the *Saggi*), a thorough examination of the manuscripts uncovers a more diverse array of investigations conducted by the Academy. This paper aims to provide a glimpse into the wide-ranging experimental endeavours undertaken by the Cimento, focusing on examples from the realms of physics and astronomy. Collectively, this uncharted territory promises to offer a more comprehensive perspective on the extensive and varied experimental activities of the Florentine Academy.

2. Physical unpublished experiments

The diaries document a wealth of experiments, approximately a thousand in total. While pneumatics and thermology were prominent areas of exploration, the Academy's agenda extended to other aspects of natural philosophy, including electrical and magnetic phenomena, as well as alchemy/chemistry and a limited number of inquiries into natural history. Demonstrating the versatility of their work, the Cimento members also ventured into the mixed mathematical disciplines of astronomy, optics, acoustics, and mechanics. These macro categories serve as a starting point for a more in-depth analysis of the Cimento's experiments, though they do not always neatly fit into a single classification. Furthermore, it's important to note that taxonomy and classes should be used cautiously, especially when examining periods prior to the professionalization of scientific disciplines.

2.1 Pneumatics

Historiography has extensively discussed pneumatic studies at the Cimento (Middleton 1971, pp. 263-270; Boschiero 2007, pp. 115-40; Giannini 2016), which included air pressure and the concept of "vacuum". These were between the most debated topics at the academic sessions, that also featured prominently in the *Saggi*. This experimental branch began with the famous mercury tube experiment of Evangelista Torricelli (1608-1647). Interpretations of this experiment led to heated European debates, raising questions about the nature of the space at the top of the tube. Was it truly a vacuum, contrary to Aristotelian beliefs, or did it imply the presence of an unknown substance? These questions were at the heart of discussions, but they are intentionally absent from the *Saggi*, which were drafted and compiled according to cautious editorial strategies. In addition to replicating Torricelli's work, the academicians introduced variations, and they explored the properties of mercury by immersing various substances in it and studying their buoyancy.[1] The Cimento didn't restrict itself to these inquiries but ventured into

[1] For instance, they investigated the capillary depression of mercury surfaces (BNCF, Ms. Gal. 261, c. 39r, experiment n. 95, 28 July 1657; BNCF, Ms. Gal. 260, c. 255r, 11 August 1657, also in BNCF, Ms. Gal. 262, c, 25r-v), its specific gravity (BNCF, Ms. Gal. 260, c. 255r, 12 August 1657, also in BNCF, Ms. Gal. 262, c. 25v) and the outflow of a jet of mercury from a cylinder (BNCF, Ms. Gal. 261, c. 42v, experiment n. 114, 13 August 1657).

observing different phenomena in vacuum conditions, including liquid droplets, amber and other electric substances, magnetic effects, sound propagation, invisible fire exhalations, smoke, water, snow, corals and pearls, and the effect of heat and cold.[2] They even investigated the behaviour of animals (flies, birds, lizards, spiders, fishes, eels, crabs, frogs, butterflies and crickets) within a vacuum.[3] Mathematician Vincenzo Viviani (1622-1703), one of the most eminent scholars affiliated with the Cimento, proposed the creation of a device capable of producing an exceptionally large vacuum, potentially housing a person.[4]

2.2 Thermology and meteorology

Some historians (Targioni Tozzetti 1780, pp 163-180; Middleton 1971, pp. 46-47, Boschiero 2005, p. 86) suggested that an informal Academy, with an unclear structure, is likely to be born already in the 1640s under Grand Duke Ferdinando II: although its exact nature remains somewhat obscure, manuscripts held at the BNCF suggest that it comprised the same individuals who would later constitute the Cimento. It is possible that certain sessions of the Grand Duke's Academy continued in parallel even after the establishment of the Cimento. In this context, experimental meteorology began in Florence with the refinement of the thermometer, barometer, and hygrometer. Following Ferdinando II's early interest in meteorology, dating back to 1654, the study of meteorological phenomena developed at the Accademia del Cimento and then continued more or less uninterrupted until 1667. There are ten Galilean folders (from Gal. 296 to Gal. 307) recording these experiments, including many instrumental measurements of air humidity.

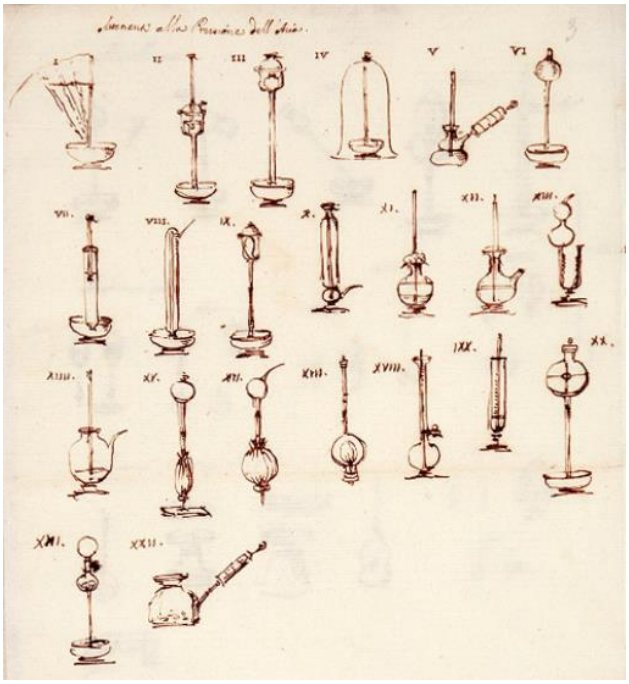

Fig. 1. BNCF, Ms. Gal. 270, c. 3r. By permission of the ministry of culture - National Central Library of Florence (BNCF). Any further reproduction by any means is prohibited.

Simultaneously, the Cimento delved into thermology (Middleton 1971, pp. 270-274; Boschiero 2007, pp. 141-178), conducting numerous experiments related to the properties of heat and cold, as well as natural freezing processes (*"agghiacciamenti"*), which are widely discussed in the *Saggi*. Leopoldo de' Medici played a significant role in this endeavour, not only encouraging his academicians to explore these topics but also proposing innovative experiments himself.[5] The versatile and malleable nature of glass, often used in the construction of scientific instruments, made it the primary material for over a thousand devices, such as the ones depicted in Fig. 1. The Museo Galileo in Florence still houses around a hundred glass artifacts used at the Cimento for scientific purposes, spanning pneumatics, thermology, meteorology, and other fields.

[2] The section "Esperienze varie fatte nel vuoto" (*Saggi*, 1667, pp. LXXVII-CXII) is dedicated to these experiments in a vacuum.
[3] The majority of experiments with various animals and insects in a vacuum were conducted in August 1662.
[4] BNCF, Ms. Gal. 260, c. 101v, 8 June 1660, also in: BNCF, Ms. Gal. 262, c. 73r.
[5] "Esperienza del Serenissimo Principe Leopoldo contro gli atomi frigoreri", BNCF, Ms. Gal. 260, c. 27r, 19 December 1657, also in: BNCF, Ms. Gal. 262, c. 49v.

2.3 Mechanics, optics and acoustics

While constituting a minority of the Academy's experiments, mixed mathematics disciplines such as optics, acoustics, mechanics, and astronomy warrant attention. Academicians investigated an array of topics, including the weight, specific gravity, and incompressibility of liquids, the movement of water in rivers, the behaviour of falling objects, and the motion and trajectory of projectiles, the latter also appearing in a section of the *Saggi* (pp. CCXXXXVII-CCLI). Almost everything that has been written about the Cimento so far concerns experimental mechanics.

Experimental optics at the Cimento was only approached in 2009 by the historian of science Susana Gómez, who mainly focused her attention to the observations appearing in the *Saggi* in the section dedicated to light and its 'movements' (pp. CCLXV-CCLXVII), neglecting the diaries. These published experiments explored fluorescence phenomena and the ignition of materials by reflection of light rays: being alchemical in nature, they exemplify the difficulty of using fields to classify the Cimento's activity in historical categories. The Academy possibly had little interest in optics (Middleton 1971, pp. 276-277), only performing abortive attempts to measure the speed of light (sometimes in analogy with the speed of sound and the experiment on reflection from a glass surface in vacuo, which are both published in the *Saggi* (pp. LXXXII and CCLXV). Additionally, studies of light propagation were carried out, involving the behaviour of flames observed through water-filled tubes, in different replicas and variants,[6] and the "second reflection" of candlelight from the back of a glass.[7]

Cimento's work in experimental acoustics was notable. The historian Luciano Boschiero (2007, pp. 52-55) considered the Academy's investigations into the speed of sound, which were central concerns for the potentially existent informal Academy of the Grand Duke, who was deeply interested in the topic. With an experiment carried out on 10 October 1656 and repeated two days later, Viviani demonstrated the equality of the speed of sound (i.e., the constancy of its speed regardless of the distance travelled), giving an estimate of the geographical distance between the Villa della Petraia and the Medici Palace.[8] Accurate results were obtained thanks to the use of two-wire pendulums with an oscillation period of half a second. Other participants involved in the acoustic observations were the physicist Giovanni Alfonso Borelli (1608-1679), Aristotelian Carlo Rinaldini (1615-1698), court artisans like watchmaker Johann Philipp Treffler (1625-1698) and members of the Medici family. The experimental findings of the 1650s and those obtained in the following decade were compiled within the *Saggi*, which include a section reserved to the propagation of sound and its speed (pp. CCXXXXI-CCXXXXV), well-estimated as 1 Tuscan Mile in 5 seconds.

A detailed examination of the manuscripts reveals that the acoustic experimental program in Florence was more complex. Particularly in the 1660s, the Cimento seemed more concerned, consistent with the wider interests of natural philosophy across Europe, with establishing whether sound propagated in water and in a vacuum. Experiments were typically performed using pocket clocks submerged in water or enclosed in vessels with controlled vacuum levels: the challenge was to prevent the sound source from contacting any solid material, like the vessel's walls. A more sophisticated version of an experiment recorded in the diaries, which made use of a rattle ringing in a vacuum, was included in the *Saggi* (pp. LXXXXVI-C).[9] Furthermore, the scholars tried to visualize the propagation of sound through

[6] BNCF, Ms. Gal. 260, c. 259r, 25 August 1657, also in: BNCF, Ms. Gal. 262, c. 28v, also (with different words) in: BNCF, Ms. Gal. 261, c. 93-94, n. 135, 26 August 1657. Variants of the experiment in: BNCF, Ms. Gal. 261, c. 40r, n. 100, 4 august 1657; BNCF, Ms. Gal. 261, c. 97, n. 148 (repetition of n. 135), 1 September 1657; BNCF, Ms. Gal. 260, c. 38r, 7 September 1657.

[7] BNCF, Ms. Gal. 262, c. 73r-v, 8 June 1660, also in: BNCF, Ms. Gal. 260, c.161r-v. On this occasion, they specifically mentioned Kepler's *Ad Vitellionem Paralipomena* (1604).

[8] Viviani, V. (no date). Letter to Ferdinando II de' Medici, no place. BNCF, Ms. Gal. 286, doc. 23, c. 39r-40r; Viviani, V. (no date – post 10 October 1656). Letter to unknown, no place. BNCF, Ms. Gal. 268, doc. 12, c. 155r-158v, 165r.

[9] BNCF, Ms. Gal. 263, c. 107r.

the ripples in the water that it created, in analogy with circles produced by a stone thrown into a liquid.[10] They were able to experimentally demonstrate, against ancient traditions and theories, that both the size and speed of the ripples were influenced by the stone's size and the force of its throw – the larger the stone and the stronger the throw, the quicker the circles reached the shore.[11]

2.4 Other experiments

Some experiments on the electrical properties of amber and various substances were conducted at the Cimento and are described in the *Saggi* (pp. CCXXVII-CCXXXIII). In the spring of 1667, the book was printed and delivered by Secretary Lorenzo Magalotti to the Royal Society. Henry Oldenburg (1618-1677) reported some of the original titles (in Italian) of the sections of the book, including experiments on air pressure, artificial freezing, compression of water, motion of sound, and others. He then informed Robert Boyle (1627-1691) that the Italians' 'pompous Book' lacked novelties in natural philosophy, except for a few observations on the electrical properties of amber and the practical use of sound to measure physical distances.[12] The Cimento also conducted experiments on magnetic attraction between magnets and needles, even with the interposition of various substances (such as sand, oil, paper, inflamed alcohol, and others), finding the attraction to be constant. In the *Saggi*, a section is devoted to magnetic phenomena (pp. CCXVII-CCXXV).

The academicians in Florence also focused on the behaviour of metals, described minerals and stones, obtained pigments such as tinctures made from roses, conducted distillation and combustion experiments on substances, and investigated colour changes in various liquid mixtures. These numerous observations can be categorized within the broader field of 'chymistry', spanning from alchemical to chemical practices.

Finally, the Cimento's program included an analysis, although not in great depth, of the nature of life, the structures and forms of living bodies, reflecting the growing importance of medical subjects in Europe since the early seventeenth century. Middleton (1981, p. 279) suggested that the naturalist Francesco Redi (1626-1687), who became the first physician at the court of the grand dukes of Tuscany in 1666, might have been the driving force behind such observations. This is particularly relevant to the 1660 experiment on the effects of snakebites, in which the academicians caused a viper to bite a rooster, revealing that the rooster's blood had clotted in the ventricles and the vena cava, resulting in suffocation.[13] Additionally, scholars used a microscope to observe animals such as flies, fleas, and worms, as well as to analyse extracts of red roses (frequently used in their alchemical experiments), fine dense cloth, and leaf galls.[14] Notably, all microscopic observations were carried out in the summer and fall of 1657. However, the records of botanical observations at the Cimento, as documented in the diaries, are relatively scarce. Similarly, there are limited references to geology in the same sources, with the only observation being related to a Vesuvius eruption in 1660, in which high clouds of smoke mixed

[10] BNCF, Ms. Gal. 261, c. 36r, n. 62, 5 July 1657, also (with different words) in; BNCF, Ms. Gal. 260, c. 244r.

[11] BNCF, Ms. Gal. 262, c. 132r, 18 January 1661 (corrected in pencil with the year 1662 by modern hand).

[12] "Meantime, I understand there is nothing new in it, as to us, except it be perhaps some experiments of Amber, and a way of making a mapp of a country by sounds." Oldenburg, H. ([1668]) Letter to Robert Boyle, London, 17 March 1667. Early Letters, EL/OB/85, The Royal Society Archives, London. See: Feingold (2009, p. 140, note 22). Even before receiving the richly bound copy, however, Oldenburg already reported to Robert Boyle the arrival of the book. See: Oldenburg, H. (1667 [1668]) Letters to Robert Boyle, London, 11, 18, 25 February and 3, 10 March. Early Letters, EL/OB/80-81-82-83-84, The Royal Society Archives, London.

[13] BNCF, Ms. Gal. 260, c. 109r-v, 28 June 1660, also in: BNCF, Ms. Gal. 262, c. 83r-84r.

[14] BNCF, Ms. Gal. 260, c. 49r, 3 August 1657 ; BNCF, Ms. Gal. 261, c. 40r, n. 102, 4 August 1657 ; BNCF, Ms. Gal. 260, c. 63r, 6 September 1657, also in: BNCF, Ms. Gal. 262, c. 31r-v ; BNCF, Ms. Gal. 261, c. 53r, n. 193, 9 October 1657 ; BNCF, Ms. Gal. 260, c. 49r, 13 August 1657 ; BNCF, Ms. Gal. 260, c. 47r, 4 September 1657 ; BNCF, Ms. Gal. 261, c. 47v, n. 161, 11 September 1657.

with ash silently rose from the previously opened craters of the volcano.[15] It is possible that the Medici considered experiments in the natural sciences as tangential to the Academy's primary goals.

3. Astronomical observations and notes

In contrast to the predominantly unpublished physics experiments, much has been explored regarding the Academy's astronomical activities, which are completely absent in the *Saggi*. Historians have primarily focused on two notable disputes in which the Cimento was involved. One of these disputes concerned telescopic observations of the planet Saturn (Van Helden 1973; Van Helden 1974; Boschiero 2005; Giannini 2019). The Dutch astronomer Christiaan Huygens' (1629-1695) interpretation of the Saturnian system, with its thin, detached ring, was met with skepticism by figures like the French Jesuit Honoré Fabri (1608-1688). The Cimento, led by Prince Leopoldo de' Medici, served as a scientific tribunal during this debate: the diaries reveal that some astronomical discussions took place on a few meetings. In July 1660 Huygens' *Systema Saturnium*, published in 1659 and dedicated to Leopoldo, and Eustachio Divini's (1610-1685) *Brevis annotatio in Systema Saturnium Christiani Eugenii* (1660), also dedicated to the prince, were read.[16] In the following months, two of the affiliated with the Academy, Giovanni Alfonso Borelli and Carlo Roberto Dati (1619-1676), discussed on these books.[17] Finally, September 1660 was a month fully devoted to direct observation of the planet aimed at solving the great dispute,[18] ultimately confirming the accuracy of Huygens' theories.

Another significant astronomical dispute in 1664, the '*paragone degli occhiali'* (Righini Bonelli & Van Helden 1981), involved a competition to determine the superior Italian telescope maker between Divini and Giuseppe Campani (1635-1715). Though the astronomical works of the Cimento have been considered by some historians as a digression initiated by Leopoldo for his personal satisfaction, other members of the Academy had an interest in astronomy. While the *Saggi* fail to mention of any astronomical studies, the Cimento engaged in various celestial observations, including comets, lunar and solar eclipses (Middleton 1971, pp. 256-62; Boschiero 2007, pp. 195-231), phases of Venus, and planets like Jupiter and Mars. The latter planet drew attention due to observations suggesting its rotation and the presence of surface features. While some members discussed this topic, it was never a primary focus of the Academy, and the astronomical observations of Mars conducted by the Cimento were never as precise as those of Giovanni Domenico Cassini (1625-1712).[19]

Finally, the academicians engaged in observing Jupiter's satellites, the so-called 'Medicean Stars', specifically their eclipses, occultations, conjunctions, and transits, using telescopes made by Campani.[20] In 1665, when Cassini visited Florence, seeking validation for his ephemerides,[21] the internal

[15] BNCF, Ms. Gal. 260, c. 112v, 22 July 1660.
[16] BNCF, Ms. Gal. 260, c. 119r-120v, 17 and 20 July 1660, also in: BNCF, Ms. Gal. 262, c. 93r-v.
[17] BNCF, Ms. Gal. 260, c. 129v, 132v, 7 and 17 August 1660, also in: BNCF, Ms. Gal. 262, 102r, 105r.
[18] BNCF, Ms. Gal. 260, c. 136v, 1 September 1660, also in: BNCF, Ms. Gal. 262, c. 109v-110r.
[19] "[…] discorsi et osservazioni del Sig.r D. Cassini sopra Marte li quali ora sento esser stati veduti e considerati da V.S. con molta avvedutezza, e se ho da parlare con sincerità, quantunque poco questo pianeta sia stato osservato da noi benché con occhiali perfetti, non però ci è riuscito il vedervi le macchie con tal distinzione da poterne formare un disegno ben aggiustato, onde concorro con V.S. di non meravigliarsi se vi sono controversie sopra la loro vera configurazione. Lasciando poi alla verità il giudizio di chi il primo ne sia stato il discopritore", in: de' Medici, L. (1666). Letter to Christiaan Huygens, no place, no day. BNCF, Ms. Gal. 282, doc. 114, c. 139r-140v.
[20] "Qua posso dirle che si son fatte molte osservazioni intorno a Giove, tanto circa l'ombre de' pianetini che l'ombre che sono fisse intorno, o sopra al disco del medesimo Giove" in: de' Medici, L. (1665). Letter to unknown, Florence, 8 may. BNCF, Ms. Gal. 282, doc. 88, c. 112r; Viviani, V. (1665). Letter to Leopoldo de' Medici, Sarteano, 5 July. BNCF, Ms. Gal. 277, doc. 142, c. 200r-201v; de' Medici, L. (1665). Letter to Vincenzo Viviani, Florence, 11 July. BNCF, Ms. Gal. 282, doc. 94, c. 119r-v.
[21] "Il Sig.r Cassini che è stato oggi qui […] mi prega a supplicar come fo reverentemente l'A.V. a fargli pervenire qualche notizia dell'osservazioni fatte […] con l'occhialone del [Giuseppe] Campani o d'altri, e particolarmente intorno a quell'ombre

correspondence between Leopoldo, Viviani and Borelli on this astronomical topic intensified, ultimately leading to Borelli's work *Theoricae Mediceorum Planetarium* (1666), commissioned by Ferdinando II and dedicated to him. The Cimento thus served as a testing ground for Cassini, who ultimately published in 1668 his new accurate ephemerides which shortly enabled a practical method to determine geographical coordinates, especially longitude, a theme that overlapped with discussions about the propagation of sound in Viviani's documents.

The reconstruction of this history of astronomical observations at the Court of Ferdinando II reveals a transition and an exchange of knowledge among scholars. It emphasizes the Cimento's dedication to confirming previously compiled tables, showcasing the Academy's receptivity to external influences and ideas. Furthermore, this case study illustrates that the Cimento's activities were not isolated but rather part of a broader dialogue with external scholars. The Academy welcomed external correspondents, including some of the foremost intellectuals of the time. For example, Cassini, though never being affiliated with the Cimento, received exceptional treatment and recognition from Prince Leopoldo. As he himself noted, it was an "inestimable honor"[22] to be recognized as a participant in the Cimento's meetings.

4. Conclusions

In conclusion, this study has unveiled previously unpublished or overlooked observations in the fields of astronomy and physics at the Accademia del Cimento. A comprehensive examination of these records, particularly the diaries, has helped to trace the origins of the Academy's experimental activity whether rooted in the interests of the Medici family or reflecting the natural philosophy debates characteristic of Early Modern Europe. The unpublished records also emphasize the role played by each scholar during the academic sessions, revealing different interests and inclinations. Although the *Saggi* do not credit the academicians by name, the manuscripts provide insight into their individual contributions, whether as proposers or executors of experiments. Furthermore, these documents underscore the importance and distinctiveness of the scientific instruments employed at the Medici court, which were indispensable for the Academy's experimental practices and were described as drawings and engravings both in the manuscripts and in the official publication.

In the realm of physics, the diaries reveal the meticulousness and precision with which the Cimento explored various physical phenomena, ranging from pneumatics and thermology to acoustics, and more. The paper also unravels some hitherto neglected aspects of astronomical observations, particularly the study of Jupiter's satellites, adding to our understanding of the Cimento's extensive and diverse experimental activities.

Incorporating these overlooked facets into the existing historiography of the Cimento enriches our comprehension of the Academy's tenure, revealing the collaborative, inquisitive nature of its work and its openness to external influences and ideas. Comprehensive reading and analysis of the manuscripts are still strongly needed to unveil new aspects of the Cimento's history.

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de pianetini sopra a Giove con ogn'altro ragguaglio circa quanto egli aveva pronosticato", in: Viviani, V. (1665). Letter to Leopoldo de' Medici, Sartiano, 29 July. BNCF, Ms. Gal. 277, doc. 149, c. 208r-209r.

[22] "Ricevo […] il prezioso tesoro delle esperienze stampate dalla sua nobilissima Accademia et insieme l'onore inestimabile d'esser annoverato fra quelli, a quali s'è degnata di parteciparle", in: Cassini, G.D. (no date). Letter to Leopoldo de' Medici, Bologna. BNCF, Ms. Gal. 280, doc. 44, c. 87r.

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