

TRANSMISSION OF SCIENTIFIC KNOWLEDGE AND EDITORIAL POLICY  
AT TURIN ACADEMY OF SCIENCES IN THE 18<sup>th</sup> CENTURY

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In the Shadow of the Court : The Birth and Development of Turin Academy of Sciences

In 1757, the mathematician Joseph-Louis Lagrange, the physician Gianfrancesco Cigna, and the chemist Angelo Saluzzo, founded a *Società Privata Torinese* in Turin, the nucleus of Turin Academy of Sciences, with the encyclopaedic aim of broadening studies on mathematics and natural sciences<sup>1</sup>. From the time it was created, this Society was one of the most dynamic cultural centres of Piedmont, recently animated by the Enlightenment. Its members met weekly in Saluzzo's home<sup>2</sup>, to discuss their research and share readings and news selected from learned journals and various correspondences. In 1759, just two years after its foundation, the Society published a volume of *Miscellanea philosophico-mathematica*. Pleased with the success of this first editorial enterprise, the founders dedicated an *Ébauche de projet pour l'établissement d'une Académie royale des sciences à Turin* to Prince Vittorio Amedeo III (1760)<sup>3</sup>. The moment was

1. On the history of the Turin Academy of Sciences from its foundation until the 20<sup>th</sup> century, see Vincenzo Ferrone, "La Reale Accademia delle Scienze di Torino: le premesse e la fondazione", in *I due primi secoli della Accademia delle Scienze di Torino, Proceedings of the Congress held in Turin, 10-12 November 1983*, v. 1, *Realtà Accademica Piemontese dal Settecento allo Stato unitario*, Atti della Accademia delle Scienze di Torino, Classe di Scienze Morali, Storiche e Filologiche, 1985, Suppl. v. 119, pp. 37-62; id., *La nuova Atlantide e i lumi. Scienza e Politica nel Piemonte di Vittorio Amedeo III*, Torino, Meynier, 1988; id., "The Accademia Reale delle Scienze: Cultural Sociability and Men of Letters in Turin of the Enlightenment under Vittorio Amedeo III", *The Journal of Modern History* 79, 1998, pp. 519-560.

2. Piedmont had a lively tradition of domestic scientific cenacles, for example, Francesco Antonio Garro's Academy founded in 1748 (cf. Ferrone, in *Proceedings*, p. 39). This tradition will survive until the end of the nineteenth century, with the home cabinets of Michele Lessona and Cesare Lombroso, as well as with home-teaching for women lead by Francesco Faà di Bruno. Cf. Pietro Passerin d'Entrèves, "Michele Lessona, naturaliste de salon", *Quaderni di Storia dell'Università di Torino*, I, 1, 1996, pp. 3-19; Paola Govoni, "Adele Masi Lessona and Valeria Babini, Paola Lombroso, Gina Lombroso", in Luciano Erika & Roero Clara Silvia (ed.), *Numeri, Atomi e Alambicchi. Donne e Scienza in Piemonte dal 1840 al 1960*, Parte I, Torino, Centro Studi e Documentazione Pensiero Femminile, 2008, pp. 8-14; 32-40; Livia Giacardi (ed.), *Francesco Faà di Bruno. Ricerca scientifica, insegnamento e divulgazione*, Torino, Deputazione Subalpina di Storia Patria, 2004, pp. 288-289.

3. Antonio Manno, *Il primo secolo della Reale Accademia delle Scienze di Torino. Notizie Storiche e Bibliografiche, 1783-1883*, Torino, Paravia, 1883, pp. 7-14.

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propitious: Turin was experiencing a cultural renaissance of sorts, with the restyling of the University<sup>4</sup> and the ascent to the throne of Vittorio Amedeo III<sup>5</sup>. Lagrange, Cigna, and Saluzzo asked the Prince to sponsor a project that would be advantageous for the improvement of the sciences in Piedmont. As a result, Turin Academy entered into a close relationship with the Savoyard Court, that would be maintained throughout the first period of its existence<sup>6</sup>. Lagrange, Saluzzo, and Cigna's request to the Prince was partially satisfied and the *Società Privata Torinese* was granted the honorary title of *Royal*. In 1783, the international reputation of the Society was sanctioned by the Savoyard court and was granted the title of *Accademia Reale delle Scienze*<sup>7</sup>. The court presented the new Academy with an endowment of 12,000 lire, two thirds of which were destined for the publication of the academic *Mémoires* and the purchase of books<sup>8</sup>.

The transformation of the Royal Scientific Society into a structured Academy required a new set of *Regulations*, which was drawn in 1783<sup>9</sup>. The Secretariat had the responsibility of making public the activities of the Academy and undertook the task of keeping the Academy informed about cultural activities in Italy and abroad through the help of its members, while Turin Academy willingly acted as an intermediary for the diffusion of experiments, inventions, and technical knowledge, and demonstrated its appreciation for technicians who had spent a trial period abroad by hiring them to run its laboratory and the observatory<sup>10</sup>.

4. From the 1770s, the Turin Academy influenced the cultural development of mathematics and sciences, while at the University a certain conformity persisted. Cf. Patrizia Delpiano, "Il mestiere di docente nel Piemonte del Settecento", *Quaderni di Storia dell'Università di Torino*, I, 1, 1996, pp. 133-155, and id., *Il trono e la cattedra. Istruzione e formazione dell'élite nel Piemonte del Settecento*, Torino, Deputazione Subalpina di Storia Patria, 1997.

5. Vittorio Amedeo's predilection for scientific studies is well known. Moreover, the Prince's Preceptor, Marquis de Fleury, was an influential middleman between the Court and the developing Academy. Signs of cultural openness towards scientific knowledge had also been demonstrated by Carlo Emanuele III. For example, he asked Jean-Antoine Nollet and then G. Beccaria to deliver a Physics' course to his sons and the noblemen of Turin. Cf. Paola Bertucci, *Viaggio nel paese delle meraviglie. Scienza e curiosità nell'Italia del Settecento*, Torino, Bollati Boringhieri, 2007, pp. 59-63; 172-178 and C. Silvia Roero, "Giambattista Beccaria, Physicist and Astronomer of the Savoy", in Anna Curir (ed.), *Observing the Stars: 250 Years of Astronomy in Turin*, Cinisello Balsamo (MI), Silvana ed., 2009, pp. 95-111.

6. The link between political power and scientific life in Piedmont during the Enlightenment is illustrated in Giuseppe Giarrizzo, "Le istituzioni culturali piemontesi nella realtà Europea del '700" and Marco Cerruti, "Intelletuali e potere nel Piemonte napoleonico" in *Proceedings*, pp. 23-36; 121-133.

7. *Lettere-patenti, colle quali è stabilita in Torino una Reale Accademia delle Scienze, e sono approvati gli annessi Regolamento ed Elenco de' suoi Membri*, in Manno, *Il primo secolo*, pp. 14-15.

8. *Regio Biglietto, col quale si assegna alla Reale Accademia delle Scienze l'annua dote di lire dodicimila*, in Manno, *Il primo secolo*, p. 23.

9. Cf. Manno, *Il primo secolo*, pp. 16-19.

10. Cf. *Minutes*, III, 1, 16, pp. 242-243: "[...] because the young manufacturer of mathematical instruments Carlo Rogero of Verolengo has come back from London, where he followed a proficient apprenticeship, working for two years under the direction of the celebrated Ramsden, it would be useful for the improvement of his own country's sciences and arts and for the Academy's demand of the construction of physical and astronomical equipments, that he should be appointed in Turin and that he should be provided with the necessary tools and with a small laboratory".

## The Academic Series

It is undeniable that the best account of the Academy's activities and, at the same time, its faithful depiction, was due to the publication of the following series: the *Miscellanea* (1759), the *Mélanges* (1760-1773), and the *Mémoires* (1784-). As the publishing hub of an academic institution, every aspect of the editorial process was strictly controlled by the Regulations<sup>11</sup>, although some features changed in the course of time or were repeatedly discussed in the sessions. The printing was entrusted to the printer and bookseller Gian Michele Briolo. In the 19<sup>th</sup> century it would be handled by Loescher Publishing Company, and the volumes were then printed by the typographer Paravia. The publication of such ambitious volumes (*in quarto* format, over three hundreds of pages for each one, with tables, diagrams, drawings, and engraved decorations) required remarkable financial funding, but the production costs were almost entirely supported by endowments granted from the Savoy. The activities of editorship as well as the supervision of its technical aspects were shouldered by the editor-in-chief (Direttore della Stampa delle opere accademiche e delle corrispondenze), Giuseppe Maria Boccardi, appointed in 1783, whose role was permanent. Every year he negotiated the economic terms of the contract with the printers<sup>12</sup>. Boccardi was also responsible for the preservation of manuscripts and drafts; he checked their correct typographical reproduction, fixed the terms of payment after the printing of the volumes, supervised the delivery of the issues and their layaway plan<sup>13</sup>.

At the beginning of each year, the President was required to draw the schedule of activities. Each member had to indicate his intention to present a work for publication in the next issue, and to specify the topic<sup>14</sup>. A deadline date was never specified and an academician could decide to postpone or renounce the submission. For instance, according to the report inserted in the *Lettres Patentés* of 1760, Luigi F. Arnulfi, Giuseppe A. Bruni, Vittorio F. Molineri, Michele A. Piazza, and Ludovico Richeri had promised to publish essays in the second volume of *Mélanges*, but only Richeri's paper appeared, as the other four withdrew their original proposals<sup>15</sup>. All the writings presented for publication had to be read in the next session by the author in person, or by a resident member. The memoranda were read according to the seniority of the relevant promoters and the Academy members could decide to interrupt the reading of writings on mathematics and physics in order to request more time to examine the work in further detail<sup>16</sup>.

11. *Lettere-patenti ... , Regolamento*, Manno, *Il primo secolo*, Art. 5, 6, 7, 8, p. 16; Art. 9, 11, pp. 16-17; Art. 21, p. 18.

12. Cf. *Minutes*, III, 1, 15, pp. 15; 310 and *Minutes*, III, 1, 16, p. 259.

13. Cf. *Lettere-patenti ... , Regolamento*, Manno, *Il primo secolo*, Art. 2, p. 16; Art. 35, p. 19 and *Minutes*, III, 1, 15, pp. 6; 79.

14. *Lettere-patenti ... , Regolamento*, Art. 5, 6, Manno, *ibid.*, p. 16.

15. Cf. Manno, *ibid.*, p. 12.

16. Cf. *Minutes*, III, 1, 15, pp. 136; 245.

The memoirs could be inserted in the issue without specifying the date of the submission. Editing procedures of the articles were not particularly efficient, as can be observed from the memoirs where the date is specified. Moreover, the publication of the volumes was irregular, particularly in the early periods<sup>17</sup>. For example, following the publication of the *Miscellanea* (1759) and the first volume of *Mélanges* (1761), the second volume of *Mélanges* took five years and eventually appeared in 1766; the next issue was published in 1769 after some delay due to Lagrange's transfer to Berlin. In 1767, Leonhard Euler was awaiting the publication of this issue, as he said in a letter to Lagrange:

“J'attens avec la dernière impatience le troisième Volume des Mémoires de l'Académie de Turin, que je crains beaucoup qu'il ne soit le dernier, tant à cause de votre absence, que parce que M.r Cigna est aussi disposé de quitter”<sup>18</sup>.

As Euler had predicted, the publication of *Mélanges* stopped in 1773 and began again ten years later. During this time, the activities of the Society were interrupted. As a result of the honorary title of Royal Academy, in 1784 the new series of the *Mémoires* was inaugurated and, by 1792, five volumes of the series had been published. This was followed by another disruption in the publication, due to the French Revolution. Publishing was resumed in 1801, after the restoration of the Savoys, and would continue until the present day with issues generally appearing on an annual basis.

One of the questions most frequently discussed in the academic sessions concerned the language of publication. In 1783, the Academy established that the academic publications could include papers in Latin, French, and Italian, while the handwritten minutes had to be written in Latin<sup>19</sup>. This last regulation was the subject of lively discussion and the final regulation determined that the Secretary could choose to edit in French both the “Avant-propos historique” and any official documents. In the *Miscellanea* and the *Mélanges*, 82 memoirs appeared, amongst which 30 papers were written in Latin and 52 in French. In the *Mémoi-*

17. Cf. *Minutes*, III, 1, 15, pp. 2; 125; 135; 147; 183-184; 220-21. Between 1750 and 1786, the Academy decided to modify the order of its publications, anticipating or delaying the editing of a memoir according to the author's prestige.

18. L. Euler to J.L. Lagrange, 9.1.1767, in Leonhard Euler, *Correspondance, Briefwechsel V, Leonhardi Euleri Commercium Epistolicum cum A.C. Clairaut, J. d'Alembert et J.L. Lagrange*, Basel, Birkhäuser, 1980, p. 457. Cf. also J.L. Lagrange to L. Euler, 29.10.1767 and 9.1.1767, *ibid.*, 1980, pp. 460; 468.

19. Cf. *Minutes*, III, 1, 15, p. 2: “The Academy established unanimously that it will be possible to read and publish works written in Italian”; p. 44: “The language was discussed again by the Secretary of the *Atti* and the Academy decided that the Secretary had to write them in Latin”; p. 82: “As suggested by the President, the Vice-President proposed a re-examination of the resolution of March, 7<sup>th</sup>, n° 7 and remarked that it was more suitable to publish the *History* and the Academy's *Atti* in French. The Academy decided to leave this decision to the Secretary”; *Minutes*, III, 1, 16, pp. 20-21: “The Secretary read a part of his *Memorie Storiche*, written in French, which included all the main academic activities for the four years 1786, 87, 88, 89, and which will be appended at the beginning of the issue, which is currently in press”.

*res*, French was the primary language of expression – as was the case in the majority of learned elite journals of Piedmont – and explicitly encouraged by the Savoyard court<sup>20</sup>: of the 188 memoirs, only 14 were written in Latin and the majority of those works concerned botany and anatomy. It is interesting to note that Gregorio Fontana was the first to publish essays in Italian, beginning in 1802.

In order to mitigate the editor-in-chief duties, the Academy took into consideration two different proposals for hiring a translator and an interpreter. In 1787, the Swiss scholar, Ignazio Imfeld, applied as a translation assistant of German articles into Italian and French, as well as to handle correspondence with German-speaking members. However, the Academy decided to renounce such a permanent position, deciding for a temporary contract of employment. Similarly, in 1798, the Swiss military chaplain Antonio Holoeger, offered the Academy his services free of charge as an interpreter of German and French idioms:

“The Perpetual Secretary himself communicated that the priest M. Antonio Holoeger, military chaplain in the German regiment of Brempt and Swiss gentleman of the canton of Lucerna, presuming that in the Academy there was a position of Secretary and interpreter of the correspondence written in German and French, desired to be appointed to it. To this purpose, he sent a curriculum, where he remarked that his service in the aforementioned regiment did not prevent him from accepting this task and that he did not look for a fixed contract of employment. The Secretary replied that the Academy did not have such a position. Notwithstanding this, he would have informed the Academy about it [...]”<sup>21</sup>.

On occasion, the Academy's members could be entrusted with the translation of articles and correspondence or to help find an appropriate translator through their network of acquaintances: in 1794, the Academy faced the difficult task of translating Franz Joachim von Aken's works from Swedish into French<sup>22</sup>.

In Turin academic series great attention was paid to diagrams and drawings, whose role was crucial for the description of experiments and inventions, in botanical and entomological catalogues as well as in mathematical works<sup>23</sup>. The quality of the images was excellent. In some cases, the illustrations were placed directly within the written text. Coloured pictures were considered a novelty at the time and there were a total of 8 in the 18<sup>th</sup> century academic issues; the first was published in 1790 and it represented a cyanometer designed by Horace B. de Saussure. In this context, it is important to underline that the editor of the aca-

20. Cf. Gian Luigi Beccaria, “Intellettuali, Accademie e questione della lingua in Piemonte fra sette e ottocento”, in *Proceedings*, pp. 135-161.

21. *Minutes*, III, 1, 16, p. 299. The *Battaglione Alemanno Brempt di Torino* was part of the Austro-Piemontese army.

22. Cf. *Minutes*, III, 1, 15, p. 121 and *Minutes*, III, 1, 16, p. 243.

23. Diagrams and drawings were presented and illustrated during the sessions. Cf. *Minutes*, III, 1, 15, pp. 147; 164; 216; *Minutes*, III, 1, 16, pp. 149; 151. A selection of these diagrams was presented to the King of Sweden during his visit to Turin in 1784 (cf. *Minutes*, III, 1, 15, p. 73).



demical issues, Briolo, had a remarkable experience as regards the iconographical aspects: in fact, he had maintained a long-standing collaboration with the botanist Carlo Allioni, founding member of Turin Academy of Sciences, and with the network of *pittori botanici* that he had trained<sup>24</sup>. The elegant ornamental patterns that enriched the *Miscellanea* and the *Mélanges* at the opening and the conclusion of individual papers disappeared after the publication of the third volume of the *Mélanges*; only the decoration of the Academy insignia on the title page were left. The graphics and the format would be changed again in the *Mémoires* series: the style of the *mise en page* was modernized, while pictures and diagrams were entrusted to a board of designers who modified their dimensions and structures by inserting references and manuscript captions.

#### The Authors and the Contents

Analyzing the authors of *Mélanges* and *Mémoires* means analyzing the composition of the Academy, since these publications accepted only contributions from members<sup>25</sup>. From the time of its inception, the cosmopolitan approach was one of the characteristic features of Turin Academy of Sciences: twelve foreign members were admitted into its ranks. The Academy membership was meant to include twenty Italians and twenty foreigners<sup>26</sup>. On the year of its foundation, the Academy included French, German, Swiss, Russian, Danish, and American students, who were distributed in the different fields of research. Between 1797 and 1798, the diversity of nationalities represented in the Academy was further enriched by the membership of Swedish, Austrian, and English members<sup>27</sup>. Thanks to a broad network of epistolary relationships by Joseph-Louis Lagrange, Angelo Saluzzo, Carlo Allioni, Carlo Lodovico Morozzo, among others, scientists of high standing at an international level, such as Jean le Rond d'Alembert, Jean-Antoine Condorcet, Leonhard Euler, Gaspard Monge, Pierre S. Laplace, Albrecht Haller, Antoine G. Monnet, Otto F. Müller, James Smith, Jacob Spielmann, and Johann J. Ferber, joined the Society. This marked the beginning of several fruitful collaborations and regular contributions for publication in the Academy's series. From 1759 to 1800, the geographical origins of the authors can be outlined as follows: Italian members were 141, foreign members 43. No women are to be found among the authors.

24. Briolo also published Allioni's well-known *Flora Pedemontana* (1785), an impressive iconography of flora in Savoyard territories. Cf. Francesca Bagliani, *La corrispondenza di Carlo Allioni (1728-1894). Territorio, Flora e giardini nei rapporti internazionali del "Linneo piemontese"*, Torino, Deputazione Subalpina di Storia Patria, 2008, pp. 28-30.

25. In the first period, membership was a prerequisite in order to submit a work for publication. However, in the 19<sup>th</sup> and 20<sup>th</sup> centuries, the Academy also accepted works by non-members, if submitted by a resident member.

26. *Projet de Lettres-Patentes*, Art. 6 and *Lettere-patenti ... , Regolamento*, Art. 1, Manno, *Il primo secolo*, pp. 10; 16. It is interesting to note that this international opening surpassed that of the Paris Academy. This influential aspect of the Academy remained substantially unchanged in time except for a downward trend in 1797 when the number of foreign members decreased to fourteen.

27. Cf. "Prospetto dei membri dell'Accademia 1798", *Archives of AST*, IV, 1, 95, c. nn.

The social distribution of authors was representative of the Piedmontese cultural background at the time: the authors were professors at the University, noblemen (19), members of the clergy (11), and members of the technologically trained elite working with the government (engineers, physicians, military men, and lawyers). In the 18<sup>th</sup> century, many of the Society's members belonged to Turin Masonic lodge<sup>28</sup>. It is interesting to note that religious minorities, such as Waldenses and Jews were not excluded from membership into the Society. Moreover, it is crucial to mention the fundamental contribution of correspondent members, whose numbers had reached 267 by the end of the 18<sup>th</sup> century<sup>29</sup>. They contributed to the academic activities in a variety of different ways: for instance, Haller systematically sent to Turin, through Allioni, some of the seeds he received from Europe in order to facilitate the Society's research activity in botany<sup>30</sup>. Other members submitted the programs of foreign Academies to which they belonged and communicated news about research, patents, observations, and experiments to the Society's members<sup>31</sup>.

Correspondent members could submit their work to the Academy, but they needed to pass the examination of a board comprised of three national academicians, and according to the rules their papers were to be published in a specific section at the end of each issue or in a separate volume – the latter never occurred. According to the convenience and the reputation of the author, the Academy could decide to name an examining board for the evaluation of a particular work. In this case, the referees had a week to analyse the paper and express, in strict confidentiality, their judgement on the publication. The entire procedure was anonymous. In order to be accepted for publication, the works had to receive 4/5 of the votes of the academicians.

Possibly to avoid censorship, the founders specified that the works had to avoid theological, political and even historical and literary research, as these areas of scholarship were considered "vaines sciences auxquelles on s'étoit malheureusement adonné"<sup>32</sup>. Moreover, the Règlement of 1783 insisted that Mathemat-

28. Cf. Giuseppe Giarrizzo, "Le istituzioni culturali piemontesi nella realtà Europea del '700", in *Proceedings*, pp. 27-28.

29. Cf. *Elenchi Accademici*, Manno, *Il primo secolo*, pp. 189-198. In the Archives of the Turin Academy there is an address book (*Elenco degli accademici dalla data della fondazione al 1879, Archives of AST*, IV, 1, 94) that allows us to reconstruct the networks of international collaborations established between 1783 and 1798. On each page there is the name of one of the Academy's resident members, including a list of foreign and national correspondents with whom he was in contact.

30. Cf. Bagliani, *La corrispondenza*, p. 124. In Allioni's correspondence (pp. 89; 113; 199; 222), there were many other sources concerning the Academy's life. For example, Gabriele Brunelli follows the transformation of the Royal Society in a structured Academy; Paul Gausson de Chapeaurouge and Jean F. Séguier requested Allioni's help in order to access to the Academy's ranks, and Tommaso Verani congratulated Allioni for his appointment to the Academy's treasury.

31. E.g., Jacob II Bernoulli kept Turin Academy informed about the activities of the Petersburg Academy (*Minutes*, III, 1, 15, p. 215). Cf. also *Minutes*, III, 1, 15, p. 284; *Minutes*, III, 1, 16, pp. 77; 178. These programs were alternatively read in the sessions by national academicians. For a brief catalogue of research, patents, observations, and experiments communicated to the Academy through its correspondent members rather than a detailed analysis, see *Minutes*, III, 1, 15, pp. 13-14; 78; 81; 164; 191; 277; 292; 308; 322; *Minutes*, III, 1, 16, pp. 6; 9; 49-50; 71; 86; 136; 156.

32. *Ébauche de projet ...*, Manno, *Il primo secolo*, p. 7. Cf. also *Projet de Lettres-Patentes*, Art. 2, *Lettere-patenti ... , Regolamento*, Art. 3, *ibid.*, pp. 9, 16.

ics, Physics<sup>33</sup>, and Natural Sciences were the only fields of research eligible for publication. Papers discussing religion, politics, and moral issues would not be accepted and any discipline involving "occasioni di inciampo" (causes of difficulty) would be excluded. Notwithstanding the title *Mélanges de philosophie et de mathématique*, works in philosophy and metaphysics were rare, even if they were not rejected *a priori*. Moreover, all the members had to obtain specific approval in order to publish their works under the qualification of the Academy. The President or, if necessary, the Vice-president, was the only member who could practice an internal censorship: he had the responsibility of examining, approving or rejecting any memoir "with all the prudence that the honour of the Academy and the safety of the government required"<sup>34</sup>. However, such an activity is hardly recognisable in the evaluation of works discussing mathematics, natural sciences, medicine, engineering, and botany<sup>35</sup>.

According to the editorial policy respected by the Academy, the volumes consisted of both articles and correspondence. Controversial articles were not allowed; neither were reviews, translations or abstracts of papers published elsewhere, announcements for books, eulogies or obituaries. In particular, the papers had to present original contents (public issues were favoured, according to the academic motto *Veritas et Utilitas*), which had to be defended and explained in extensive detail.

It is difficult to determine if the procedures of evaluation, or forms of inner censorship or ostracism, were directed against specific authors and/or scientific trends<sup>36</sup>. On the contrary, a form of editorial guidance was clear and a few disciplines were systematically excluded as they were deemed to be not pertinent to the Academy works. This was the case for the works of practical medicine, oculistics, eye surgery, and meteorology<sup>37</sup>. The examining board frequently refused the publication of contents that did not match editorial policies, for example if the

33. In the *Minutes*, III, 1, 15, p. 15: "About the question concerning what the *Reglement* intend under the name of Physics, the Academy deemed that Physics includes Anatomy, Physiology, Chemistry, Astronomy, Geography, Nautical science, Agriculture and Natural History in their more ample meaning".

34. "Riflessioni intorno ai regolamenti accademici del signor conte di Saluzzo", *Archives of AST*, Fondo Origini.

35. With regards to botany, Bagliani (*La corrispondenza*, p. 4) writes: "... this new science, the Botany, did not worry and did not threaten the last season of the *ancien régime*. So Turin, with the figure of Carlo Allioni, could become the centre of a research movement that used the experimental method but, differently from other researchers – i.e. the abbot Spallanzani with his confutation of the theory of the spontaneous generation – did not hazard the truthfulness of the prevalent teaching".

36. Cf. *Minutes*, III, 1, 15, pp. 14-15; 45; 56-57; 93; 102; 136; 141; 150-151; 165-66; 185; 237; 290; 294; 297; 322; 323; *Minutes*, III, 1, 16, pp. 86; 189-190; 203-204; 207; 210.

37. Cf. *Minutes*, III, 1, 15, pp. 15; 102: "After the reading of a memoir by the Doctor Marini from Savigliano about the use of olive oil in the treatment of the *Artritiidi vaghe*, the Academy deemed that this paper was extremely interesting and praiseworthy but it could not be accepted in the academic publications because it concerned the mere applied medicine"; "Brugnone, as referee with Penchienati, referred on the memoir *Oculiste Observateur* which was presented to the Academy by the author, Mister Gleisse, oculist of the earl of Artois. The referees deemed that this memoir scarcely described surgical operations for putting down and pulling out of cataracts, with remarks on two operating ways. It pertained exclusively the Surgery and so lie outside the Academic research interests. Besides the paper was affected by many significant faults. The Academy judged that it was necessary to answer the author that the subject of his paper, as any other one of mere Medicine and Surgery, exceed the research themes that our Academy fixed as its bond".

work was considered too polemical<sup>38</sup> or if it lacked originality. Memoirs concerning natural sciences, chemistry, and physics had to be supported by a set of observations, data, and experimental evidences, so that they would not be rejected for publication<sup>39</sup>. In fact, there were several notorious instances of programmatic exclusion, as it happened in the field of chemistry, regarding Lavoisier's theories<sup>40</sup>.

It is not possible to examine the single contents of the academic issues concerning their variety and complexity, so we will trace a mere outline<sup>41</sup>. Following the changes in the editorial board, the publication of mathematical works, which was predominant in *Miscellanea* and the *Mélanges*, declined both in number and in quality after 1786. As regards the other disciplines, the first systematic astronomical, climatic, and meteorological surveys were organized in the Academy specola by the members Ignazio Somis and Antonio M. Vassalli Eandi, and subsequently published as part of the academic series. In the field of botany, the Academy members played a central role at an international level thanks to Allioni and his pupils, who spread the new approach of Carl Linnaeus, applying his nomenclature to the flora of Savoyard territories in the *Mémoires*<sup>42</sup>. Cigna and Saluzzo's research in chemistry, edited in the *Mélanges* and *Mémoires*, was praised in Italy and abroad and provided significant contributions to the combustion phenomena while Giovanni A. Giobert was one of the first Italian scholars who understood, accepted, and spread Lavoisier's work in the academic issues<sup>43</sup>. Nicolis de Robilant's *Viaggi mineralogici e metallurgici* marked the beginning of systematic exploration of the territory for metallurgy in Turin. Finally, the contribution of the Academy was essential for technological advancement also because

38. Cf. *Minutes*, III, 1, 16, pp. 189-190.

39. Cf. *Minutes*, III, 1, 15, p. 294: "Bonvicino read another report, drafted with Fontana, on a paper by Foderé ... The referees concluded that the memoir was commendable for the philosophical views there exposed but it could not be accepted for the publication without repeating the experiments and confirming their accuracy, the conclusions being opposite to those of more celebrated authors". Three memoirs by Amedeo Avogadro were rejected for analogous reasons in the first years of the 19<sup>th</sup> century. Cf. Marco Ciardi, *La fine dei privilegi. Scienze fisiche, tecnologia e istituzioni scientifiche sabaude nel Risorgimento*, Firenze, Olschki, 1999, pp. 19-29 and Marco Ciardi, *Tre manoscritti inediti di Amedeo Avogadro*, Firenze, Olschki, 2006.

40. Cf. *Minutes*, III, 1, 15, p. 237: "The President read a memoir of our member De Morveau, entitled "Mémoire sur la saturation des sels". With 13 votes against 2 it was judged that this paper could be accepted for publication in the academic volumes, but with the warning that each term of the new chemical nomenclature which had been used there had to be placed side by side with the common synonymous that the President had already indicated". Cf. also *Minutes*, III, 1, 15, p. 206.

41. See the detailed reports by Tullio Viola, Franco Fava, Dionigi Galletto, Mario Milone and Gaetano Di Modica, Giovanni Jarre, Rosalino Sacchi, Germano Rigault, Valdo Mazzi, Arturo Cerruti and Silvano Scannerini, Paola Sereno in *Proceedings*, Suppl. v. 121 and Academy of Sciences of Turin (ed.), *torinoscienza.it/accademia*, *Portale dell'Accademia delle Scienze di Torino sulle Scienze in Piemonte*, Torino, 2005.

42. Allioni applied, for the first time, the binomial nomenclature in his work, "Synopsis Methodica Stirpium Horti Taurinensis", published in the *Mélanges de Philosophie et de Mathématique*, 1760-61, pp. 48-76.

43. Cf. Raffaella Seligardi, *Lavoisier in Italia. La comunità scientifica italiana e la rivoluzione chimica*, Firenze, Olschki, 2002, pp. 97-130.



of its prize-winning competitions: the awards were recorded in the academic series.

The ascent of Napoleon gave rise to a complete reform of the Academy. A new class of Literature and Fine Arts was created in 1800, membership increased, and the title of *Accademia Nazionale* was adopted<sup>44</sup>. All of these changes were evident in the publication of two volumes of *Mémoires* in 1802 and 1803, which included essays on history, geography, Eastern philology, and rhetoric.

#### The Transfer of Knowledge

From 1759, Turin Academy of Sciences expressly aimed at reaching a broader audience and a wider geographical circulation for its volumes. The *Miscellanea* was delivered to many scientists and institutions in Italy and abroad. These issues enjoyed a good success, as confirmed by the following remarks in the *Lettres patentes* by Vittorio Amedeo III:

“As soon as the virtuous Turin Society communicated to the public the first valuable essays of its activities, that spread everywhere the fame of its name, in a short time the most important European scholars felt honoured by entering this meritorious Society”<sup>45</sup>.

The *Miscellanea* was announced in the *Nuovo Giornale de' Letterati d'Italia*<sup>46</sup> and a list of its contents was inserted in the *Collection académique*, where the *Società Privata Torinese* was praised because it seemed “animée de cet esprit philosophique qui ne marche qu'avec le flambeau de l'expérience”<sup>47</sup>. The positive reactions to the high scientific standards, the seriousness with which topics were addressed, and the impressive typographical layout are clearly emphasised in Euler's correspondence with Lagrange<sup>48</sup>. In autumn 1759, Lagrange thanked Euler for his “honorable judgement” of the *Miscellanea* and remarked upon his collaboration in this editorial enterprise with the eminent naturalist, Haller. Lagrange urged his Swiss colleague to propose his own works for publication in the following issue:

“Le succès de cette première entreprise nous encourage à ne pas l'abandonner, et nous espérons de donner au public un semblable volume au milieu de l'année prochaine. Nous avons d'ailleurs tout lieu de croire que

44. Cf. Manno, *Il primo secolo*, pp. 24-29.

45. *Lettre-patente* ..., *ibid.*, p. 14.

46. *Nuovo Giornale de' Letterati d'Italia*, t. 41, 1789, p. 61, t. VII, p. 71.

47. *Collection académique, composée des mémoires, actes, ou journaux des plus célèbres académies & sociétés littéraires étrangères* ..., Tome treizième de la partie étrangère, contenant l'Histoire & les Mémoires de la Société Royale des Sciences de Turin, Paris, 1779.

48. Cf. J.L. Lagrange to L. Euler, 28.7.1759, L. Euler to J.L. Lagrange, 2.10.1759 and J.L. Lagrange to L. Euler, 24.11.1759, in *Briefwechsel*, V, 1980, pp. 415; 418; 419.

le Gouvernement ne manquera pas de soutenir une Société naissante, qui, sans un établissement convenable, ne sauroit pas subsister longtems; mais ce qui pourroit l'engager le plus ce serait de voir que ceux mêmes qui tiennent les premiers rangs dans les Sciences daignassent y concourir, et l'appuyer par leur noms et leur crédit”<sup>49</sup>.

This advice did not go unheeded and Euler immediately sent his research on the propagation of sound in an elastic medium to the Turin Society<sup>50</sup>. In Italy, Lagrange gave resonance to the editorial activities of the *Società Privata Torinese* in his correspondence with the mathematician, Giulio Carlo Fagnani:

“Here in Turin has been created a sort of cultural society and it is now in press the first volume of *Memoirs*, that concern various philosophical and mathematical subjects. We hope that this volume could support the comparison with the issues that continuously are published by the Academies. I am afraid that there is no direct way to send the volume from here to Sinigaglia, but I suppose that it will be easy to obtain it from Venice or Bologna, where we intend to send many copies”<sup>51</sup>.

The circulation of *Miscellanea* and *Mélanges* and their reception can be assessed through the documents preserved in its Archives that allow us to analyse the initial size of the print run. Inside the *Minutes* of the Academy's sessions, there are a total of three tables outlining plans for the distribution of issues for the years 1784-85, 1786-87, and 1788-89<sup>52</sup>. This is clearly due to the fact that the editor-in-chief had to justify to the plenary assembly of academicians the economic details of the publication and, in particular, the cost of printing and delivery of the journal. These tables demonstrate that, from the publication of the first volume, the Academy scheduled the delivery of a significant number of volumes: 137 deliveries were planned, 18 of which were destined to foreign scholars. The volumes were meant to reach the Berlin Academy of Sciences, the Society of Philadelphia, and the London Society of Longitudes, amongst others. Between 1786 and 1787, the number of deliveries remained substantially unchanged; however, a copy was destined for the authors of the *Giornale di Fisica*. The academic series must have quickly developed a wide readership because the following year the Academy decided to increase the deliveries from 135 to 150 volumes. Eighteen volumes were once again destined for foreign scholars and a copy was addressed to the Boston Academy of Sciences. The Academy's members also

49. J.L. Lagrange to L. Euler, 24.11.1759, in *Briefwechsel*, V, 1980, p. 429.

50. Cf. J.L. Lagrange to L. Euler, 1.3.1760 and L. Euler to J.L. Lagrange, 24.6.1760, in *Briefwechsel*, V, 1980, pp. 437, 441.

51. J.L. Lagrange to C.G. Fagnani, 18.5.1759, in Vito Volterra, Gino Loria, Dioniso Gambioli (eds.), *Opere matematiche del marchese Giulio Carlo de' Toschi di Fagnano*, v. III, *Altri scritti scientifici, scritti polemici, carteggio*, Milano, Dante Alighieri, 1912.

52. Cf. *Minutes*, III, 1, 15, p. 186 bis-187; 226-227; *Minutes*, III, 1, 16, pp. 63-65. Cf. also *Minutes*, III, 1, 15, p. 183.

played an important role in the distribution of the issues: for example, Allioni satisfied the requests for academic volumes of his correspondents Philippe Lapeyrouse, David van Royen, and Giovanni A. Sangiorgio<sup>53</sup>.

The promotion of *Mélanges* and *Mémoires* depended on the networks of correspondence within the institutions and with the editorial staff of other learned journals<sup>54</sup>. In this context, it is meaningful that in 1791, Prospero Balbo was given the task of preparing the abstract of Turin academic publications for the *Biblioteca Oltremontana*<sup>55</sup>. We also have evidence of the link between Turin Academy and the editorial committee of the *Annali di Chimica*. In the 13 May 1792 session, Armand Seguin, who was a correspondent member of Turin Academy and also worked as a secretary compiling the *Annali di Chimica*, wrote to the Academy with the following request:

“[...] to communicate him the scientific novelties in order to insert them in the above – mentioned journal; and in turn he offered to promptly participate the discoveries made in Paris”<sup>56</sup>.

During the same session, the Academy assigned to Giovanni A. Giobert – who exchanged letters with Seguin who had often published on the *Annali di Chimica* – the task of conveying this information.

The King of Sweden's visit to Turin also provided an opportunity to advertise the cultural activities of the Academy and its publications. On 25 May 1784, the King chaired a special session and, on this occasion, the assembly presented him with the first five volumes of the *Mélanges*. This led to several fruitful developments and within a few years Turin Academy was engaged in a lively correspondence with two Swedish Academies – those of Uppsala and Stockholm – whose issues were regularly present in its Library<sup>57</sup>.

One of the elements that contributed to the editorial success of the Academy series is the fact that their content was up-to-date. The works that appeared in these volumes reflected the most recent developments in research, while internal references, bibliographies and quotations demonstrated the academicians' ability to keep themselves informed about themes currently under discussion in the sci-

53. Cf. Bagliani, *La corrispondenza*, pp. 137; 180; 182.

54. Cf. *Minutes*, III, 1, 15, p. 89.

55. Cf. *Minutes*, III, 1, 16, p. 106. With regards to the relationships between academic volumes and other Piedmont's periodicals, i.e. the *Biblioteca oltremontana* and the *Giornale scientifico, letterario e delle Arti*, cf. Giuseppe Ricuperati, “Accademie, periodici ed enciclopedia nel Piemonte di fine settecento”, in *Proceedings*, pp. 81-109 and Patrizia Delpiano, “I periodici scientifici nel Nord Italia alla fine del Settecento: studi e ipotesi di ricerca”, *Studi Storici*, 30, 1989, 1, pp. 456-482; id., “Per una storia della divulgazione scientifica nel Piemonte del Settecento: il Giornale scientifico, letterario e delle arti (1789-1790)”, *Rivista Storica Italiana*, 107, 1995, pp. 29-67 and id., “La divulgazione tecnico-scientifica nei periodici piemontesi del Settecento”, in Giulio Barsanti, Vieri Becagli, Renato Pasta (eds.), *La politica della Scienza. Toscana e Stati italiani nel tardo settecento*, Firenze, Olschki, 1996, pp. 345-365.

56. Cf. *Minutes*, III, 1, 16, p. 176.

57. *Minutes*, III, 1, 15, pp. 62; 65; 67-68; 70; 71-75; 189; 307.

entific community. In order to constantly expand their international publications, the Academy deliberately enriched its Library through the purchase of books, monographs, and periodicals. In January 1784, the assembly decided to purchase “journals, booklets and periodicals from France, Germany, and Great Britain”<sup>58</sup> and assigned the editor-in-chief to manage the orders. The Academy's members themselves suggested the purchase of works which were considered of particular importance for their own discipline. For instance, in 1792 Giobert requested a new French journal that published the abstracts of German periodicals<sup>59</sup>. According to the *Catalogue of the Scientific Collections and Changes* drawn up by Francesco G. Napione in the 1830s<sup>60</sup>, the Library of the Academy rapidly acquired sixty-five collections of learned journals from Austria, Belgium, France, Germany, Great Britain, Ireland, Portugal, Russia, Sweden, Switzerland, and the United States of America. The acquisition of these collections gave the Academy a means to enter into and broaden its contacts with other foreign institutions. For example, in 1784, the Berlin Academy of Sciences, which had maintained a correspondence with Turin academicians since the times of the *Società Privata Torinese*, presented their colleagues in Turin with the first eleven volumes of the *Nouveaux Mémoires* as a result of Euler's intervention<sup>61</sup>. Turin Academy returned the favour by sending to Berlin Academy of Sciences the 1784 and 1785 issues. The friendly nature of this relationship between the two institutions is illustrated in the following comment:

“[...] l'Académie R. le des Sciences de Turin ne pouvoit rien recevoir de plus flatteur ni de plus propre à l'encourager que la présente lettre, dont votre illustre Compagnie vient de l'honorer. Elle reconnoît avec admiration dans le recueil de vos Nouveaux Mémoires non seulement un trésor précieux de lumière et de connaissances, mais un exemple excellent. Elle est charmée de se voir si obligeamment ouvrir une Correspondance, qu'elle ambitionnoit dans le même esprit, qui vous aime. Le champ de ses travaux est plus borné. Mais les vues du Monarque Eclairé de qui elle tient une nouvelle existence, n'exigent pas moins qu'elle embrasse avec zèle tous les moyens d'améliorer les parties qu'elle cultive”<sup>62</sup>.

58. *Minutes*, III, 1, 15, pp. 26-27.

59. Cf. *Minutes*, III, 1, 16, p. 153. This periodical could be the *Bibliothèque germanique*, but research in AST Archives does not support this claim. Moreover, the AST Library does not include the *Bibliothèque germanique* in its collections and, in the *Minutes* of the sittings, no evidence is provided about the readings of this journal.

60. “Indice delle collezioni accademiche secondo l'ordine alfabetico delle città dove sono pubblicate, in Regia Accademia delle Scienze Torino. Catalogo della Biblioteca 1783-1840”, *Archives of AST*, cc. 1r-8r. The history of the Academy's Library is hinted at in Elena Borgi, “Alle Origini della Biblioteca dell'Accademia delle Scienze di Torino (1783-1815)”, *Atti della Accademia delle Scienze di Torino, Classe di Scienze Morali, Storiche e Filologiche*, v. 135-136, 2001-2002, pp. 6-7; 17; 20-21; 23; 25-26; 28-30.

61. Cf. *Minutes*, III, 1, 15, pp. 78; 80; 204.

62. “Registro attivo delle lettere spedite alle Accademie Estere, ed a diversi letterati (1784-1799)”, *Archives of AST*, VI, 3, 273, cc. 4-5; 11, quotation at c. 4.

In February 1787, there was a similar correspondence with the Société de Philadelphie :

“L'Académie R. des Sciences de Turin prie, Messieurs, votre illustre Société d'agréer ses volumes comme une preuve, un effet de son empressement à entretenir le mieux qu'elle peut, une correspondance dont elle fait gloire, dont elle voit avec satisfaction dans sa bibliothèque naissante un gage précieux, le 1er volume de vos Transactions. Nous sommes flattés, Messieurs, que la Commission que nous avons de notre Compagnie de vous témoigner ses sentiments, nous donne un titre à vous assurer nommément de l'estime très distinguée avec laquelle nous avons l'honneur d'être ...”<sup>63</sup>

Similar exchanges existed between Turin Academy of Sciences and those of Boston, Toulouse, Paris, Stockholm, and the London Society of Longitudes<sup>64</sup>. The correspondence between the Paris Académie des Sciences and Turin Academy has been lost, but it is possible through the *Minutes* to determine that the exchange of relevant publications continued until 1794 and, following a temporary break, began again involving a collaboration with the Institut de France<sup>65</sup>.

Finally, another letter dated 7 September 1793 clarifies the troubles concerning the purchase of the volumes of the *London Philosophical Transactions* :

“Notizie del Librajò Elmsley di Londra, relativam.e ai volumi delle Transazioni filosofiche della Società R.le di Londra. Finalment on a reçus réponse de Londres en voici la copie. Les Vol. des Transactions philosophiques que vous en avez commisionés sont si rares que je ne sais plus en trouver pour moi même, nous gettons toutes les ventes pour cela, pour nous compléter des exemplaires de cet Ouvrage très rare et très cher, si votre Pratique veut bien se contenter des volumes que l'on trouve dans le commerce et des autres livres de votre note vous n'avez que a parler mais je ne pourrai vous fournir tout sans le plus grand hasard du Monde”<sup>66</sup>.

All these efforts to purchase books and periodicals were justified with the benefits to academic scholarship that would have derived from complete access to the most advanced scientific literature. The *Minutes* recorded a number of discussions concerning the procedures for transmitting and conveying this knowledge within the Academy. For example, in the session of 21 March 1784 :

63. “Registro attivo delle lettere spedite alle Accademie Estere, ed a diversi letterati (1784-1799)”, *Archives of AST*, VI, 3, 273, c. 12.

64. Cf. *Minutes*, III, 1, 15, pp. 90 ; 266 ; 307 ; *Minutes*, III, 1, 16, pp. 66 ; 174 ; 337.

65. Cf. *Minutes*, III, 1, 16, pp. 316 ; 318-320 ; 333.

66. “Rapporti con altre Accademie ed Enti (1792-1917)”, *Archives of AST*, V, 201, 5. Cf. also *Minutes*, III, 1, 15, p. 175.

“the President discussed the journals and the periodicals [...] and remarked that, in order to obtain from them the greatest benefit, the Academy members had to share the duty of giving reports on the more significant contents of these issues”<sup>67</sup>.

This suggestion was immediately put into action : Carlo L. Morozzo reported on the *Milan Opuscles*, Valperga di Caluso read the *Journal des savants*, Giovanni M. Boccardi the *Giornale di Manheim*, Ludovico Richeri summarised the *Observations de physique*, Ignazio Somis the *Giornale di Medicina*, Nicolis di Robilant and Prospero Balbo reviewed respectively German and English periodicals. The request for reports from international issues was renewed in 1797<sup>68</sup> : Antonio M. Vassalli was responsible for the reports on the *Giornale di Fisica* and the *Bulletin des sciences*, Bailly S. Martin tended to *Giornale di Manifatture ed Arti*, and the President Morozzo to the *Magazzino Enciclopedico*. For this reason, the coverage of readings in the academic sessions between 1784 and 1790 is considerable. There were a total of 5 reports on the *Journal des savants*, 15 on the *Journal de Paris*, 3 on *Philosophical Transactions*, 5 on the *Giornale di Fisica*, and seven on the *Bulletin des sciences*<sup>69</sup>.

The Academy members defended their reading of European periodicals by various remarks and proposals. The *Minutes* indicated, for example, that :

“Conte Morozzo read an article of the *Journal de Paris* with an abstract of a memoir by Meunier and Lavoisier where they try to show with an experiment that water is not an element, but it is a compound of flammable and non flammable air. Conte Morozzo added to this reading many personal remarks in order to show that the experiment and the arguments of Meunier and Lavoisier do not sufficiently prove their thesis”<sup>70</sup>.

67. *Minutes*, III, 1, 15, p. 51.

68. Cf. *Minutes*, III, 1, 16, p. 290 : “The President remarked that, since the Academy's Members cannot read every foreign journal, their number being great, it will be useful for everyone that some academicians should report on the contents of those journals that are significant for their studies. These reports had to be read consecutively in the various sessions and, in this way, everyone could be up to date on everything”.

69. Cf. *Minutes*, III, 1, 15, pp. 53 ; 55 ; 59 ; 63 ; 77 ; 98 ; 101 ; 104 ; 115-116 ; 123 ; 128-129 ; 145 ; 151 ; 154 ; 156 ; 161 ; 175 ; 180 ; 195 ; 215 ; 217 ; 223 ; 228 ; 231 ; 277 ; 284 ; 287 ; 292 ; 293 ; *Minutes*, III, 1, 16, pp. 96 ; 178 ; 292 ; 293 ; 296 ; 297 ; 298 ; 299 ; 300 ; 301 ; 303 ; 305 ; 311 ; 317 ; 320. The periodicals read or abstracted during the sittings were the following : *Chemische Annalen für die Freunde der Naturlehre, Arzneygelahrtheit, Haushaltungskunst und Manufacturen - Helmstedt-Leipzig* ; *Efemeridi Astronomiche di Parigi* ; *Journal de medecine, chirurgie, pharmacie ...* ; *Journal des Scavans* ; *La gazette de Paris* ; *Chemisches Journal für die Freunde der Naturlehre, Arzneygelahrtheit, Haushaltungskunst und Manufacturen (von Crell)* ; *Journal de Paris* ; *Progressi dello spirito umano nelle scienze e nelle arti, o sia Giornale letterario di Venezia* ; *Philosophical Transactions of the R. Society of London* ; *Annales de chimie, ou recueil des mémoires concernant la chimie et les arts qui en dépendent* ; *Bulletins des sciences* ; *Giornale Fisico-Matematico*, *Journal d'observations sur la physique, sur l'histoire naturelle & sur les arts & métiers (Rozier)* ; *Magazzino enciclopedico* ; *Recueil périodique de la société de médecine de Paris*. The contents of these readings were unfortunately not recorded in detail.

70. *Minutes*, III, 1, 15, p. 63.



The members often repeated the experiments described in those periodicals and reviewed the results, suggesting alternatives and improvements. For instance :

“ Conte Morozzo had read some article of the *Journal de Paris* on the experiments by Lavoisier and Meunier in order to prove that water is not an element ; afterwards he left a sealed envelope containing the results of his experiments and observations about this subject that he could not develop and expound at present because of other urgent business ”<sup>71</sup>.

The information gathered through the abstracts of foreign periodicals as well as the presentation of books during the sessions contributed to a complete renewal of the scientific background in Piedmont, with positive developments in the fields of teaching and politics as well. The members of Turin Academy were often lecturers at the University and, therefore, had the means to divulge in their lectures, the recent trends in research derived from these academic debates. Moreover, many academicians were involved in hydraulic, geological, and mineralogical projects pursued by the Savoyard Court and they had the opportunity to travel abroad and discuss the results of these expeditions inside the Academy while promoting new collaborations with foreign institutions. Finally, towards the end of the 18<sup>th</sup> century, when the Academy set up prizes for foreign members, this provided further opportunities for the transfer of knowledge.

In conclusion, the history of the Academy's series provides significant information about the diffusion of scientific research and knowledge in Italy during the final decades of the 18<sup>th</sup> century. The role of the Academy's series emerges as a means of interaction with current scientific information and as a vehicle for the diffusion of new scientific research addressed to a diversified reading public. A meaningful acceleration in the cultural development of Piedmont arose from this editorial enterprise and the Academy of Turin promoted an osmotic exchange between science and technology, which would prove successful throughout the first half of the 19<sup>th</sup> century.

#### ARCHIVES OF THE TURIN ACADEMY OF SCIENCES

AST, III, 1, 15, [Minutes] *Verbali originali della classe di scienze fisiche e matematiche (1783-1789)*.

AST, III, 1, 16, [Minutes] *Verbali originali della classe di scienze fisiche e matematiche (1790-1800)*.

AST IV, 1, 94, *Elenco degli Accademici dalla data della fondazione al 1879*.

AST IV, 1, 95, *Prospetto dei membri dell'Accademia 1798*.

AST, V, 201, 5, *Rapporti con altre Accademie ed Enti (1792-1917)*.

71. *Minutes*, III, 1, 15, p. 77.

AST, VI, 3, 273, *Registro attivo delle lettere spedite alle Accademie estere, ed a diversi letterati (1784-1799)*.

AST, *Indice delle collezioni accademiche secondo l'ordine alfabetico delle città dove sono pubblicate, in Regia Accademia delle Scienze Torino. Catalogo della Biblioteca 1783-1840*, cc. 1r-8r.

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