

Siemiginowska, Anna

The Epistolarian Legacy of Hevelius

Organon 24, 181-194

1988

Artykuł umieszczony jest w kolekcji cyfrowej Bazhum, gromadzącej zawartość polskich czasopism humanistycznych i społecznych tworzonej przez Muzeum Historii Polski w ramach prac podejmowanych na rzecz zapewnienia otwartego, powszechnego i trwałego dostępu do polskiego dorobku naukowego i kulturalnego.

Artykuł został zdigitalizowany i opracowany do udostępnienia w internecie ze środków specjalnych MNiSW dzięki Wydziałowi Historycznemu Uniwersytetu Warszawskiego.

Tekst jest udostępniony do wykorzystania w ramach dozwolonego użytku.



Anna Siemiginowska (Poland)

THE EPISTOLARIAN LEGACY OF HEVELIUS

The abundant correspondence of Johan Hevelius, after Copernicus, the most outstanding astronomer in Poland, an advocate of the heliocentric system, a scholar, who spent all his life in Gdańsk and whose basic source of information and contact with the world of science was the exchange of letters, is of particular value to the history of learning in the 17th century. Numerous volumes of letters, the majority of which have not yet been published, written by the most outstanding scholars of the 17th century, with whom the Gdańsk astronomer corresponded for over half a century, contain material concerning scientific discoveries and controversies, thus constituting an extensive source of knowledge on the then contemporary problems of learning, also the active participation of Hevelius in discussions and disputes which stimulated the intellectual life of educated Europe of the time. In every biography of the astronomer published since the 18th century (Tadeusz Przytkowski¹ also wrote about this in 1975), the need to publish Hevelius's correspondence has been emphasized.

The astronomer himself announced the publishing of his correspondence from the years 1644—1680 for the first time in 1679, in the list of Addenda at the end of the second part of his work *Machina coelestis*, stating that the correspondence autographs cover 12 volumes in folio. As is known, this aim was never fulfilled as the result of the natural calamity which fell on him shortly after the announcing of his publications plans. The fire which broke out in the astronomer's buildings in September 1679, about which Burattini said that it had afforded the world greater damage than the fire of Troy,² destroyed the scholar's whole workshop, the observatory, printing shop and copper-plate workshop, delaying and ruling out all his scientific plans. It was Hevelius's initial intention to rebuild the printing work and reissue all his works hitherto published, together

¹ *Historia astronomii w Polsce*, ed. by E. Rybka. Wrocław : Ossolineum, 1975, p. 276.

² Letter of T. L. Burattini to Hevelius, dated August 22, 1681. Paris, Bibl. Nat., MS. Lat. 10348, p. 18.

with manuscripts of correspondence, miscarried due to the high costs of such an undertaking. The astronomer thus began to negotiate the publishing of his new papers which were almost ready and had been rescued from the fire, with Jan Blaeu in Amsterdam, with the help of the Royal Society in England, searching in almost the whole of Europe for patrons and publishers disposed to print them at their own cost. His efforts were, however, unsuccessful, probably due to the terms and conditions set by the astronomer, as well as the financial risk.³

All Hevelius's letters from this period contain appeals for help in the publishing of his works and correspondence. In December 1681, he wrote to Christopher Pfautz, professor of mathematics in Leipzig :

[...] the 15 volumes containing all the letters from the many famous and well-known people who wrote to me, together with my replies to them, from 1630 to 1682, survived the flames. Almost no mention is made of personal or political matters and even less of events taking place in the world, reference is only made to matters concerning astronomy, geometry, optics, chronology, mechanics or physics. I think I am right, therefore, in thinking that it would be a good thing if they were published, that they might reveal to the world what we have been doing, what we have written, and on the basis of what grounds each of us confirmed his beliefs, and also whose arguments prevailed on various mathematical questions [...]. If the fire had spared my printing-office [...] I would have published them in one large volume. As I am engaged in other work, I would willingly hand them over to a bibliopole that he might publish them at his own cost.⁴

In this letter, Hevelius also gave a list of 213 names of "some"—as he stated—of his correspondents.

In his letter of the same year (1681) to the electoral referendary, Johan Gebhard Rabener, Hevelius—maybe counting on the help of the Great Elector himself, or his son Philip Wilhelm, with whom Rabener was in fairly close contact—mentioned the titles of works which he would like to publish with, as he wrote, the help of "some prince or other." These were : *Prodromus astronomiae*, *Uranographia* and 15 volumes of letters.⁵

³ One of the conditions demanded by Hevelius—among other things—was that the publisher should send (at his own cost) an illustrator to Gdańsk, where he would carry out his work under the eye of Hevelius ; astronomer of Gdańsk also reserved for himself the right to dedicate his works.

⁴ "[...] *quindecim illa Literarum Volumina, saevas per Dei bonitatem flammis evaserint, quae omnes literas plurimorum Illustrum et Clarissimorum Virorum ad me scriptas cum meis responsionibus ab anno 1630 ad annum 1682 continuatas comprehendunt : in quibus nihil fere de rebus privatas vel politicis, multo minus noviter in orbe gestis occurrit ; sed solummodo, quae ad Astronomiam, Geometriam, Opticam, Chronologiam, Mechanicam vel Physicam spectant. Quare non abs re foret nisi mea fallit opinio, ut lucem aliquando adspiciant ; atque sic Orbi Erudito constet, quid inter nos gestum, scriptum, disceptatum, et quibus rationibus quilibet res suas corroboraverit, tum quorum opinio de diversissimis rebus Mathematicis praevaluerit [...]. Si Typographiae meae Vulcanus pepercisset, [...] literas hasce omnes etiamsi integro maximo volumine in fol. vix comprehenderentur prelo subjicerem; verum cum aliis negotiis curisque modo sim occupatissimus, lubens alteri cuidam Spartam hanc committerem si nimirum quis Bibliopolarum suis sumptibus editionem dictarum literarum curare vellet.*" Paris, Bibl. Nat., MS. Lat. 10349, p. 59, 62.

⁵ *Ibid.*, p. 286.

Whilst awaiting the appearance of a wealthy maecenas, prepared to finance the edition of the whole collection of letters, Hevelius published a small collection (in January 1683) already signalled to his friends in letters two years previously. The choice of letters, although most certainly inspired by Hevelius and prepared under his direction jointly with Johan Eric Olhoff, related by marriage and also a friend, who was the secretary of the Gdańsk Town Council, was published as the work of Olhoff himself, under the title *Excerpta ex literis illustrium virorum ad Johannem Hevelium perscriptis, judicia de rebus astronomicis ejusdemque scriptis exhibentia* (Gdańsk 1683). It includes a total of 197 letters or their fragments (together with excerpts from letters directed to other persons, but with praises of Hevelius), addressed to the astronomer in the years 1644—1681 by outstanding scholars and notables. In view of the hagiographic criteria of this choice of letters,⁶ for the purpose of defending Hevelius's scientific reputation, impaired by the dispute conducted in the 1670s with Robert Hook, on the accuracy of Hevelius's observations with the naked eye, it is not of any great material importance, but it does afford a review of the astronomer's correspondents and his contacts with the world of learning of the Europe of the times.

In May 1683, the collection of autographs of this correspondence, containing both letters received and authors' drafts, or copies of letters sent by Hevelius, numbered already 16 volumes in folio. In accordance with Hevelius's plans, they were to appear in one great volume. Most probably prior to 1679, when the first mention of the publication of the collection of letters appeared, Hevelius ordered the drawing up of copies for the printer. He himself scrupulously sorted out and, wherever possible supplemented, the letters missing.⁷

It is worth mentioning here that the statement found in the biographies of Hevelius, that he himself wrote the copies,⁸ is unjustified. Hevelius's characteristic letters are easily distinguished from the writing of hitherto unknown copyists, and many letters, particularly those contained in the first two volumes and written initially in two or even three types of handwriting, contain a considerable number of corrections in Hevelius's handwriting, as, not knowing French or Latin well, the scribes made numerous mistakes. Also, both the careless appearance of these first two volumes of the manuscript designed for publication, and the poor quality of the rapidly fading ink, most certainly induced Hevelius to rewrite them. Only as from the third volume is the remaining correspondence copied in a uniform, regular hand, but also totally different from that of Hevelius.

It is worth mentioning briefly the turbulent fate of the astronomer's

⁶ They are mainly congratulatory letters on the publishing of *Selenographia*, *Cometographia* and *Machina coelestis*, encouraging Hevelius to further astronomical studies.

⁷ E.g. in one of his letters to Ismaël Boulliau, Hevelius asks that he send him a copy of the first letter he sent to Boulliau in February 1650, as his copy had been lost. Paris, Bibl. Nat., MS. Lat. 10349, p. 242.

⁸ J. Hevelke, *Gert Havelke und seine Nachfahren*, Danzig, p. 102.

epistolarian legacy in the years immediately following his death. In 1725, Catherina Elizabeth Lange, the eldest of Hevelius's three daughters, who had her father's books and manuscripts in her care, sold all his correspondence, both autographs and copies, as well as four volumes of his observations, to Joseph Nicholas Delisle, who took them with him to Petersburg.⁹ In December of the following year, Delisle's colleague, the Petersburg professor Johan Peter Kohl wrote of this transaction in a letter to the editor of *Acta Eruditorum* in Leipzig, Johannes Burkhard Mencke, saying that if the collection of Hevelius's letters, *superioris saeculi illustre monumentum* as he calls it, had not been purchased by Delisle for 100 ducats, it would have become the habitat of moths and worms.¹⁰

The whole of Hevelius's collection later went with Delisle to Paris, when he left Petersburg in 1747. In 1750, the heritage of the astronomer which had so far remained whole, was broken up. Delisle handed the copies of correspondence to his pupil, Louis Godin (1704—1760), who took them with him to Cadiz, where they were purchased after his death by the astronomer Joseph Jérôme le Français de Lalande (1732—1807).¹¹ In 1841 the copies were purchased by the Bibliothèque Nationale in Paris, where they remain till today.

The collection of autographs and observations, on the other hand, were offered by Delisle before his death in 1768, to the Dépôt des Cartes et Plans du Ministère de la Marine, from whence they were taken over by the Paris Bibliothèque de l'Observatoire. It was then to have contained about 2,700 letters.¹² Unfortunately, the collection was considerably devastated and scattered as the result of the "activities" of the mathematician and scientific historian, Guillaume, count Libri Carucci, who, as chief inspector of education and the libraries of France, appropriated valuable books and manuscripts contained in the libraries he visited in the 1840s, only to put them for sale under other names, at numerous auctions. Hevelius's letters were found in many of his

⁹ F. Schwartz, "Hevelius-Briefe," in : *Mitteilungen des Westpreussischen Geschichtsvereins*, Danzig 1925, Jg. 24, No. 4, p. 67 and sequ.

¹⁰ J. P. Kohl (1698—1778) who, as results from his relation, saw the collection of letters himself, describes it inexplicitly. He writes about seventeen volumes, for example, when there are, in fact, sixteen. It may be that he included the volume containing the duplicate copies of volumes 1—2 together with the catalogue of Hevelius's library. He also describes the appearance of the correspondence autographs stating that most of the letters well preserved are legible and clearly written, with the exception of certain letters by M. Mersenne and Chr. Ravius, who "favoured the strange art of decorative and illegible writing," but also ascribes to the collection features of copies, stating that the work embraces a forty-year period of time, whereas the first letter was written in about 1640 and the last in 1683 or 1684. This is true as regards the copies not the originals. It is known that the first letters in the collection of originals were from 1630 and the last from 1686. Kohl mentions, however, Hevelius's letters from a voyage as a young man, which he did not include in the copies. It is therefore not clear whether Kohl also writes about the collection of copies, or, if he saw it, this was then complete, meaning whether or not it contained the four missing volumes (5—8). *Acta Eruditorum*, Supplementa V. 9, Lipsiae, 1729, pp. 360—370.

¹¹ On the two volumes of manuscripts we find the notes written in his own hand : "Acheté en Espagne après la mort de M. Godin. De la Lande," Paris, Bibl. Nat., MS. Lat. 10347—10348.

¹² L. C. Beziat, *La vie et les travaux de Jean Hevelius*, Rome, 1876, p. 128.

catalogues of auctions organized in Paris in the years 1839—1851. Many of the stolen manuscripts were found amongst Libri's papers during the lawsuit brought against him in absence in 1850, as he had taken shelter in London earlier. At that time about 570 letters from Hevelius's autographs were lost, these including over 100 by the astronomer himself. The letters regained during and after the lawsuit did not return to their previous place, but were included in the collection of the Bibliothèque Nationale. The letters Libri put on auction were sold and dispersed throughout the world.

The basic collection of Hevelius's correspondence is thus divided into two main groups, one—mainly autographs—is the property of the Bibliothèque de l'Observatoire, the second—mainly copies—is the property of the Bibliothèque Nationale in Paris.

AUTOGRAPHS

The collection of original letters sent to Hevelius and draughts, or author's copies of his replies, is contained in 16 volumes in the Bibliothèque de l'Observatoire.¹³ The letters in volume 1 have their own numbering, those in volumes 2—9 a continuous numeration ending with 1,383, the numeration of volumes 10—12 is separate for each, the letters in volumes 13—15 are not numbered, whereas volume 16 consists of 4 loose fascicles with random numbers, for example, numbers beginning from 1,500 written in red ink in Hevelius's hand occur in various places.¹⁴ The last fascicle has the dates 1685 and 1686, and the title : *Epistolae ultimae secundum seriem annorum digestae*.

Together the volumes contain over 2,200 letters and fragments. The letters of the whole collection of originals covers a period of 56 years. The earliest, a draught of Hevelius's letter addressed to Peter Krüger in Amsterdam, bears the date 30th July 1630, whereas the last dated was sent from Vienna on 14th November 1686 by Johan Bilstein, a Carthusian from Paradis. The classification of the letters in this collection is in chronological order—introduced by Hevelius—the particular volumes corresponding in the same manner with the numbers of the volumes of copies.

Four of the remaining five volumes belonging to Hevelius's legacy and retained in the Bibliothèque de l'Observatoire contain only observations, whilst the fifth consists of two parts : the first constitutes a catalogue of Hevelius's library, half of which survived the fire of 1679—this written in the astronomer's own hand, the second part contains the already mentioned later copies of the first two volumes of originals.

¹³ Paris, Bibl. de l'Observ., MS. A.C. 1(1—16).

¹⁴ Hevelius's own hand is confirmed by the title of the second fascicle : *Epistolae clarissimorum virorum ad Johannem Hevelium annis 1683 et 1684 et ab ipsomet minio numeratarum tomus XVI*.

After Libri's trial, the autographs¹⁵ once stolen from the collection were, as mentioned, included in the collections of the Bibliothèque Nationale. A characteristic feature of all these documents, which originate from Hevelius's collection of autographs and are now in the Bibliothèque Nationale, is the occurrence of double numbering as foliation was introduced alongside the initial, irregularly occurring numbering of letters. Altogether, the letters (originals) from Hevelius's initial collection in the Bibliothèque de l'Observatoire are nowadays in the Bibliothèque Nationale in 8 catalogue units, at the same time, in one case only they constitute a four-volume collection containing only "Heveliana," the remainder containing manuscripts of other collections regained from Libri's thefts, and bearing the inscription "Libri" alongside the call number.

The letters in the first three of the four-volume collection of autographs¹⁶ are in alphabetical order according to addressees (V.1 : A—F, V.2 : G—N, V.3 : O—Z). The last, fourth volume, bears the title "Boulliau" and contains a separate collection of correspondence with Ismaël Boulliau, but mainly the latter's letters arranged according to years. This volume concludes with various fragments of letters, notes and a dozen or so observations (including a diagram of the course of the 1677 comet drawn by Adam Adamandus Kochański in Wrocław). There is a later inscription in French : "Undated letters from which what concerns only the domestic matters of Hevelius should be erased."¹⁷ It is not known whether or to what extent this was carried out.

Together with the letters contained in the remaining 4 fascicles¹⁸ in fewer numbers, the total number of autographs from Hevelius's legacy now retained in the Bibliothèque Nationale amounts to about 440 letters and fragments.

Thus, together with the letters from the basic collection of autographs from the Bibliothèque de l'Observatoire, the total number of original letters once constituting the property of Hevelius and now retained in the two Paris libraries amounts to about 2,640 letters and fragments, gives a figure close to the former 2,700. Great care should, however, be taken in these calculations, carried out at the moment on the basis of primary records only. The possibility cannot be ruled out that some manuscripts not originally part of the collection have crept into the initially badly organized volumes in the Observatoire, particularly as many of the items were not numbered at all. Another reason why care should be taken is the

¹⁵ Although the collection of autographs from the Bibliothèque de l'Observatoire had no catalogue up to 1850 (with the exception of V. 1, which begins with a list of authors of the letters, written in Delisle's hand), it was possible, among other things by means of the collection of copies from the Bibliothèque Nationale, to establish the provenance of many of the letters missing from this collection.

¹⁶ Paris, Bibl. Nat., MS. Lat., n.a. 1639—1642.

¹⁷ "*Lettres sans datte dont il faudra rejeter ce qui ne regarde que les affaires domestiques d'Hevelius.*"

¹⁸ Paris, Bibl. Nat., MS Lat. n.a. 1554, Lat n.a. 2337 (Correspondance de Baluze, II), Fr, n.a. 5856, Fr, n.a. 6206.

undoubted dismembering of some items which once formed a whole and thus now appearing to constitute a greater number.

Apart from the above-mentioned groups of manuscripts from Hevelius's former collection, the astronomer's original letters and copies of letters sent to him have also been retained in the Boulliau and Gassendi collections in the Bibliothèque Nationale. The latter collection contains Gassendi's epistolarian legacy,¹⁹ which arrived also as the result of Libri's operations. It contains a couple of Hevelius's originals (i.e. letters designed for the addressee) and about 11 letters concerning him. Far more of Hevelius's autographs are to be found in the four volumes constituting part of Boulliau's legacy.²⁰ In particular, volume 24 of the collection contains numerous originals, as well as copies of Hevelius's letters to Pierre Des Noyers, Henry Oldenburg and others, drawn up by Des Noyers and sent to Boulliau in Paris together with his own letters. Thanks to such copies—and this is the case especially concerning Hevelius's correspondence with Boulliau and Des Noyers—there are sometimes three and even four copies of certain letters. Altogether, Gassendi and Boulliau's collections contain about 250 letters and fragments.

The autographs from the Hevelius collection in the two Parisian libraries are in very poor condition : the paper is often rotted and crumbled, the edges of letters creased or damaged, there are numerous spots and traces of dampness, in many cases the ink has either faded or soaked through the pages, hence the text is illegible, particularly on microfilm. This is mainly the case as regards the collection from the Bibliothèque de l'Observatoire, where the condition of many items is very bad. What was once an integral part of the collection, letters, various kinds of notes, fragments, pages with observations, printed items and drawings, is now dispersed. It is sometimes possible to join up the text of a letter, part of which was inserted a score or so items further on, but it is almost impossible to restore to their original form letters to which addenda had been attached. As the letters in the Observatoire are scattered, it is difficult to decipher anonymous, or illegible names of addressees and authors of letters. The original alternative system (letter and reply) usually adopted by Hevelius—in the collections of both autographs and copies—simplified the divining of the anonymous addressee. Existing copies are some help in solving such problems, hence the lack of four volumes is an irreparable loss.

COPY VOLUMES

Copies of Hevelius's correspondence in the Bibliothèque Nationale are kept in three volumes,²¹ the first containing volumes 1—4, the second : 9—12, the third :

¹⁹ Paris, Bibl. Nat., MS. Lat. n.a. 1637.

²⁰ Paris, Bibl. Nat., MS. Fr. 13022 (Collection Boulliau, IV), Fr. 13026 (Collection Boulliau, VIII), Fr. 13043 (Collection Boulliau, XXV), Fr. 13044 (Collection Boulliau, XXVI). All papers of I. Boulliau have the call numbers : Fr. 13019—13059 and the title : *Correspondance et papiers politiques et astronomiques d'Ismael Boulliau (1605—1694)*.

²¹ Paris, Bibl. Nat., MS. Lat. 10347, 10348, 10349.

13—15 together with the incomplete volume 16. Volumes 5, 6, 7, 8—most probably contained in one larger volume—were lost before the remainder were deposited in the library.

The copies embrace a shorter period than the originals. They do not include letters from the earliest period, 1630—1642, despite the fact that the dates 1630—1648 figure on the first volume. The first letter in this volume, from Albert Linemann, is dated 1643, whereas the last, Hevelius's letter to Jan III Sobieski, dated December 1684, is in original volume sixteen which was only commenced. The letters from the last two years, 1685—1686, were also not copies, maybe due to lack of occasion by Hevelius, or lack of will, due to him having lost faith in them being published.

The lack of volumes 5—8 (already indicated in the second half of the 19th century by the astronomer's biographers²²), embracing letters from the years 1661—1667, the original counterparts of which number 580 letters, hinders the checking of possible missing original letters from that period. In many cases copies indicated missing originals. It is also difficult to establish the number of letters which were purposely selected by Hevelius and not entered into the copy volumes, due both to the lack of the four original volumes of copies (5—8) and the devastation caused by Libri, which prevents the reconstruction of the number in particular fascicles. At present it can only be stated for certain that Hevelius carried out one deliberate substantial selection. This covers primarily the omitting of about 75 of the earliest letters. Apart from this, searches have enabled the confirmation of the existence of about 470 of Hevelius's letters which have no counterparts in the copies, the majority originating, of course, from the period for which the copy volumes are missing.

At present, the surviving volumes of copies contain about 1,820 letters, but if we omit duplicates of letters from two volumes of copies from the *Bibliothèque de l'Observatoire*²³ we are left with about 1,690.²⁴

CORRESPONDENCE OTHER THAN IN THE MAIN COLLECTIONS

During the searches carried out over the past few years for the purpose of recording all Hevelius's dispersed correspondence, letters written by or to him have been found in three Polish collections and 14 collections abroad, in Austria, England, France, Holland, the German Democratic Republic, Italy, the USA and the USSR. Altogether about 150 autographs and copies.

The larger and more interesting collections and single findings worth mentioning include correspondence, mainly with Henry Oldenburg, secretary of the Royal Society in London (70 letters), the Royal Greenwich Observatory at

²² L. C. Beziat wrote about that already in 1876.

²³ Paris, *Bibl. de l'Observ.*, MS. AC 2 (5).

²⁴ The originals and the copies together give the sum 4.330 letters.

Greenwich (13 letters), the Historical Society of Pennsylvania at Philadelphia (3 letters), the New York Public Library in New York (Edmund Halley's letter), correspondence with Christian Huygens in the Universitätsbibliothek in Leyden, the Bibliotheca Nazionale at Florence (2 letters, missing in the copies !), in the Nationalbibliothek in Vienna (2 letters), in the Polish Library in Paris (Michał Korybut Wiśniowiecki's letter to Hevelius), and correspondence with Gottfried Kirch in the Landesbibliothek at Gotha.²⁵

Basing on the list of names of the authors of the stolen autographs in the French libraries,²⁶ which was published a year after Libri's trial, it can be stated that some of these autographs—which are now missing from the collection of originals in the Observatoire—originate from Libri's theft. These include, e.g. Michał Korybut Wiśniowiecki's letter, the letters of Halley, Setus Ward and others in New York and the British Museum in London, Marin Mersenne in Philadelphia, Jean Chapelain's letter in Victor Cousin's collection in the Sorbonne library in Paris ; also Jan III's letter to Hevelius,²⁷ reproduced by Maciej Bersohn from his own collection.

There is still no information about the autographs of Jan Jonston of Leszno, Nicolas Mercator, Stanisław Morsztyn, Sebastian Cramoisy, Adam Sarnowski, John Wallis, Francis Aston, among others.

GENERAL CHARACTERISTIC OF THE COLLECTION

Basing on all the manuscript material recorded so far, it has been calculated that there are about 1,070 items written by Hevelius, including over 50 letters to anonymous addressees, whose names have not yet been deciphered. Apart from these, over 100 autonomous observations of the astronomer have been noted. About 1,650 letters addressed to Hevelius are recorded, these including about 50 from anonymous or non-deciphered senders, as well as over 100 observations by various authors, sent to Gdańsk.

For comparison it is worth mentioning that of all the correspondence as from the 17th century, when Hevelius's letters appeared in print in *Opera omnia* by P. Gassendi in 1658 (not counting some observations previously published by the author himself in the form of letters), over 500 letters and communications

²⁵ It should be added that there are five of Hevelius's letters to Gdańsk Town Council in the Gdańsk State Archives. These are requests for intervention in disputes, a request for permission to erect an outbuilding and one letter to the syndic Wincenty Fabricius in which the astronomer related his observations of the appearance of a comet at the turn of 1652/1653. Apart from this, as far as is known, there are only two original letters from Hevelius to Ch. Perrault, Colbert's secretary in Paris, dated 24 IV 1679 and to P. Des Noyers dated 19 IX 1681 in the Czartoryski Muzeum in Cracow (MS 2580, 70 and 71), whereas the original of Hevelius's letter to the Grudziądz Town Council, concerning the difference between a Polish and a Prussian mile, dated 26 VI 1681, is in the State Archives in Poznań.

²⁶ According to L. C. Bèziat, *op. cit.*, p. 126.

²⁷ M. Bersohn, *Kilka słów o Janie Heweliuszu [A Few Words about Johannes Hevelius]*, Warsaw, 1898, p. 10.

addressed to Hevelius or written by him (this being over one fifth of the whole) have been printed in about twenty various publications and collections of letters. Some of the letters have been published twice or even three times. The following are only the larger collections of letters published in the 20th century : M. Mersenne, *Correspondance* (Paris 1932—1977), Chr. Huygens, *Oeuvres complètes* (Den Haag 1888—1950), H. Oldenburg, *The Correspondence* (Madison 1965—1973, London 1975); the latter containing the most—114 letters from mutual correspondence.

Studies of the surviving correspondence or that known from other sources, have established 404 addressees and authors of Hevelius's letters. The astronomer maintained a lively correspondence with almost all the countries of Europe, with the exception—it would appear—of Greece, Spain, Russia and Turkey. To name only the main directions, he was in particularly frequent contact with Paris, London, Rome, Cambridge, Oxford, Amsterdam, Leyden, Warsaw, Copenhagen, Stockholm, Uppsala, Berlin, Königsberg, Reval, Wrocław, Wittenberg, Leipzig, Altdorf. Apart from those to astronomers, many of the letters were sent to mathematicians, physicists, physicians, librarians, theologians and lawyers, as well as to the ruling princes and court officials.

The astronomers most frequent and faithful correspondents, with whom he maintained cordial relations all his life, were Pierre Des Noyers—secretary to the Polish queens Louisa Maria Gonzaga and Maria Kazimiera Sobieska, and the popularizer of heliocentrism—the French astronomer Ismaël Boulliau, both of whom had visited him in Gdańsk²⁸. The correspondence exchanged between Des Noyers and Boulliau and Hevelius totalled about 500 letters.²⁹

Next in order according to the number of letters exchanged were : Henry Oldenburg (over 100 letters), Stanisław Lubieniecki the younger (over 90 letters—observations, the majority of which were published in his *Theatrum cometicum*, Amsterdam 1668), Kaspar March of Rostock (55 letters) Johan Abraham Ihle of Leipzig and Johan Gebhard Rabener of Berlin (45 letters each), Adam Adamandy Kochański (40 letters), Antoni Michał Hacki, abbot of Oliwa (34 letters), Jan Sebastian Wydźga (25 letters), John Wallis (25 letters), Christian Huygens (24 letters), Leopoldo Medici (23 letters).

The basic language used in this correspondence is Latin (60% of the letters), with German in the second and French in the third place. It is thus trilingual in principle, if one does not count a dozen or so Italian and Dutch letters which

²⁸ M. Boulliau twice visited Hevelius's home : before his voyage from Paris to Holland in 1661, then staying there 6 weeks, and somewhat shorter on his return journey from Holland to Warsaw. During his first stay in 1661 (from March to May), he wrote from Gdańsk to J. A. Thuanus jr. on 16th April: "I am discussing questions with Mr. Hevelius and I cannot but admire his ability, diligence and perspicacity. If God preserves him for four or five years more we shall be afforded the most beautiful, most interesting and most accurate work in the field of astronomy that has ever been written." Paris, Bibl. Nat., MS. FF. 13026, l. 233 v.

²⁹ These numbers are agreed with data given by R. Hatch in *The Collection Boulliau. An Inventory*, Philadelphia, 1982.

Hevelius mostly translated into Latin in the copy fascicles. Hevelius himself used only Latin and German. In the first volumes of copies—evidently with the intent of publishing his scientific correspondence only in Latin—Hevelius gave Latin translations of letters written originally in German (e.g. he translated Albert Linemann's letters). Later, most probably due to the great number of letters in German, he ceased to translate them.³⁰ With the exception of Gassendi and Boulliau who used Latin, the French correspondence was mainly in that language, which was well known to him, as evidenced in the notes written in his hand in French. The Italian letters are mainly from Fortunato Vinacese of Brescia, Leopoldo Medici and his librarian Antonio Magliabechi of Florence ; the Dutch—from well-known publishers with whom Hevelius negotiated concerning the publishing of his works, Blaeu and Janssonius of Amsterdam and from the French ambassador to the Hague—Jaques August de Thou (Thuanus) II.

The letters of about 90 correspondents from Poland (including foreigners living in Poland) are usually written in Latin. In the collection of originals are two short, unimportant letters written to Hevelius in Polish.³¹ It is worth mentioning the best-known names of the Polish correspondents. Apart from those frequently cited in the literature : Adam Adamandus Kochański, Stanisław Lubieniecki, Maciej Głoskowski, Stanisław Niewieski, Stanisław Morsztyn, the kings Jan III Sobieski and Michał Korybut Wiśniowiecki, there are also—Maciej Bernhardt, Jakub Barner, Józef Securius and Jan Jonston, physicians ; high secular and spiritual officials such as : the voivode of Pomorze Gerard Denhoff, the abbot of Oliwa Antoni Michał Hacki, the voivode of Chełm Michał Działyński, starost of Starogard Jan Gorzyński, Wieluń judge and legate to the Sejm Aleksander Gomoliński, Stanisław Lubomirski, Paweł Orzechowski, Oświęcim castellan Achacy Przyłęcki, royal cup-bearer Franciszek Stawicki, Warmian bishops : Jan Stefan Wydźga and Jan Stanisław Zbąski, bishop of Płock Bonawentura Madaliński, royal secretary Adam Sarnowski and Mikołaj Hieronim Sarnowski, canon of Cracow Grzegorz Borastus, Cardinal Jan Kazimierz Denhoff, the Jesuits—Baltazar Conradi, Stanisław Solski and Hieronim Mroczek, and the poet—Jan Sławicz.

Summing up the range of subjects taken up in this extremely extensive correspondence of the Gdańsk astronomer (it can be defined as being typical of the scholars of the period), the essential part constituted strictly astronomical problems, disputes, and particularly information regarding contemporary innovations in the field of science (optics, mechanics). It enriches both Hevelius's biography and our awareness of the level of knowledge of his times, also constituting an extensive and as yet insufficiently known source of information on the history of intellectual development in the 17th-century Europe.

³⁰ Furthermore, three first volumes of original letters in the Bibliothèque de l'Observatoire embrace the French summaries of German letters but they are included in the collection afterwards.

³¹ One of these letters was written by Mikołaj Hieronim Sieniawski, voivode of Wołyń, but a sender of the second letter is as yet non-deciphered.

ANNEX

1.

Ehrwürdiger Hochgelahrter, insonders Hochgeehrter Herr E. Strauch.

Sein angenehmes Schreiben durch den Herrn M. Krispelium ist mir gar wol eingehändigt worden, nebenst den beyden mir überschickten Büchern, welche wie sie mir sehr lieb und angenehm gewesen, also wünsche hinwiderum occasion zu haben, dem Herrn alle angenehme Freundschaft zu erweisen. Hiebei kan ich nicht anders, als höchlichen rühmen, dass der Herr bedacht gewesen eine schneidige Uranometriam für die Astrophilos zu ediren, den wahrlich die grössern sind so nicht für alle Mann, als da ist Uranometria Bayeri, Coelum stellatum Schilleri oder aber die grossen Globi. Dieses aber kan ein jeder bey sich tragen und dannenhero seinen grossen Nützen haben. Und were zu wünschen, dass alle fixa auch in einer grösseren Form möchte von jedemands ausgehen und zwar noch was genauer als sie bis dato gewesen, welches der gantzen Astronomie zum grossen Nützen gedeien würde. Weil viel, ja die meisten fixa noch nicht gar zu richtig restituiret, also dass viel nicht allein 3. 4. 5. Minuten, sondern vol 10, 15, 20, ja etzliche viel mehr Minuten sowol in longitudine als in Latitudine fehlen, welches bey den observationen der Planeten grosse Verwirrung veruhrsachet, wovon zur andern Zeiten vieles könnte geredet werden. Diesen weil' dan den in der Wahrheit also ist, alss hab ich mich nächst göttliche Hülfe die so grosse Arbeit unterwunden und alle fixas aufs neue mit allem Fleiss mit vielen unterschiedenen sehr grossen instrumenten von reinem metal gemacht zu observiren, derer radius 6, 7, 8, auch mehr Schuh ist. Darinnen auch Gott sei Dank ziemlichen weit gekommen, dass ich schoon etzliche 1000 observationes fixarum erhalten, möchte auch diesen Winter, wenn es dem Allmächtigen also gefallen hätte, einen ziemlichen progres darinnen getahn haben, wenn nicht Gott der Herr kurzverwichenen Tagen einen sehr treufleissigen Mitgehülffen zu dieser nächtlischen Arbeit, den Wolgelahrten Herrn Mag. Michael Kretschmer durch einen seligen Todt hätte hinweggenommen. Durch welchen kläglichen Zufall diese meine sehr wichtige Arbeit etwas musste stecken bleiben, bis dass ich wiederumb einen guten frommen wol qualefizirten Menschen, der dem studio Matheseos mehrentheils wäre zugethan, in mein Haus wiederumb bekommen. Weshalben ich denn den Herrn freundlichen wil gebeten haben zu vernehmen, ob nicht bei ihnen zu Wittenberg oder auf irgend einer anderen Academie ein solches subjectum verhanden were, das zu dem studio Mathematico sonderliche inclination und Begierde hätte, dasselbige weiter zu excoliren, den ich zu den observationibus gebrauchen könnte, auch mir unterweilen im calculiren etwas behülflich sein. Müste also einer sein, der ein gut Gesicht hätte in die Ferne zu sehen, damit er die fixas, insonderheit die kleinen wol distinguiren könnte, die sphaericam, ingleichen die motus Planetarum zu calculiren wol verstünde, den einen ganz rauhen Menschen, der da nichts hiervon verstünde, wolte ich nicht gerne haben, würde wir gar zu viel Müh verursachen.

Ueberdas müsste sich auch ein solcher resolviren, ein Jahr etzliche bey mir zu verharren, den auf ein halb oder gantz Jahr will ich keinen, den er länger wol muss Zeit haben, ehe er sich in alle Dinge schicken lernet. Solchen Menschen (müsste aber dabey from nüchtern und sittsahm sein), wolte ich nicht allein in meiner Behausung einer freien Tisch geben, sondern auch noch alle Jahr ein billiges honorarium, wobey auch noch andere Zugänge fallen könnten, also dass er sein ehrliches auskommen haben würde, wobei er seine eigen studia zu abwarten gute Gelegenheit, auch Zeit genug haben würde. Welcher Sachen halben ich den auch bitte, mit seinen Herrn Collegen Herrn Nothnagelio und Herrn Pompeo, die ich gantz freundlichen grüssen lasse, zu communiciren, ob etwas durch ihr gutes Einrichten ein solcher studiosus und Liebhaber Matheseos mir könnte an die Handt gegeben werden. Wovon dem Herrn freundlichen belieben wolle mir mit allererster Gelegenheit ein ausführliches antwort werden zu lassen. Der Herr hat sich wiederumb zu versichern, dass ich mich hinwiederumb jeder Zeit als mit Worten so auch mit der Taht Ihn würde dieses Ohrts willig und bereit erweisen werde.

Womit ich den Herrn göttlicher Obacht treulich empfehle. In Danzig, Ao. 1659, den 3. November.

*Ihr vorachtwürden dienstgeflissener
Johan Hewelcke.*

2.

Signor Giovanni Hevelio,

Mancando al mio desiderio quelle occasioni, che vorrei per dimostrare à Vostra Signoria con segni più certi la stima e l'affetto, con che riguardo la di lei virtù, e le erudite qualità della sua Persona, io vado ad incontrare quelle che io posso, ben che minime per confermarle questi miei cordiali e sinceri sentimenti. Le mando però qui inclusa l'osservazione, che quà si a fatta dell' Eclisse Lunare, acciò che possa farne Vostra Signoria confronto con quelle, che probabilmente haverà ella fatta costà, e che stò in atttendola con quel desiderio, con che rimiro sempre le opere sue.

Il nostro Vincenzo Viviani dice haver mandato à Vostra Signoria certo tempo fa, up' suo libro intitolato Apollonio Pergeo de Maximis e Minimis, e non havendone sentito da lei la ricevuta, stà in dubbio, se possa esserle capitato, e però desidera haverne qualche notizia. E io intanto auguro con tutto cuore, à Vostra Signoria ogni maggior contento.

*Affezionato di Vostra Signoria
Cardinale (Leopoldus de) Medicis*

Di Firenze 29 Settembre 1671.

3.

Varsaviae 19 Februarii 1672.

Monsieur,

Comme je ne doute pas que vous n'avez receu avec une lettre de Monsr. Buratini les verres qu'il vous a envoyéz, nous attendrons dans le temps d'entendre de vous, quel effects ils auront fait pour le Ciel. Cependant je vous ay voulu dire que Monsr. Boulliau nostre bon amy m'ecrit que l'ouvrier d'Angleterre a donné à ce roy-là une lunette d'un pied de longueur qui produit l'effect des meilleurs ordinaires de 16 pieds, et que ce mesme ouvrier, qui s'appelle Nettun, en fabrique plusieurs, pour les dispenser, et entre les autres il en fait, de 100 pieds de long, qui feront l'effect d'une de 1600 pieds des ordinaires, avec laquelle on espère pouvoir discerner s'il y a des habitans dans la Lune. Il dit que le secret est en la disposition des verres. Un autre ouvrier a trouvé l'invention de se faire entendre d'une lieu loing par le moyen d'une trompette dont il a fait imprimer l'invention, et peut estre l'aurez vous desja veue. Les Académiciens de Paris prétendent avoir découvert quelque chose dans la composition du corps humain, qui n'avoit point encore esté remarqué, ils tiennet la chose secrète, nous sçaurons avec le temps ce que ce sera.

Mr. l'abbé Picard retourne à Paris avec un Danois, qui porte des manuscrits de Ticho Brahe, qu'il n'y a dit'on que luy seul, qui les puisse lire, l'on sçaura avec le temps ce que ce sera, ce ne seront peut estre que des brouillons de Ticho, parce qu'il avoit fait mettre au net toutes ses observations, et l'histoire Céleste a esté imprimée sur cet exemplaire par les soins du P. Albert Curts. Le voyage du dit Mr. Picard n'aura rien produit. C'est Monsr., que j'ay de nouveau digne de vous, faites moy tousjours la grâce de me croire comme je le suis, Monsieur, Vostre treshumble et tresobéissant

Serviteur

[Pierre] Des Noyers

On avoit eu icy quelque appréhension d'une confédération, mais l'on a nouvelle du 12 de ce mois, que la prudence de Monsieur le Grand Maréchall la prévenue, et en a rompu le dessein et fait retourner en leur quartiers les troupes qui en estoient sortie pour cela. Pour la Diette elle se continue à l'orinaire.

4.

Perquam Reverendo, Clarissimo Doctissimoque Viro Patri Adamo Adamando Kochański e Societate Jesu Matheseos Professori etc.

Johannes Hevelius S.

Non meritis meis, sed singulari Tuo erga me affectui adscribendum habeo, quod familiaritatem ac amicitiam Tuam quam jure ambire debuisssem, sponte Tua adeo singulari humanitate offerre mihi haud

nolueris, utinam data occasione pari affectu reciprocum meum erga Te amorem ullo aliquo grato officio rursus contestari non nequeam. Inprimis cum clare percipiam quam valde de mea valetudine, deque meis qualibus qualibus studiis Uranicis sis sollicitus, ut etiam optimo consilio mihi subvenire, ac Uraniae meae prospicere fueris dignatus. Meam quod attinet valetudinem in hoc meo senio, scias me nunquam Deo O. M. sufficientes posse agere gratias, pro tam exoptatissima hucusque concessa sanitate, adeo ut inter tantas curas oeconomicas, ac inter tot negotia publica humeris meis incumbentia, simul adhuc potuerim diu noctuque contemplationibus nostris Siderum invigilare, laboresque istos haud vulgares expedire. Tu, amice Honorande, porro mecum Deum O. M. ex toto pectore veneraberis, ut hanc insuper mihi clementissime concedat gratiam; quo ea quae modo sub manibus versantur, atque in Divini Numinis Gloriam et honorem suscepi, feliciter quoque in Astronomiae commodum ad finem perducere queam: praepremis cum nunc occupatus sim edendis observationibus meis ab anno 1630 hucusque habitis, tum construendo novo plane, et plurimis stellis aucto Fixarum Catalogo, nec non correctioribus Globis Coelestibus describendis, et in publicum proferendis. Libenter enim, si Deo ita placuerit, ipsemet ea in lucem protruderem, quae forte post fata mea vix adeo solite et accurate totque sumptibus expediri possent. Quippe (cum filius meus unicus maximo meo dolore ante aliquot jam annos ex vita discesserit) neminem prorsus habeo, nec in mea familia, neque in tota hac Civitate, neque alibi aliquem novi, cui hocce negotium, meamque suppellectilem Astronomicam concredere datur. Deo igitur rerum omnium Directori haec omnia unice committo, qui optime ut nullus dubito etiam rebus nostris prospiciet. Dominus Johannes Heckerus consobrinus meus, jam anno 1675 mense Augusto fato functus est. Ephemerides ejus ab anno 1680, neque is neque ullus aliquis, quod sciam, hucusque continuavit. Ex operibus meis sequentia sunt edita, nimirum Selenographia anno 1647 folio, Epistola ad Laurentium Eichstadium anno 1649 folio, Epistola ad Gassendum anno 1652 folio, Epistola ad Ricciolum anno 1654 folio, Epistola ad Nucერიum anno 1654 folio, Dissertatio de Nativa Saturni facie anno 1656 folio, Mercurius in Sole visus, Venus in Sole visa, Historia mirae stellae in collo Ceti, anno 1662 folio, Prodromus Cometicus anno 1665 folio, Mantissa Prodromi Cometici anno 1666 folio, Cometographia anno 1668 folio, Epistola ad Oldenburgium de Cometa anno 1672 folio, Machinae Coelestis pars prima anno 1673 folio. Nunc vero sub praelo ferveret Pars altera Machinae Coelestis ingens volumen observationum scilicet mearum. Item Globi Coelestes reformati, correcti ac aucti quamprimum haec omnia (id quod intra annum fieri posse spero, si Deus vitam clementissime concesserit) erunt edita, statim Prodromum meum Astronomiae, cum dicto novo Fixarum Catalogo maximis vigiliis immensoque plurimorum annorum labore elaborato una cum Tabulis Solaribus, iisque omnibus quae ad fundamenta Astronomiae spectare videntur, in lucem proferam. Quibus feliciter, si Deo Altissimo ita visum fuerit exantlatis, conferam me ad Tabulas Planetarum omnium modulo meo restituendas; ad quod negotium facilitandum, jam plurima comportavi: non dubito, quin etiam ex voto opus succedat, dummodo mihi, minimum aliquis bene exercitatus esset ab auxiliis, qui mihi in tam arduo et laboriosissimo labore subvenire queat. Praeterea Opera mea Dantis petenda nunc sunt. Nam plurimi Bibliopolae me ita hactenus circumvenerunt ut jam tandem didicerim cautius mercari. Denique quaeris Vir Admodum Reverende ac Clarissime, an nuperus Cometa is ipse fuerit, qui anno 1672 a me est observatus ac in Epistola ad Oldenburgium descriptus? Utriusque quidem Orbita (prout verissimum est) haud magno ab invicem discrimine dissidet; sed nihilominus hic noster Cometa ab illo plane est diversus. Nam ego uti in Cometographia proluxe ivi demonstratum, nullum unquam Cometam rursus redire puto, et nullos suas exercere revolutiones; multo minus Cometas esse corpora aeterna, sed quemlibet peculiarem suum habere ortum, motum, orbitam, suumque interitum; posse tamen ex una eademque hypothesi, per lineam scilicet trajectoriam demonstrari omnes. Postremo, Te etiam non latere puto, et forte ex mea Historiola Anglis communicata percepisti; novam illam Stellam in collo Ceti, quae per integrum quadriennium in coelo plane nusquam apparuit, anno praeterito, mense 23 Decemb. primum reluxisse, et a me deinceps ad Occasum eius Heliacum saepius observatam esse.

Quibus vive et vale quam diutissime, in maximum communium nostrorum studiorum Coelestium incrementum, ac porro amore Tuo prosequi non dedignare

*Dabam Gedani Anno
1677 die 11 Junii
stylo novo.*

*Tuae Admodum Reverendissimae Dignitatis
studiosissimum
J. Hevelium Consulem Gedanensem*