

Jérôme Lalande,
Diary of a Trip to England
1763

by
Richard Watkins

Translated from the original manuscript

and including
a biography of Lalande and notes on the diary by H el ene Monod-Cassidy

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Jerome Lalande, Journal d'un voyage en Angleterre 1763

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Preface to the Translation

This book contains two separate translations of Jerome Lalande's *Journal d'un Voyage en Angleterre 1763*.

The first translation is a readable, coherent text. I saw no reason to retain Lalande's spelling and grammar and I have freely translated his French, altering the wording to suit reasonably good English and omitting some unintelligible or repetitive sentences. I have also re-arranged entries, the notes in particular, to bring related material together. The only significant omission is Lalande's table of contents, which depends on the pagination of the manuscript; but it appears in the second translation.

This first version of the diary is based on the transcript produced and annotated by H el ene Monod-Cassidy for the Voltaire Foundation. It includes her copious footnotes clarifying names and events, complemented by some additional notes provided by myself. I have retained Monod-Cassidy's footnote numbering, prefixed by *M* to distinguish them from my own. Her transcript has a few errors and omits some of the diary, and this translation corrects these.

The second translation has the same structure and organisation as the original manuscript. Except for a few places where typographical limitations and the change of language affect it, the text is paginated exactly as the original and all illustrations are included. Thus all intelligible words, including deletions, have been retained.

It is inevitable that even the best translator will render some parts in a manner which others will disagree with. As very few people read both a translation and its source, and perforce rely entirely upon the translator's skill, I have included additional notes with the second translation. These explain many of my choices and pinpoint some of the text which is open to other interpretations. Also, where Lalande's text is obscure or ambiguous I have chosen what I feel to be a sensible interpretation and supplied the original French for comparison. There are at least three interesting cases where I am sure Lalande has used English words. The text makes sense if I assumed Lalande had been told something and had trouble converting the statement into written French, inserting English terms for things he did not understand.

In addition to translating the diary and Monod-Cassidy's notes, I have added a postscript in three parts.

Firstly, I have included a translation of *Un astronome-philosophe, Jérôme Lalande* by Hélène Monod-Cassidy, which gives a biography of Lalande. The preface to her transcript is a shortened version of this paper and omits some points which I feel are worthy of inclusion. Again Monod-Cassidy's footnotes are prefixed by *M*.

Secondly I give my own assessment of Lalande and his diary; I found Monod-Cassidy's assessment to be rather uncritical, failing to draw conclusions about the diary and the man.

Thirdly I examine the physical structure of the diary. There is a problem with pages that Monod-Cassidy described as "*missing, probably an error of pagination*" and it is important to know if pages could have been removed by Lalande and, if so, which ones.

I would like to thank the Voltaire Foundation for granting me permission to include Monod-Cassidy's notes and her biography of Lalande, and Patrick Latour of the Bibliotheque Mazarine.

As this is an electronic text it can easily be changed. I am happy to receive suggestions for improving it.

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Diary of a trip to England - annotated ¹

The diary ^{M1}

March 1763

Friday 4th March.

I departed Paris at 8:45, Friday March 4th 1763. I passed through St Denis, St Brice, Poncelle. I dined in Moisselles at 2:00.

I paid 25 livres for my place to Boulogne and 8 livres for sixty-four pieces of luggage, and I gave 6 livres 10 sols² more for Calais. I arrived in Beaumont at 5:30, passing through Nointel.

Saturday 5th March.

I left at 6:00 and passed through Chambly, Puiseaux, Mare-d'Ovillers, St Genevieve and Noailles; I arrived in Blainville at 10:45. Departed at 3:00; arrived in Beauvais at 5:00.

While leaving Blainville I saw the thirty-first milestone. I saw the thirty-second after 25 minutes.³ There are three other intermediate ones.

I went to see the tapestry workshop^{M2} of which Mr Charron, farmer general, is the contractor; Mr Trudaine superintendent; Mr Dumont, the

Parisian director; and Mr Deshays the painter after Mr Boucher.^{M3} There is a foreman who is paid every week. There are about forty workmen. It takes eighteen months to make a hanging. A piece three ells high by two and half long is worth 600 livres.⁴

There is a picture by Mr Bardon,^{M4} Jason fighting the bulls of Hespérides, which was not finished. The design is drawn from the Gobelins.

In Beauvais I went to see Mr Borel, lieutenant general, Rue du Prévôt; I saw the cathedral which is eight hundred years old; and the town hall, which is very new, on the main square, the Promenade du Rempart.

Sunday 6th March.

Left at 5:30 and arrived in Oudeuil at 9:45 - three hours on the worst road, a bad small inn, bad bread. Poix is six leagues from Oudeuil.

I left Oudeuil at midday. At 1:00, Haute-Epine, a long, very narrow thatched village; at 3:00, Hamel where I saw the chains of Mr de Crêqui^{M5} who, being taken by Saracens and being consecrated in Our Lady of Hamel, was transported miraculously from the earth. The women wear petticoats on their heads.⁵

At 6:45 Poix, landholding of Mr de Noailles,^{M6} a large borough. Six leagues to Amiens. The bad road has lasted from Beauvais and will continue tomorrow until dinner-time, until Airaines.

1 The footnotes prefixed *M* are by Helene Monod-Cassidy and are taken from *Jerome Lalande, Journal d'un voyage en Angleterre 1763*, Studies on Voltaire and the Eighteenth Century No 184, The Voltaire Foundation, 1980 (with permission of The Voltaire Foundation).

M1 The manuscript of *Voyage en Angleterre* is in the Mazarine Library under the number 4345. Professor F. C. Green gave extracts in translation in 'The journal of Lalande's visit to England', The History teacher's miscellany (1926), iv.113-18, 140-44. The text published by Mr Green stops at the end of April 1763. It omits the scientific details and contains errors of identification and translation. We mention some in our notes.

2 Lalande creates some confusion when he specifies the cost of things because he is vague when using terms such as *livres, pieces, livres sterling, louis, shillings* and *sols*.

There were 24 livres to a gold louis. A *livre* is approximately 1/- (one shilling sterling, see the tables in the notes). There are 20 *sols* in a *livre*; a copper coin equated to about a halfpenny. There are 12 *deniers* in a *sol*. Thus the structure of the French currency is the same as sterling, but in 1763 it was worth about one twentieth of sterling.

3 Actually league-stones for leagues of about 3 miles. His rate of travel, about 8 miles per hour, agrees with later entries.

M2 In Lille, one of the secondary tapestry workshops directed by Jean de Melter who succeeded his son-in-law Guillaume Warniers. His widow ran the workshops until 1778.

M3 Jean-Baptiste Deshays, known as the Romain (1729-1765); student of Boucher; Grand Prize of the Academy of painters; member of the Academy.

François Boucher (1703-1770); French painter and engraver; in 1723 he accepted the Grand Prize for painting.

4 About 11 feet by 9 feet.

M4 Bardon: Jean Bardin (1732-1809)?; painter, student of Frenée; second prize of Rome; master of Regnault and David.

M5 Sires de Crêquy. Gérard de Crêquy took part in the first Crusade (1096); ballad called the Lord de Crêquy: about a knight of the cross who is released after a long captivity and returns to his castle at the time when his wife remarries.

5 Petticoats, besides being strictly correct, seem to suit Lalande's personality.

M6 Adrien-Maurice, Duke of Noailles (1678-1766); initially he had the title Count d'Ayen; 1734, Marshal of France.

Diary of a Trip to England 1763

Monday 7th March.

The last three nights were cold.

We started from Poix at 5:15; Fay les Tuloi, 7:30; Lincheux, 8:15; Camps-l'Amiénois 9:00; Airaines, 11:30. There remain four great leagues to go to Abbeville.

Abbeville is twenty-six leagues from Calais, ten leagues from Montreuil, ten leagues from Amiens, thirteen leagues from Dieppe and four leagues from St Valery.

There are thirteen parishes, five and a quarter leagues round.

I went to the factory of Van Robais; a superb building, where there are 1,500 workmen. I saw the press which gives the gloss to cloth, those which comb it, etc. I returned by the rampart along the Doguet road-way.

The previous Monday, February 28th at midday, the tide went up along the Somme further than it had been seen for sixteen years. Sometimes it comes suddenly across the bars, which are three feet high, like a wall and overturns the boats. The tide went to the bridge at Ormi.

I went to a mineral fountain within two leagues of Abbeville, the Royal Palace where there is a walk, the Mall, St George's Square, St Gilles Street, lined with very beautiful houses.

There are five gates: St Gilles, Portelette, Marcadet, Dubois, Doguet. The grazing land^{M7} is close to the Portelette.

St Valery trades groceries with Holland and the Islands. Manufacturing draws its wools from Flanders and Spain.

In Abbeville the Shield of Brabant hotel is for the locals, but the Ox Head hotel is frequented by foreigners; they are both in St Gilles Street. They made me pay 40 sols for a very small supper.

I left Abbeville on Tuesday March 8th at 5:00 in the morning; Bigai, St Meulon, Ouvilé, Outite, Rouvion, Foremoutier at 8:45, and Bernay at 10:45. At dinner we saw on our left St Valery and the sands of the shore. We departed Bernay at 1:00. I slept in Montreuil where we arrived at 6:30. I saw the citadel and the ramparts. The city is rather well protected.

Wednesday 9th March.

We left Montreuil at 6:00 and arrived in Samer at 11:15, a large well-built town. There is a large abbey whose abbot is the seignior of the

region, it is three leagues from Boulogne. The landholding of Tingri, bought by the Duke of Ayen^{M8}, is close to here.

We departed Samer at 1:00, passed Pont-de-Brique at 5:00 and arrived at 5:45 in Boulogne, capital of the Boulonnais.

The low city is long and well built, inhabited by tradesmen. The port will take vessels of two hundred and fifty tons and frigates of thirty guns. There is one of them on the slip-way, of twenty or twenty-two, which belongs to the carpenter Mr Rennes. The main businesses of Boulogne are tea from the East, brandy from La Rochelle for the English smugglers and the wine warehouses of English merchants, who find the cellars of Boulogne excellent; they are very deep and have very expensive rent.

I lodged at the Royal Table but I slept at Mesdemoiselles Dezoteux where I supped with the Viscount of Villeneuve. I saw Mr Destrés, notary, and Mr — , prosecutor.

There are two breakwaters at the entrance of the port, bristling with guns. I saw the sea rise, but it was dead water. The spring tide will come on Monday.

The King came to pay homage to the Blessed Virgin of the county of Boulogne, that Louis XI transferred from the Count of Artois to Our Lady of Boulogne. This good virgin was taken several times, she is black, silver, she was in the fire; she is miraculous.^{M9}

There was a silver organ which is in Canterbury. Mr Desmarres, a doctor, works on animals with wool.

Thursday 10th March.

I departed Boulogne at 7:00. Arrived at 9:00 in Wimille⁶, 10:00 in Marquise, Inglevert one and a half leagues from Marquise; and the road has one and a half leagues to go to Calais.

There are 900 new houses around Boulogne and Wimille.

It is seven leagues from Boulogne to Calais.

M7 A pleasant walk along the Somme.

M8 Ayen: Louis Duke of Noailles (1713-1793); became Marshal of France in 1766; Count, then Duke, of Ayen. The use was established in 1737 to allocate the title of Duke of Ayen to the eldest son of the Duke of Noailles.

M9 The Virgin of Artois, Our-Lady of Boulogne; wood image in relief about three and half feet high, holding the child Jesus on her left arm. The miraculous image of the virgin, which dates from the ninth century, was transported to England into 1544. It was brought back in triumph in 1550.

6 Wimereaux?

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The young man who joined us at St Denis had agreed with the coachman a price of 22 livres to go to Calais, but he handed over 15 and left in Boulogne.

It costs 8 livres to go from Boulogne to Dover.

At Marquise I got half-guineas and guineas of William III, Queen Anne, George, etc.

I left Marquise at midday and arrived in Calais at 5:00. While traveling I saw Fort Violet, the eastern breakwater and the western breakwater with Fort Rouge. Fort Risbanc is behind; to the east is Fort Verd. There is also Fort Lapin which lacked powder in the war. I saw Mr Blondeau,^{M10} hydrographer to the King, who gets only 600 livres. He assured me that the settlement of the port⁷ is eleven and three quarter hours from Calais. I saw Mr Genousse, shipbuilder, who had been sent for to build a frigate and a lighter for the King, and who usually lives in Havre.

He made warships, a score during this war. The biggest was of fourteen guns. They succeeded in the beginning, but in the end they were all taken. He wanted to transfer the office of Mr Blondeau to Dunkirk, but everything is more expensive there. He evaded the order.⁸

There are thirty thousand men in Dunkirk and five thousand in Calais. There are eight flat boats in the basin. They have only one mast and a bowsprit with a topmast which, in some, are in one piece. They were to carry structural timber to Dunkirk, but the English blockaded the port. The port is sometimes dry in places. Then vessels of 250 tons cannot enter.

There is a lighthouse at the end of the eastern breakwater for vessels which arrive night. There are also pilots who go out when they see vessels along the coast. They cost one ecu per foot of draught. One also pays 5 livres per ton to the admiral.

Two or three English captains have already come and offered to take us. Their freight is five to six louis.

Mr Blondeau resides in Orleans Street at the house of Mr Gameri. I lodged at the Royal Table in Calais.

The Blancné is the famous mountain two leagues from Calais, where the court maintains a lookout in times of war. You can see to the Thames river.

The Calais canal goes to Saint Omer. In Dunkirk there are locks and a ferry to Saint Omer on Tuesday.

The tower of Caligula in the middle of Fort Risbanc defends the entrance of the port.

Coulevrine de Nancy. The port is called the cemetery of Dutchmen. It is very dangerous, especially when the winds are in the south-west.

Friday 11th March.

At 7:00 I left Calais for Dunkirk, passed Oualdan and arrived at 11:00 in Gravelines which is four leagues from Calais. On Friday and Monday a coach with ten places goes to Dunkirk. I had dinner in Gravelines, whose fortifications are in very good condition and very wide. It is said that it has never been invaded.

Left Gravelines at 1:00, passed Great Mardik after two leagues and Fort Mardik where the lock of the canal is. One league further on this lock releases so much water that it scours the mouth of the port of Mardik and vessels of fifty guns can enter. The English were against it.

At 4:15 I arrived in Dunkirk with a terrible wind, passed the Bergues lock and stayed near the port in the Caretaker's lodge. It is near the stock exchange and the town hall. I saw the embankments which border the channel of the port, Fort Risbanc on the left, two forts on the right which will be demolished. There were ten boats at anchor awaiting the tide, one run aground, one sunk, and the remains of a stranded vessel. The port is difficult. It costs as much for insurance to leave the port as for the voyage to America, two percent. There are currents at the entrance of the port between the banks, which push ships towards the coast. The lock of the Bergues canal is very necessary to clean the port - see *The Universal Museum* for March 1763.^{M11}

Mr Denis is a quite good shipbuilder in Dunkirk. I saw the frigate, the Dunkirk, which he had prepared to arm in case of invasion when peace came. There are a hundred flat-bottom boats in Dunkirk. They are badly jointed, prone to arch and they do not have enough mast; they were made by Mr —. The English commissioner, Desmarais, is occupied drawing up his official report of his visit and then taking it to London.

M10 Claude François Blondeau de Charnage (1710-1776).

7 Dunkirk.

8 I assume Lalande means he did not build the ships for the King.

M11 *The Universal museum or gentlemen and ladies polite magazine of history, politicks and literature*, 3 vols (London 1763-1764).

Diary of a Trip to England 1763

*Saturday 12th March.*⁹

Mr Borda^{M12, 10} came to dine with me at Mr Tully's, the Irish doctor in Dunkirk, who told me he had very carefully observed the relationship of the moon with diseases.

From the top of the tower in Dunkirk you can see the Thames. There is a telescope at the top.

The trade of Dunkirk is fabric, wine and hemp. The Mardik canal was built in 1714, but the treaty of the Quadruple Alliance in 1717 agreed to narrow the locks to sixteen feet. The engineer in Calais claimed that locks clean the ports, but that they block the entrance by heaping up sand there. The Bergues lock was built in 1757.

There are two praams (flat-bottomed boats) in Dunkirk; one is rather good and will be used to bring back prisoners from England. They are about 130 feet long, strong plates and big bodied.

The entrance of the basin is forty feet. It can hold twelve large vessels and as many frigates. The building of the rope factory forms one side and the royal stores the other. This basin with its lock cost only 600,000 livres in 1757.

Mr Borda experiments on the resistance of air and water. He found it as the square of the speed, but not as the square of the sine of the angle of incidence; this varies a lot according to the shape of the bodies. He works on a large frame beside a frigate of Mr Denis in the basin of Dunkirk.

Mr Foulet, jeweller of Sainte Anne Street close to the Palace in Paris, is one of those interested.¹¹ At the least he also made experiments on the speed of water¹² and he believes that within two feet of the bottom the speed of water is higher than on the surface.

9 *Le 11* in the diary. It took a day to get to Dunkirk and Lalande spent some time there, so this must be Saturday; Sunday was spent going back to Calais to catch the boat to England.

M12 Jean-Charles Borda (1733-1799); mathematician; in 1763 he was an assistant geometrician of the Academy of Science and worked on the problem of the resistance of hydraulic fluids and the movement of solids.

10 Borda designed a reflecting circle for astronomical observations (in 1774) and was involved in French work to develop marine chronometers.

11 Is this the same person as Vouler mentioned in the list of addresses ?

12 Monod-Cassidy: *dans les moires y a fait aussi des expériences sur la vitesse des eaux*, but the ms reads *dans les moins ...*

Monday 14th March.

In Calais I drew up a power of attorney for Mr Danin and Mr Blondeau undertook to dispatch it; 3 livres 10 sols.

Mr Cassieri, director of the post office, gave me a letter for Mr Minet in Dover. I did not have time to see Mr Carpentier, proctor of the King to the admiralty, for whom Mr Guerin^{M13} and Mr la Tour had given me a letter. It cost me 6 livres for two suppers and a bed. Mr Cassieri is a relation of Mr Genet. He gave me eighteen guineas for all my louis.

The engineer gave me a sachet of saffron to prevent vomiting. He showed me a plan of Calais. I went to get passports from the Commissioner of Classes, and the Major to whom 13 sols is due.

Mémoire sur l'histoire de Calais, académie des inscriptions T.43 by Mr de Brequigny. Town walls in 1227. Taken by the English in 1347 and yielded up in 1363.

I was in the port of Calais at 11:15 and the steamer started to leave, towed by sailors. At 11:50 it passed the breakwaters and at midday I started to feel sea-sick. I made myself safe by lying down on my back. At 3:20 we arrived at the coast off Dover. We dropped anchor and a launch came to take us. They wanted a half guinea per person, but Mr Minet gave only 6/-. For the men who came on the launch, customs, and the tavern, 2/-. For the steamer according to use, 15/-. For the customs' visit 2/6.

At 5:00 I made my way to the tavern from the ship.

The women of Dover wear very large hats with long scarlet coats as in London.

The city is large, but the streets are narrow and the houses are low. It is dominated by a steep cliff, at the end of which is the castle on the top of the mountain. It cost us 20/- for the coach, half in advance.

The Duke of Coal. A bed each 1/- and a table-fowl 2/-, in all 4/10 for two of us.

M13 Carpentier, (?) (1739 -?); expert-estimator, economist; proctor of the king to the admiralty; inspector of estates.

Jean-Louis (?) Guerin (1732 -?); astronomer; corresponded with Lalande in 1770, which encouraged him to take part in *Ephémérides des monuments célestes pour le méridien de Paris*(Paris 1783-1792). See Lalande, *Bibliographie astronomique* (Paris 1803), p. 339. Mr Green identifies him as 'probably the Benedictine and historian'; an error.

Diary of a Trip to England 1763

Tuesday 15th March.

I left Dover at 2:15 with Mr Cousin^{M14}, in a coach which was to the landlord his *ship*, and we arrived in Canterbury at 5:15. I saw the condition of the cathedral. We changed coach and horses there, and also in Sittingbourne and Rochester. The port of Chatham is very close to Rochester. We passed a very beautiful bridge in Rochester which is five miles from Sittingbourne, ten miles from Canterbury and fifteen from Dover.

From there we went to Dartford and then Welling where we ate. We saw the port of Deptford two miles from London and we arrived on Westminster Bridge at 4:15.

I watched the milestones, mile on mile, counted from the standard in Cornhill. It is the shop of a pastry cook on the corner of Cornhill at the end of Bishopsgate. We took eight to nine minutes to go one mile, when there wasn't a rise.

We got down in Charing Cross. I travelled by hackney coach to Mr Simon in Bishopsgate St; it cost a crown. I slept there, but before supper I saw the Monument and London Bridge.

Wednesday 16th March.

I went to a wig maker where I gave six pence for a shave and a hair cut. I went to see the Tower, and from there by water to Surrey Street to see Mr Short^{M15} who spoke to me about the difficulty in giving his mirrors a parabolic figure. It is done only by guess-work.¹³

He showed me his calculations for the parallax of the sun and the longitude from Greenwich to Paris, nine minutes sixteen seconds, which he found by the passages of Mercury and Venus.

To Nivernais' hotel^{M16} where I found Mr Rochette, Mr Bontemps, Mr Leboucher (to whom I was recommended by Mr Genet), Mr Moreau,

Mr Lescalier, etc., with whom I had dinner.^{M17} I saw the palace of Whitehall, St James, Marlborough, Queen Palace, the park; and I took lodging in Panton Square with Mr Rodgers.

I have approximately forty letters of introduction. I started with Mr Short, Mr Nivernais, Mr Maty, Mr Leboucher, Bontemps and Rochette; and afterwards I dined with Mr Vaillant opposite Southampton Street which leads to Covent Garden.^{M18} He took me to a meeting of the Society of Arts whose subscription is two guineas and who give prizes on all kinds of matters for the encouragement of the arts.^{M19}

Thursday 17th March.

I went to the museum, to Lord Macclesfield's and to the Royal Society. Dinner at the Mitre Tavern¹⁴ near the Temple with Lord Macclesfield,

M14 Mr Green, p. 114, identifies him as Jacques Antoine Cousin, mathematician and physicist; director of the military school in 1769.

M15 James Short (1710-1768); optician, F.R.S.; called to London to teach mathematics to William, Duke of Cumberland.

13 See also notes M42 and my note following M96.

M16 The Duke of Choiseul, then Minister for Finance, suggested the name of Duke of Nivernais. Nivernais accepted the role of ambassador in London and presided over the debates which preceded the signing of the treaty of Paris in 1763. In his journal, he enthusiastically praises the English countryside and the abundance of boats which ply the Thames from Rochester to London. Lucien Pérey, *Un Petit neveu de Mazarin* (Paris 1890), pp. 489-94.

M17 Rochette: François Thomas Moreau of Rochette (1720-1791); agronomist and industrialist.

Leboucher: Boucher de La Piletière, secretary of the Duke of Nivernais.

Genêt: Edmé Jacques Genest (?-1781); secretary-interpreter for gentlemen; resided for a long time in England. It was supposed, without evidence, that he was in charge of a secret mission.

Jean Michel Moreau (1741-1814?); drew engravings for various scientific works.

Daniel Lescalier (1743-1822); Mr Green says (p. 115): 'A writer on naval matters. He spent five years in England. He was an orientalist of repute.' He was brother of Mrs Rollet. He was one of the secretaries of the Duke of Nivernais in 1763 and left for St Dominique in 1764.

All these Frenchmen belonged to the retinue of the Duke of Nivernais.

M18 Matthew Maty (1718-1776), M.D., F.R.S.; librarian of British Museum.

Paul Valiant; bookseller specializing in French books.

M19 Society of Arts: London Society for the Encouragement of Arts, Manufactures and Commerce; founded in 1753 by Folkestone, S. Hales and W. Shipley; in 1821, the society had about 1,800 members and freely accepted foreigners; it met once per week; see J. W. Lake, *Le Guide de l'étranger à Londres* (Paris 1827), p. 624. Lalande gives additional details in the entry for 20th March.

14 The history of the Royal Society Dining Club is given in Geikie, *Annals of the Royal Society Club* (London, 1917).

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the ambassador of Venice, Lord Willoughby, the Bishop of Clarence, Short, Morton, Birch, Ellicott, Watson, Maskelyne and others.^{M20, 15}

Normally it is 3/1d but this time because of the claret, Bordeaux wine which costs 5/- a bottle, one paid 4/6. Plum pudding, chestnut pudding¹⁶, etc.

At 5:15 we were at the Royal Society in Crane Court, Fleet Street. A letter which referred to me was read.^{M21} The meeting lasted one hour. I saw Mr Wadington^{M22} who was in St Helena with Maskelyne and who has a school close to the Monument. After each lecture the president thanks the author. Mr Morton read the minutes of the last meeting and

M20 George Parker, second Earl of Macclesfield (1697-1764), F.R.S.; associate member of the French Academy and vice-president of the Foundling Hospital.

Ambassadors of Venice: Messrs Guerini and Morisini were named ambassadors extraordinary of Venice.

Baron Willoughby of Parham (?-1765), F.R.S.

Charles Morton (1716-1779), M.D.; librarian of the British Museum; F.R.S. and secretary 1760 to 1774.

Dr Thomas Birch (1705-1766), F.R.S.; member of Antiquary Society; trustee of British Museum.

John Ellicott (1706-1772), F.R.S.; in 1738, he presented a pyrometer to the Royal Society. *Essays towards the laws of electricity* (London 1748).

Dr Robert Watson (1720 -?); historian and Professor of logic at the college of St Salvator. *History of Philip II of Spain* (London 1777).

Nevil Maskelyne (1732-1811); director of the Greenwich Observatory.

15 John Ellicott: Clockmaker to the King and one of the eminent English makers; he invented a compensation pendulum; G.H. Baillie, *Watchmakers and clockmakers of the world*.

Nevil Maskelyne: Appointed Astronomer Royal in 1765; one of the main proponents of the lunar distances method of finding longitude.

Lord Macclesfield, President of the Royal Society, 1752-1764.

16 Monod-Cassidy: *marque potinger* but actually *marou potinger* in the ms.

M21 There is 'A discourse on the parallax of the sun by the rev. Thomas Hornsby', in which calculations and opinions of Lalande are mentioned, in *Philosophical Transactions* (1763), liii.467. It is perhaps the 'letter' about which he writes.

M22 Robert Wadington. *A Practical method for finding the longitude and latitude of a ship at sea, by observation of the moon ...* (London 1763).

Mr Birch read the other papers. In the room are the portraits of Newton, Folkes and Sloane.^{M23}

Friday 18th March.

I was at Mr Maskelyne's and then went to see Mr Bevis.^{M24, 17} While returning I saw Holborn, Lincoln's Inn Fields, Bedford House and the Foundling Hospital. I stopped in Holborn to buy books - poetry, history, law, policy; 12/- for thirteen volumes.¹⁸

In the evening I saw Westminster Abbey. The mausoleum of Newton is on the left opposite the door, that of Lord Stanhope on the right. On the right side Congreve, Freind, Chardin, Dryden; and on the left a famous organist.

I was up until 9:30 in Rothmells coffee house in Henrietta Street with Mr Birch. There one can read the votes of the House of Commons which are printed each day.

Today there was an *Oratorio* in Covent Garden. It is a type of sacred concert music.

Saturday 19th March.

It is the festival of St Joseph. I went to Mr Cole and Mr Templeman.^{M25} I saw the Slaughter coffee house in St Martins Street, where Newton

M23 Sir Isaac Newton (1642-1727).

Martin Folkes (1690-1754), F.R.S. 'when only twenty three'; member of Antiquary Society; Academy of Science; published several works on historical numismatics.

Sir Hans Sloane (1660-1752), F.R.S., then president; associate member of the French Academy and the Academy of Science; physician to George II; one of the founders of the Foundling Hospital; on his death he bequeathed £50,000 which forms one of the bases of British Museum.

M24 John Bevis or Bevans (1693-1771); physicist and astronomer; he composed *Uranographia Britannica*, with 52 engraved plates (star maps); the printer went bankrupt and the work was never published; he published *Halley's astronomical tables* (London 1752), *History and philosophy of earthquakes* (London 1757).

17 Lalande doesn't actually meet Bevis until the 29th of March. Unless the diary actually describes a meeting or an object, phrases like 'I went to' may not mean he met the person or saw it.

18 These and other books mentioned are probably those which Lalande lists near the end of the diary.

M25 William Cole (1714-1782); member of the Antiquary Society; in 1765 he made a voyage to France with Walpole.

Peter Templeman (1711-1769); librarian of British Museum until 1760, then secretary of the Society of Arts.

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went every day, and the house of Mr Moivre.^{M26}

In the evening I went to the Haymarket opera where Orion played.^{M27} Pit and box, half a guinea; gallery, 5/-. The second gallery is wretched. Men and women are pell-mell in the stalls, the boxes and the gallery.

Mr d'Amicis played Candiope; Miss Valsecche, Diane; Miss Cremonini, Nice; Miss Segantini, Betrée¹⁹; Miss Carmignani, Argia; Mr Ciardini, Orion. The dancers are Miss Asselin, Mrs Binetti, Mr Binetti and Mr Galliai; music of Bach, Saxon; words of Mr Bottarelli.

Sunday 20th March.

One does not make visits in the morning, one cannot walk by the river. I saw Hanover Square, Golden Square and Grosvenor Square, Oxford Road and Tyburn to the barrier. I wrote to Mrs Lepaute and to my mother, to go by the ordinary post tomorrow.^{M28, 20}

At 2:00 I was at the Court presenting chambers. The King, the Queen, Princess Augusta, the Duke of York, Prince William and Prince Henry all came there.^{M29} I noticed among the pretty women Miss Pitt, Miss Bishop, the Duchess of Exeter and Lady Bolingbroke.

M26 Abraham Moivre (?-1754); mathematician; member of the Academy of Science.

M27 *Orione* by J. C. Bach; the first performance was February 19, 1763.

19 Monod-Cassidy: *Phetrée* [?], but *Betrée* is more likely.

M28 Nicole-Reine Lépaute Etable de La Brière (1723-1788); wife of Jean-Andre Lépaute, clock and watch maker; in 1757, with Clairaut and Lalande, she calculated the attraction of Saturn and Jupiter on Halley's comet; calculations of the sun, moon and planets in the eighteenth volume of *Ephémérides* (1783) are by Mrs Lépaute; J-A. Lépaute had built an astronomical clock about which Lalande had written.

20 J-A. Lepaute *Traite d'horlogerie* (Paris, 1755). This book contains two chapters written by Lalande, *Traite des engrenages* and *Remarques sur la maniere de trouver facilement des nombres pour les roües* the first appears in translation as *A treatise on pitchings* in HL Nelthropp *A treatise on watch-work, past and present* (London, 1873). They may be what Monod-Cassidy is referring to above.

M29 The English royal family: George III (1738-1820); ascended to the throne in 1760.

The Queen. Charlotte Sophia of Mecklenburg-Strelitz (1744-1818).

Princess Augusta of Saxony Gotha, mother of the King (1709-1772).

Princess Augusta, sister of the King (1737-1813)

William Henry, Duke of Gloucester (1743-1805); Edward Augustus, Duke of York (1739-1767); Henry Frederick, Duke of Cumberland (1750-1790); the three brothers of the King.

That evening I made visits and I went to the Slaughter coffee house. I had four or five cups of tea there. It cost 10d (ten pence).

Monday 21st March.

I went on the Thames from Whitehall Stairs to Three Cranes Stairs for 3d. I saw Mr Blaquièrre, Mr Mavit and Mr Casenove, Mrs Duval.^{M30, 21} I saw Morfields, West Smith and then went to Mr Bevis. I bought logarithms in folio 2/- and the third volume of the Spectator 1/-. I bought a hat, 16/- or 18 livres 6 sols in French money, and a small plan of London for 6 sols; two pocket knives, one which closes by a spring 2/6 and one with a sheath 1/6.

Mr Vaillant sent me the tables of Gardiner.^{M31}

Tuesday 22nd March.

I saw Mr Shebbeare who is working on a history of England.^{M32} He spent three years in prison for his sixth letter to the people, against the ministers Newcastle, Hardwicke and Fox. Mr Pitt, for whom he had worked, abandoned him in a cowardly way. He has just published a picture of England under the name of Sumaton.

I saw Mr Wyche in Great Ormond; he is a large-scale farmer.^{M33} I dined with Mr Morris, who showed to me his calculations, and spent the evening with Mr Collinson.^{M34}

M30 John Blaquièrre; French merchant who had emigrated to England in 1732; father of the Baron John de Blaquièrre (1732-1812).

Professor Green (p. 116) identifies Casenove as Casanova (1725-1798) 'the celebrated adventurer'; that does not seem very probable; He identifies Mrs Duval as Valentine Duval, man of science and numismatics: an error.

21 Lalande describes Casenove and Duval as a traders when he gives their addresses.

M31 William Gardiner; geometrician. *Tables of logarithms, for all numbers from 1 to 102,100, and for the lines and tangent to every ten seconds of each degree in the quadrant* (London 1742).

M32 John Shebbeare (1709-1788); On November 28, 1758, Shebbeare was condemned to three years in prison for his political writings and put at the pillory in Charing Cross on December 5, 1758. *The History of the excellence and decline of the constitution, religion, laws, manners and genius of the Sumatrans, and of the restoration thereof in the reign of Ammath the Third.* (political satire on the state of England), 2 vols (London 1760).

M33 Peter Wyche; F.R.S.; student of Louis Dutens (see note M50).

M34 Peter Collinson (?-1768); naturalist and archaeologist; F.R.S.

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Wednesday 23rd March.

I saw Mr Maskelyne and at 11:00 I took a coach from Charing Cross to Greenwich. I arrived there at 12:15, but I could not see Mr Green^{M35, 22} until 3:30. He showed me the observatory. I saw the hospital and I set out again at 4:30. It cost 1/-. In the evening I saw Mr Hawkins, a surgeon.^{M36}

I paid 10/6d for my room, half a guinea per week.

Thursday 24th March.

I saw Mr Edwards at the College of Medicine, who showed me many birds.^{M37} He is occupied publishing the seventh and last part of his collection. I dined at the Mitre. There were sixteen people. The Mitre Society was originally formed by Mr Halley when he came from Greenwich to attend the Royal Society.^{M38} It is made up of forty people, some of whom are not in the Royal Society, and an election is held when more members are needed. Each one has the right to bring a friend.

I went to the Royal Society in Crane Court, near the church of St Dunstan. Very close by is the tavern of the devil where Ben Johnson used to go. The sign shows St Dunstan holding the devil by the nose with tweezers. There will not be another meeting until April 14th because of Easter.

Mr Parsons, with whom I had made acquaintance, took me to the Antiquarian Society (Chancery Lane).^{M39}

M35 Charles Green; assistant at the Greenwich Observatory. *A General dictionary of arts and sciences, or a complete system of literature, containing [...] the mathematical branches* (London 1765-1766).

22 Charles Green (1735-1771), astronomer. In 1764 he went with Maskelyne to determine the longitude of Barbados by lunar distances.

M36 Sir John Hawkins (1719-1789); magistrate and writer; member of the Academy of Ancient Music. *Observations on the state of the highways* (London 1763).

M37 George Edwards (1694-1773), F.R.S.; Antiquarian Society; appointed librarian of the College of the Physicians by the grace of Sir Hans Sloane. *History of birds*, 4 vols (London 1743-1751); *Gleanings of natural history*, 3 vols (London 1758-1764).

M38 Edmond Halley (1656-1742); of the comet; F.R.S.; Astronomer Royal; travelled to St Helena in 1676. *Théorie sur la variation de la Boussole magnétique* (Londres 1683).

M39 Antiquarian Society: founded about 1572 by Archbishop Parker; in 1750, the king declared it a Royal society.
James Parsons (1705-1770), F.R.S.; Antiquarian Society; close friend of Folkes and Mead, published many articles in the *Philosophical Transactions*.

On the 22nd, peace was proclaimed at five places in London. In the evening there were some illuminations on the side of Whitehall etc. But in an extremely petty manner, the English called out curses: 'You are stupid like the peace.'

The first Lord of the Treasury is actually Mr Bute who is master of all, because it is he who grants employment, handles the money, borrows on its behalf, etc.^{M40} The Secretaries of State are only his tools.

On the 24th I saw Lord Morton.^{M41} He has the Order of the Thistle, *Nemo, me impune lacessit*. It is at his house that Mr Lemonnier observed the eclipse of the sun in 1748.^{M42} Mr Short told me that he did not have a micrometer at that time.

Friday 25th March.

I saw Mr Pringle^{M43} and Mr Gouyn in Bennet St James. I bought the cosmography of Heylyn in English, 4/-. I dined at Mr Nivernais; the evening with Mr Nourse.^{M44}

Saturday 26th March.

I had breakfast with Sir MacDonald, who had wanted to meet me for a long time.^{M45} I saw Mr Lefèvre, jeweller in Grafton; Mr Charles Boyd at Blunts coffee house. He lived in Picardy, with the result that he is a friend of Mr Briche in Boulogne, from whom I had a recommendation.

M40 John Stuart, Lord Bute (1713-1792); member of the Council, Secretary of State; retired to one of his estates, where he occupied himself with scientific work; see also note M78.

M41 James Douglas, 14th Count of Morton (1702-1768), F.R.S.; President of the Royal Society in 1764; he accepted the Order of the Thistle in 1738; in 1746 he was imprisoned in the Bastille for reasons which are not clear, but probably due to his political opinions.

M42 Pierre Charles Lemonnier (1715-1799); Academy of Science; he accompanied Maupertuis in his scientific expedition to the polar circle; in his *Mémoires* of 1738 he honoured the method of Flamsteed; in 1748 he went to Scotland with Macclesfield and Short to observe the eclipse; professor at the College of France. Of his work *Institutions astronomiques* (Paris 1746), Lalande said that it was one of the best French works on elementary astronomy.

M43 Sir John Pringle (1707-1782), F.R.S.; Academy of Science; doctor to the King.

M44 Peter Heylyn (1600- 1662). *Cosmographie in four books, containing the Horographie and Historie of the whole world* (London 1652).
Nourse; editor specializing in French texts.

M45 Sir James MacDonald. Is this the Sir James MacDonald of Sleat who visited Voltaire in 1765? See A.-M. Rousseau, *L'Angleterre et Voltaire*, *Studies on Voltaire* 145-147 (1976), ii.335.

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I went to the St Johns coffee house (close to the door St Johns, St Johns Square) for lunch and to look for Doctor Bevis. To Drury Lane, *Venice Preserved*.^{M46} At 5:00 I could only get the last place in the gallery. It was full, 2/- Jassier by Mr Garrick, Priuly by Mr Navard, Pierre by Mr Holland, Belvidera by Mrs Cibber. I was so hot that I did not stay for *School Boy*.^{M47}

In the evening I got letters from France and proofs of my book.^{M48} The mail had been delayed in Calais for eight days by head winds. I also received a letter from Doctor Bevis who is in the country and who has been looking for me for several days.

I saw Mr Metayer at Charterhouse.^{M49} It has twenty boarders at twenty-five guineas. They go to the school at Charterhouse, the ancient convent of Chartreux, which retained the institution for forty old men and forty young people to learn Greek and Latin in six different classes, the first form etc, starting with the lowest.

Sunday 27th March.

I was at Court. I dined at Mr Dutens, where I saw Mr Dutens, his cousin who is at Mr Mackensie's, behind Barington Hotel.^{M50} I was with Mr Parsons in the Red Lyon.

Monday 28th March.

I went to the Chamber of Pairs, and in the evening I had supper with Mr Lefèvre.

M46 By Otway. Premiere, February 1681/82.

M47 *The School boy, or the comical rivals* by Colley Cibber. Premiere in 1707.

M48 In 1763 Lalande published *Art du chamoiseur* which is part of his collection: *Art du cartonier, du courroyeur*, etc. It is possible that this is the book to which he refers, although it might be *Art du tanneur* which was published in 1764.

M49 Charterhouse was at the same time a hospital, a chapel and a school (since 1671).

M50 Dutens were a family of Huguenots who emigrated to England. Frederic Dutens married and made a good career in banking. It is to his place that Lalande goes. His nephew Louis, raised in France, was a tutor at Mr Wyche's and was in the English diplomatic corps.

Stuart Mackenzie; brother of Lord Bute, sent to Turin as ambassador extraordinary. Louis Dutens accompanied him as secretary and temporarily replaced him on his death.

Tuesday 29th March.

I went to see the marine chair of Mr Irwin, at Sisson's, opposite Covent Garden.^{M51, 23} Jeremy Sisson, son of Jonathan Sisson, worked for several years with his father who was crippled, and it is he who made the quadrants for Mr Lemonnier, Lord Macleaf, Pisa and Boulogne.

M51 The marine chair or marine chronometer made it possible for sailors to measure their degree of longitude on the open sea. Lalande wished to buy a model of this chair built by John Harrison (1693-1776) and to bring it back to France.

The history of this chair is well-known. The English government offered a reward of £20,000 for whoever could build such a chronometer. Harrison won the prize, but various difficulties intervened and it was only in 1773 that Harrison received it.

Professor Seymour Chapin read in Edinburgh, at the fifteenth congress of the History of Sciences (August 1977) a communication on 'Lalande and the longitude: a little-known London voyage of 1763'. In his bibliography, he lists the works which were published about the marine chronometer. Let us quote others: see Rupert T Gould, *The Marine chronometer: its history and development* (London 1960) and Humphrey Quill, *John Harrison, the man who found the longitude* (London 1966). The communication of Mr Chapin was published in *Notes and records of the Royal Society* (London 1978), vol. 32.

Mr Chapin makes a distinction between the members of the official commission (Camus and Berthoud) and Lalande who seems not to have been a member of this commission at the beginning. His deductions, based on the text of *Voyage en Angleterre* are not always convincing. Lalande, writing for himself, is often satisfied to mention a name without explanation. His interests were varied and catholic, His curiosity tireless. The goal of his voyage was certainly to examine and if possible to buy scientific instruments which France lacked, amongst others, a quadrant built by Bird.

Jonathan Sisson. He made quadrants. Lemonnier lent to Lalande a quadrant made by Sisson when Lalande went to Berlin in 1750. It is Jeremy Sisson, his son, whom Lalande met.

23 The first two paragraphs of note M51 are wrong. Irwin and others designed marine chairs to enable sightings to be taken at sea for determining longitude by observing eclipses of Jupiter's moons. Harrison built marine chronometers to determine longitude by the comparison of local time with Greenwich time; the determination of local time on a ship is simple and does not require a marine chair. Harrison built 3 marine clocks and a marine watch, commonly referred to as H1 to H4. The watch H4 is the most important, demonstrating that a small timepiece could determine longitude accurately. In fact Lalande never did see Irwin's marine chair; see the entry for 7th June.

Paragraph 4, an emotive argument, is also wrong; see my postscript.

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I went to Mr John Bird^{M52} in York Buildings in George Street,²⁴ *Villiers, Duke, of, Buckingham, Streets*. There is a short name 'of' so that all the words of this phrase are used.²⁵

In the evening I saw Doctor Bevis whom I have sought for a long time. We took tea in Windmill Street with an optician of his friends.

Mr Bird asked 1,200 livres, half in advance, for a quadrant of eighteen inches, and £350 or 8,000 livres for a quadrant of eight feet, to take two years. There is an additional £10 for packing. He says that he has heard complaints of the work of Sisson.

I wrote to Mr Sarron by a mail which leaves tomorrow March 30.^{M53, 26}

Mr Bevis told me that Mr Lemonnier had a young lady, Sophie, who had a girl; while going to Oxford with him and Mr Maldonado^{M54} the girl got tired learning how to pronounce 'strength'.²⁷ It was her Shibboleth.

I saw the *North Briton* of the 19th by Mr Churchill and Mr Wilkes, who have just left for Paris where they will spend six weeks.^{M55} They called

M52 John Bird (1709-1776); manufacturer of mathematical and scientific instruments. He was one of the group which observed the Venus transit in 1761, with Green and Bliss.

24 John Bird, *The Method of Constructing Mural Quadrants* (1768). Possibly the most important instrument maker in London at the time. He worked for George Graham and, in 1757, created the sextant. He was a member of the committee set up to examine Harrison's H4.

25 of (English). I presume Lalande means he has used a short-hand notation for Duke Street and Duke of York? Street (I found no reference to a Duke of Buckingham Street although it may have existed in Lalande's time).

M53 Sarron. Bochart de Saron (1730-1794); Academy of Science; he publicly praised Lalande.

26 Sarron asked Lalande to purchase a quadrant while he was in England.

M54 don Joseph Maldonado y Soto Mayor (?-1748); Academy of Science. Corresponded with Condamine.

27 *strenth*.

M55 John Wilkes (1727-1797); politician. He hated Lord Bute and opposed him for many years. He was supported by Prime Minister William Pitt and thanks to him was elected as member of Parliament representing the town of Aylesbury. However, he could obtain from Pitt neither a post of ambassador in Constantinople, nor that of governor of Quebec. In 1762, he founded with the poet Charles Churchill (1731-1764) the *North Briton* in opposition to the *Briton* published by Smollett. Number 45 of *North Briton* contained an attack against the King and Wilkes was put in prison in 1763. Released as a member of Parliament, he reprinted number 45 of *North Briton*, was dismissed from the House of Commons and retired to Paris where he became acquainted with Diderot and Holbach. He trav-

cont'd

Mr Bute *insolent and all grasping minister*. They accused him of making an onerous loan of 3,500,000 to profit his adherents, and of giving war commissions to people who had not served so that they get only half pay. Mr Ellis, Secretary of the Treasury, is called *jackal* of pay master - it is an animal which seeks to take the plunder of the lion.

I have seen in papers the history of the sailors who hung an effigy of the police chief of Bayonne, *monsieur was in French dress*. It was towards Spitalfields and White Chapel.

I bought Whiston for 6d.^{M56, 28}

Mr Lescalier, secretary to Mr Nivernais and brother of Mrs Rollet, has a son in the academy of painting in Paris, and one who is with him and who works in geography, plans. In London he trades in wines; he has the best.

Wednesday 30th March.

In the morning I was with Mr Bevis. We lunched together and I remained there about two hours. He showed me many books, papers, letters, calculations of astronomy and especially his *Uranographia* in 52 engraved plates.

I dined with Mr Ellicott the son, who is associated with his father; Threadneedle Street, opposite a large coach gate and on the left coming from the exchange. There I met Mr Russel²⁹ who is extremely interested in astronomy, who was in Turkey and who promised to take me on Wednesday to the Tower with Mr Harris.^{M57} He gave me two small engraved sheets of English measurements.

elled to Italy and only returned to England in 1768. He still had political ambitions and after various reverses was elected Lord Mayor of London.

Lalande mentions Wilkes on several occasions. He dates one attacks of Wilkes against Bute to March 19, 1763. The famous No 45 of *North Briton* was published on April 23.

M56 William Whiston (1667-1752). The author probably refers to *Elements of Euclid*, published in London in 1714 and reprinted with additions several times during the century.

28 William Whiston, at one time Lucasian Professor of mathematics, printed 3 pamphlets on finding longitude in 1714, 1721 and 1738; the first was, simply, stupid.

29 There are 3 mentions of *Roussel* and several of *Russel* including 2 addresses. I have used the spelling Russel throughout, assuming the same people (two brothers).

M57 Alexander Russel (1715?-1768), F.R.S.; physicist and naturalist. *The Natural history of Aleppo* (London 1756).

Joseph Harris (1702-1764); scientist. *A Treatise of Navigation* (London 1730); other works on numismatics and geography.

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Mr Ellicott gave me a letter for Mr Bliss.

I had caught cold at Doctor Bevis and I left there and went to sleep early. It took me approximately fifty minutes to go from Clerkenwell Close to Panton Square.^{M58}

Thursday 31st March.

I went to Oxford (58 miles) with Sir James Macdonald. From London to Windsor, 9:30 to 1:00 = three and a half hours; we left Windsor at 2:45 and arrived in Oxford at 9:15 = six and a half hours - in all, ten hours. We made one mile in eight minutes; the changes of coaches took ten minutes.

In Windsor I saw the weapons of the Black Prince and King Jean,^{M59} the triumph of the Black Prince, the beauties of the court of Charles II, his equestrian statue in the middle of the castle court, the most beautiful view for several miles around, the Thames, the park, the forest. It is the place where Edward III instituted the Order of the Garter for the Duchess of Suffolk.^{M60}

We made ten to sixteen miles in each coach.

April 1763

Friday 1st April.

Sir James showed me all the colleges of the city; there are twenty main ones. I dined at 5:00 with Mr Hornsby, Savilian professor of astronomy.^{M61} I saw Mr Bliss.^{M62, 30}

Great Christ Church College is tallest, the best building; it was built by Cardinal Wolsey before his disgrace.^{M63} He was a chancellor minister, had three bishoprics and served in the Lords. It was to get his assets that the King took action against him.

Saturday 2nd April, Easter Saturday.

I saw the paper mill at Wolvercote 3 miles from Oxford.^{M64} There are only two cylinders and two tanks. It is not glossy. It does not rot.

I dined with Mr Bliss. He told me that Mr Lemonnier attached the wire to his quadrant with wax from his ears, that he went to Oxford with his sword broken, and that his observations agree less well with those of Mr Bevis than those of Caille.^{M65} He promised me letters to Mr Green and a bed in Greenwich.

I saw the Thames, the bridge on which is *Friar Bacon's Study*,^{M66} the old tower; and beyond that the tomb of beautiful Rosamonde^{M67} (see *A Tour Through Britain*). The theatre for public performances is a very

M58 A distance of about 1 3/4 miles from the centre of London, districts of Marylebone and Finsbury.

M59 The Black Prince or Edward of Woodstock (1330-1373). One of the greatest captains of the one hundred year war.

Jean II the Good (1319-1364); King of France from 1350 to 1364; captured in Poitiers by the Black Prince and died in London.

M60 When she danced with Edward III, the Countess of Salisbury lost her left garter. The king collected it and said: '*Honni soit qui mal y pense*' and founded the Order of the Garter. The Knights wear a blue velvet garter inscribed with the motto on their left leg.

M61 Thomas Hornsby (1733-1810), F.R.S., astronomer; he succeeded James Bradley to the Savilian Chair of astronomy in 1763.

M62 Nathaniel Bliss (1700-1764), F.R.S.; he succeeded Halley as Savilian professor in 1747; he observed the transit of Venus in June 1761.

30 Bliss was the Astronomer Royal at the time of Lalande's visit.

M63 Thomas Wolsey (1471-1530); he was named Royal Almoner to Henry VIII in 1499 and in 1514 was made Archbishop of Lincoln; he began the construction of Christ Church in Oxford in 1529, which was finished by Christopher Wren in the seventeenth century.

M64 There have been paper mills since 1666. Joanna Cannan, *Oxfordshire* (London 1952), p. 23.

M65 Nicolas Louis de La Caille, abbot (1713-1762), F.R.S.; mathematician and astronomer; member of the Royal Academy of Sciences; travelled to the Cape of Good-Hope, 1750-1754; he worked with Lalande in Berlin in 1750.

M66 It is said that Roger Bacon, whose monastery was south of Oxford, had a laboratory above the guard cabin on the Folly bridge.

M67 Mistress of Henry II. She died in 1173 and was buried in the vault of the convent at Godstow; see *The Life and times of Anthony à Wood* (London 1961), pp. 98-102.

handsome building, the carpentry in it is very beautiful. It was designed by the famous Wren.^{M68} The building of the printing works^{M69} is also extremely beautiful, but only bibles and sermons are printed there because the majority of people at the university are clergymen. There are no houses where one is welcomed, not for girls, not for people of quality. It takes seven years to be a Master of Arts, twelve years to be a Doctor of Laws, fourteen to be a Doctor of Medicine, sixteen for Divinity. The fellows of the various Colleges obtain church livings and then they can marry.

The two Savilian professors, Bliss and Hornsby, have approximately £140 for thirty or forty public lectures in the four terms of the year. They give special courses which earn them as much again.

Mr Bliss does not know of any English book on the construction and design of ships; the English have always imitated our ships but they construct them better than we do.

Sunday 3rd, April, Passover.

I went to Blenheim, eight miles from Oxford. An immense house which the benevolent Queen Anne gave to Marlborough with 10,000 pieces annual income; it cost 2,000,000 pieces to build.³¹ It is a mass of stone.^{M70}

Mr Macdonald took me there in a post chaise. There is a steel works at Woodstock.

M68 Sir Christopher Wren (1632-1723); he writes about the Sheldonian Theatre, whose broad roof is without supporting columns. To build this roof, Wren took as a starting point the models of Wallis. See note M116.

M69 Oxford University Press, which was at that time in the Clarendon Building (1722) beside the Sheldonian Theatre.

31 The frequent references to *pièces* are confusing. In his notes, regarding the accommodation of Mr Camus, a *pièce* is worth about 18/-. In other places I suspect Lalande may be using *pièces* and *pounds sterling* interchangeably. If so, Marlborough's income and the cost of Blenheim seem staggering amounts of money. Another source suggests that *pièces* are 'pieces of eight' and they were worth about 4/- at an unspecified date. In which case Marlborough got about £2,000 per year and Blenheim cost £400,000 to build. As noted later, Lalande also says a piece is 36/-! I am not a numismatist and I haven't probed this matter.

M70 Started in 1705 by Woodstock, the English Parliament gave it to John Churchill, duke of Marlborough, in recognition of his victory at the battle of Blenheim during the war of Spanish succession. It is a famous example of Baroque architecture.

Monday 4th April.

I saw the library of Queens College, the Radcliffe library in a beautiful round building,^{M71} the Bodleian library, the room of the great men which is nearby, the marbles of Arundel^{M72} and the leather tannery.

Tuesday 5th April.

I left in a post chaise at 6:15 and arrived in London at 2:45. That is eight and a half hours for 58 miles, which is seven miles per hour. It cost me 30 livres for my place. We had five postilions and each one needed 1/-. Four turnpikes 7d, 2d, 3d and 10d - and 9d for each mile. We passed through Dorchester, Benson, Henley, Maidenhead, Southall, Hounslow, Brentford and Kensington.

Wednesday 6th April.

I had lunch with Mr Russel where I met Mr Michel,^{M73} curator of the cabinet of natural history in Cambridge. He spoke to me about Mr Smith, Mr Dunthorn and Mr Long.³²

We went to see Mr Harris and the different workrooms of the mint. He promised me a standard weight as soon as there was one from the workbench.

I dined at the Stag in Bishopsgate and saw the clock of London Hospital, about which I have written part of a small description.^{M74}

Thursday 7th April.

To lunch at Mr Bird's with Mr Hornsby. We were together in Greenwich, by the river through which a thousand vessels pass in an hour; dinner 9/-.

M71 Radcliffe Camera, an independent library at that time but which now forms part of the Bodleian Library.

M72 They were in Bodleian Library, a gift of Henry Howard; see *The New Oxford guide* (Oxford 1978), p. 12.

M73 John Michel, F.R.S., *A Treatise on artificial magnets* (London 1750).

32 Possibly they are John Michell (1724-1793), one of the examiners of Harrison's watch H4, Robert Smith (1689-1768), Plumian Professor of Astronomy at Cambridge, and Robert Long, Master of Pembroke College Cambridge (see note M138).

M74 I did not find in the manuscript the description which is referred to by Lalande. London Hospital accepted its first students in 1741.

Diary of a Trip to England 1763

Friday 8th April.

Dinner with the Duke of Nivernais, Mr Beaumont,^{M75} Mr de Romgould, Mr Wolf, nephew of a banker in Paris, and Mr Lamotte nephew of Mr Miret.^{M76} I saw Mr Pringle, Mr Avuarre in South Audley Street, Mr Butler and Mr Bontemps in his inoculation house in Marylebone. I had supper with Mr Maskelyne.

Saturday 9th April.

I saw Mr Henri (arrived from Angouleme) with Mr Vaillant, Mr Short, Mr Duval a trader, and Mr Bevis.

I saw Gresham College,^{M77} where mathematics lessons, etc are done in four terms. His brother refused to help Chancellor Gresham when he was about to become bankrupt. His ships arrived the same day that he had written to his creditors to settle. He disowned his family.

I went to see Goldman Field, Wellclose Square, Spital Square, Spitalfields Market, Spitalfields Church. They are 5 of the places where the resignation of Lord Bute was declared.^{M78} It is said that his wife decided he had to leave the ministry for his security and for that of the King. Some say that it was because he is a Scot, others because he gave too much to the Spaniards and the French, and that he was to take the treasures of South America.

Supper with Mr Simon.

Sunday 10th April.

I went with Mr Dutens to see Doctor Campbell in Queen Square, close to the Foundling Hospital. I saw the clocks and watches that James

Newton left him. I learned that Mr Camus and Mr Berthoud are coming for the secrets of longitude from Harrison.^{M79, 33}

In the evening I conversed for a long time with Mr Watson, Lincoln's Inn Fields, and Miss Dutens, Leicesterfields.

Monday 11th April.

I went to see the fire pump at Chelsea with Mr Rochette^{M80} and Mr Vaubicourt. Lunch at the Dog-and-Duck where there is mineral water. To St Thomas Hospital in Southwark, which Mr Russel showed to us.^{M81} There are 480 beds, 5,000 pieces of fixed income and five of voluntary subscriptions. Displayed in the main room are the names of all the benefactors.

To the Custom-house, in the long room of which there are more than one hundred clerks.

To the Tower, the room of the armada preserves the remains of the famous Spanish fleet, which is painted in the House of Parliament. The guard who led us took 1/- per person; regalia, 1/-; the lions, 6d; the weapons rooms about 6d; in all, 3/-.

In the square tower or White Tower built by William the Conqueror there are the offices, archives and powder store.^{M85} One never goes in there.

M75 Eon de Beaumont, knight (1728-1810); he was at that time secretary to the Duke of Nivernais and briefly replaced him as ambassador plenipotentiary; one of the secret agents of Louis XV.

M76 Miret, banker.

M77 Founded by Sir Thomas Gresham (1519-1579), founder of Royal Exchange. It gave free lessons in religion, astronomy, music, geometry, law, medicine and rhetoric.

M78 Succeeded Newcastle as Minister for Finance in 1762; he was accused of being bought by the French at the time of the preliminaries of the Treaty of Paris; he became even more unpopular by imposing a tax on cider in 1763 and had to resign on April 8, 1763; see also note M40.

M79 John Campbell (1708-1775). *A political survey of Britain* (London 1774).

James Newton: John Newton inherited the library of his uncle Isaac; he died in 1737. Is it him to whom Lalande refers?

Charles Etienne Louis Camus (1699-1768), F.R.S.; mathematician, geometer; Academy of Science; he belonged to the group of scientists who measured the arc of the meridian line between Amiens and Paris.

Ferdinand Berthoud (1727-1807); clock and watch maker, rival of Le Roy: 'His watches do not vary at sea.'

Harrison: see note M51.

33 Ferdinand Berthoud was one of the main figures in the development of marine chronometers in France. He wrote several excellent books on horology and his *Essai sur l'horlogerie* was published in 1763.

M80 François-Thomas de La Rochette (1720-1791); agronomist and industrialist; director of the King's farms in Melun.

M81 Founded at the beginning of the thirteenth century; rebuilt in 1228; in 1553, under Edward VI, it became an old people's home; the number of beds available increased little by little. William Kent, *An encyclopaedia of London* (New York 1951), p. 327.

M85 The White Tower belongs to the Tower of London; it contains a water tower which supplies the buildings of the Tower of London. *Guide de l'étranger*, p. 470.

Diary of a Trip to England 1763

In the *horse armouries* on the right are all the horses and the kings of England since William the Conqueror. You pass under the bloody tower where children of Edward IV were massacred.^{M86} There you see the famous Duke of Lancaster who was seven feet tall and was son, father, brother and uncle of kings and never King himself.^{M87}

The hatchet which cut off the head of Anne Boleyn and of the Count of Essex, the door of the traitors, the tower where Lord Ferrers was held.^{M88} Mr Paul Vaillant, Esq was then Sheriff of the city. These two magistrates are charged with the commission of executions and of summonses. It is the Lord Mayor with the thirty aldermen who govern.^{M89}

Dinner cost 10/- of which I paid half, 5/6; coffee and a hackney coach, 2/6. I ate extremely delicate cakes of the City, *apple puffs*.

I went to see the birds of Brookes, golden pheasants, which are very beautiful.^{M82} I saw Osborne's bookshop, the garden of Gray's Inn, that of Furnival's Inn where Mr Smeaton stays,^{M83} the hospital of Christ Church and that of St. Bartholomew^{M84} which is in Smithfield.

Tuesday 12th April.

I went with Mr Dutens to Payne's bookshop close to the Mews. From there to Mr Romgould and to Mr Moreau where I saw Mr Deshays,

deputy of Guadeloupe, where Mr Duclos or Father Valette stays.^{M90} They have between them a girl named Miss Gilbert.

I went to the court of the Princess of Wales,^{M91} the second Tuesday of each month, and I dined with Miss Dutens and Mr Lespinass physician. I went to Marylebone to see Mr Bontemps with Mr Leboucher and Mr Lescalier. Mr Deshays, Mr Rochette and Mr Vaubicourt were there.

Wednesday 13th April.

I went to Greenland Dock near Deptford to see the dock-yard of Mr Randal, where he is building a ship of 74 guns. The timbers appeared to me to be of a smaller size, better cut and better assembled. There are hardly any nails in the timbers.

I dined at Mr Simon's with Mr Blaquiere, Mr Bernard (minister for the Church in Threadneedle Street which is new chapel) and Mr — , a Genevan who goes back to Geneva.

Mr Simon said that the principal cause of the war had been to stop the development of the navy, which had much occupied France and about which we spoke too grandly in our speeches and in our books. The small usurpations of Lake Champlain were used as a pretext.

Mr Silhouette spent eight years at Mr Simon's.^{M92} He was a tobacco broker; he worked continuously, he studied unceasingly and made remarks on everything.

M86 Part of the Tower of London.

M87 John of Ghent, Duke of Lancaster (1339-1399).

M88 Lawrence Shirley, Lord Ferrers (1720-1760); degenerate drunkard who was brought in front of a court of nobles and was hung in Tyburn.

M89 The city was divided into 26 districts each controlled by an alderman elected by the property owners of the parish. The mayor presided over the elections. *Guide de l'étranger*, p. 341.

M82 Richard Brookes (?-?), M.D. *A new ... system of natural history*, 6 vols (London 1763), vol. 2: *The History of birds*.

M83 John Smeaton (1724-1792), F.R.S.; civil engineer.

M84 Christ Church: better known under the name of Christ's Hospital; founded by Edward VI in 1553 as an orphanage; it quickly became a school which admitted from 1,000 to 1,200 children.

St Bartholomew's; founded in 1102; it was rebuilt in 1693 and 1730. *Guide de l'étranger à Londres*, pp. 594-96.

M90 Thomas Payne (1739-1799); bookseller.

La Valette (1707-1763); Jesuit; envoy in 1741 to Martinique; in 1754 named Superior General of all the missions of South America; he was pursued for debts by the bankers Lionci, who had lent and lost money in the speculations of the Jesuits in the Antilles. Lalande was interested in the matter and speaks about it in his journal, see 28th April and 8th May. Dale Van Kley, *The Jansenists and the expulsion of the Jesuits from France* (New Haven, London 1975), pp. 90ff.

M91 Augusta of Saxony Gotha (1719-1772); she held her court in Leicester House.

M92 An Antoine Simon (1736-1794), was decapitated during the Revolution; he was possibly the son of Pierre Simon, financier and owner of an important firm.

We know that Etienne de Silhouette (1709,1767) remained in England as a young man to study finances there. Later, thanks to Madam de Pompadour, he was named General Controller of Finances in 1759. He attacked the privileges of the nobles and became extremely unpopular. The term "silhouette" symbolized a man without substance; later this term gained its modern sense.

Diary of a Trip to England 1763

Father Couroyer^{M93} of St Genevieve stays with Mr Russel, hardware merchant, very close to me. He is well regarded in Kensington. He is more than eighty years old. He is a doctor of Oxford because of his book on the validity of Anglican ordinations; he is not hindered by being a catholic, but he says the dogma of the trans-substantiation is stupid.

The nonconformists differ from the Anglicans in that the former do not recognise bishops and do not have a liturgy similar to the catholics. The presbyterians of Scotland are like the nonconformists, but are much more attached to dogma, the revelation, predestination and are more severe; they have synods to elect their ministers.

I gave Mr Hainguet^{M94} the bill of exchange from President Sarron for Mr Bird's instrument, in order to receive it on Thursday 14th.

Thursday 14th April.

I lunched with Mr Vaillant. I saw Mr Deshays, deputy of Guadeloupe, in Dean Street opposite the Crown. I dined at the Mitre where Mr Knight^{M95} took us, Mr Short and I; 3/1d. And then to the Royal Society where a report of my testimonials was submitted, to be displayed for ten weeks.

I went to the bookseller Mr Whiston, younger son of the famous astronomer. He showed me two volumes of the life of his father who died in 1752, written by himself.

I looked for the catalogues of Baker, Davis, Wilcox.

I went to Mr Watkins^{M96} where I saw an odometer that has a large wheel which, with the dial and the hands, can measure 12,000 in yards, poles and furlongs.³⁴ It is worth about five guineas. There is a smaller

one for ladies. I also saw there a small, very portable electric machine for seven guineas with all the attachments.

I went to the Royal Society where I saw Mr Wilson, Mr Murdoch, Mr Edwards and the portraits of Flamstead, Brouncker, Folkes, Sloane, Newton, Macclesfield and Williamson.^{M97}

On the 13th I received a letter from my mother of March 24, which reported to me that she had given 2,000 livres to Mr Navier for Mr Varenne.

The 14th of April is the first day of good weather and heat which I have had in London.

Mr Moivre said that if God wanted to grant immortality to people then the House of Commons would oppose it, not wanting to wrong the apothecaries; indeed one sees there support for particular interests at the same time as they oppose the public interest. As in Paris, there is no prohibition of swords because of the sword and scabbard makers.

We learned that on April 6th the Opera of Paris and part of the Royal Palace was burnt.^{M98} (and again on June 8, 1781).

On the 13th there was a meeting of the eleven commissioners named for the discovery of Mr Harrison's secrets. They declared that they needed Mr Harrison to make three watches before receiving the £5,000 and that they be tested on a voyage to Jamaica; he went this morning to complain to the Speaker about this condition. Mr Short was the only one who opposed it. Lord Morton, Lord Willoughby, Mr Scott,^{M99} Mr Commyn, etc. were there.

M93 Pierre-François Couroyer (1682-1776); canon of St Genevieve; in 1723 he anonymously published a work in which he supported the validity of English ordinations; attacked, he declared himself the author in 1724; he retired to London about 1732, where he accepted the canonry of Oxford; he never gave up the Roman Communion.

M94 *Hanquet* (Hainguet?); banker.

M95 Godwin Knight (1713-1772), F.R.S.; librarian of the British Museum; rival of John Canton and his artificial magnets.

M96 Watkins (?), optician.

34 The term *optician* can be a bit misleading as opticians were often scientific instrument makers; James Short was an optician, but he was a member of the Royal Society, a mathematician and a contender for the position of Astronomer Royal. Watkins appears to have been quite wealthy (see the entry for Monday 9th May.) and possibly influential. I have no idea if I am related, but it might explain why I am doing this.

M97 Richard Wilson (1714-?), F.R.S.; painter; creator of the 'English landscape'; one of the first members of the Royal Academy.

Patrick Murdoch (?-1774), F.R.S.; student and friend of Colin Maclaurin. 'Trigonometry abridged' *Philosophical transactions* (1748), xlvi.

John Flamsteed (1646-1719); founded the Greenwich Observatory.

Lord Brouncker (1620-1684); one of the founders of the Royal Society.

M98 The Opera had moved into a theatre in the Royal Palace in 1673. This room was burned in 1763 and again in 1781, as Lalande adds in revising his text.

M99 George Lewis Scott (1708-1780); tutor of the Prince of Wales; student of Moivre; revised Chambers' Dictionary of arts and sciences (London 1753).

Diary of a Trip to England 1763

Friday 15th April.

I lunched with Mr Beaumont;^{M100} we walked to Kensington^{M101} where we saw the beautiful lawn, which surrounds the lake on the London side, and inside the Cuba Room. The gallery, where the pictures were that have just been moved to Queen Palace, is beautiful. The staircase has extremely good paintings, there is a succession of portraits of kings since Henry VIII. Hyde Park, that one crosses to go there, is extremely pleasant for coach drives and riding on horseback. The King does not live in Kensington at present.

In the evening I went to Chelsea see the hospital, where there are approximately 500 soldiers in red; and from there I went to Ranelagh.^{M102} Ranelagh is a round room which has an interior circumference of 550 feet, 60 windows and 52 boxes on each floor lit by 400 lights which are all in glass globes. There is a quadruple fireplace in the middle, all white, gold, neat, new born. It opened on Monday the 4th and it will only last until the opening of Vauxhall.

I was surprised by the sight. There were more than a thousand people and one can have tea, coffee, butter, etc. The waiters are numerous, instrumental and vocal music every fifteen minutes, a quadruple fireplace which resembles an altar surrounded by benches and tables, spirit stoves on the tables; women without hats, men without swords. The music finishes at 10 pm, but people stay there until after midnight. On entering one pays 2/6d and 2/- for a coach to go there. You can also get there by water, to the bottom of the gardens of Ranelagh and Chelsea Hospital, or there is a gate to enter. The gardens illuminated by moonlight are delicious.

Saturday 16th April.

I saw Father Couroyer; eighty-two years old, forty-six years in London. He obtained a passport for Mr Pingré.^{M103} His brother was excluded from the abbey of St Genevieve because of him.

M100 Eon de Beaumont; see note M75.

M101 Kensington; the palace was rebuilt in 1704 using the design of Wren; the Cuba room or Cupola is part of the Palace. The gardens were initially rather modest. Queen Anne and then Queen Caroline decreased Hyde Park to add ground to the gardens which then became fashionable. William Kent, *An encyclopaedia of London*, pp. 343-44 and 442.

M102 Now part of the Royal Hospital at Chelsea, the rotunda was built in 1741 and the amphitheatre measured 180 feet in diameter.

M103 Alexandre-Guy Pingré (1711-1796); astronomer; Academy of Science; chancellor of the University and librarian of St Genevieve. *Observations sur le passage de Mercure* (Paris 1753).

I was with Lord Morton who will take me to the Parliament next Tuesday.

In the evening I went to Westminster Abbey where I saw Milton, Ben Johnson, St Evremond, Conduitt who had married the niece of Newton, Casaubon, Shakespeare, Wales (who was chaplain to the Princess of Wales and made the monument) and Prior.

In the evening I had supper with Mr Pringle. I wrote to Mr Fargès, Mr Lorgerie, Mr Bourset, Mr Montmirail and Madam Mayer^{M104 35} by Mr de Mechel, engraver, rue St Honore in the house of Mr Lenoir, notary.

Sunday 17th April.

In the morning I went to Mr Duclos where I saw Father Valette with Peyre the surgeon. I attended mass in Dean Street, in a small chapel of the resident of Venice which resembles a small stable. I lunched in Marylebone, saw Mr Bontemps and returned to Mr Mallet. From there I went to St Clement, Newchurch, St Dunstan, St Paul, St Steven in Walbrook. I returned to Mr Dutens where I took a note of the current poets of England: Mason, Mallet, Gray, Churchill, Lloyd, Dodsley, Young, Whitehead, Coleman, Murphy and Hume.^{M105}

From there I went to Mr Lespinass who showed us many instruments for physics and for geometry. He told us about Mr Martin the optician, who gives ridiculous courses on physics. Mr Mainbrai is rich; he has good employment with the Excise. He is disgusted by the thought of making more. He gave up physics. He does not even have the desire to show his instruments to Mr Franklin.^{M106, 36} Music made by glasses, very pleasant and very sonorous, that one gets by more or less water.

M104 Mayer; perhaps the wife of Tobias Mayer, an astronomer, who died in 1762.

35 Tobias Mayer (1723-1762) created tables of the position of the moon (necessary for determining longitude by lunar observations) based on the theories of Euler. Both men were awarded prizes by the Board of Longitude.

M105 William Mason (1725-1797); David Mallet (1700-1765); Thomas Gray (1716-1771); Churchill, see note 55; Robert Lloyd (1733-1764); Robert Dodsley (1703-1764); Edward Young (1684-1765); William Whitehead (1715-1785); George Colman, the elder (1732-1794); Arthur Murphy (1727-1805); Lady Grizel Hume (1665-1746?).

M106 Benjamin Martin (1704-1782); optician, artist and mathematician.

Mainbrai: Demainbray? (1710-1782). I could not verify the anecdote about Franklin.

36 Benjamin Martin made sextants.

Presumably Dr Demainbry, resident astronomer at the King's observatory in Kew. He helped test Harrison's H5.

He showed us various instruments with which he made experiments for the young princes. He told me that Mr Knight's small bars, of which he does not explain the method, are made by the method of Mr Servington Savery which has been in the *Philosophical Transactions* for a very long time.^{M107} He wanted recompense of 1,000 pieces when Canton published his treatise on artificial magnets which used the method of Mr Michell without acknowledgement.^{M108}

It is eleven days since Mr Bontemps was inoculated and nothing has happened. The nurse says that it often goes for sixteen days. His two wounds are still suppurating. In England one is always persuaded that you cannot have small pox twice, although there are some people who claim it.

I was promised I would be shown the music room of Madam Cornelié, where lords pay a subscription of five guineas for twenty concerts per annum, Thursday every fifteen days in Soho.^{M109}

Mr Vaillant spoke to me about fire insurance; which for a £3,000 house sometimes costs less than 7/-. Life insurance costs £5 each year but one's heirs get £100 from it. This year he is one of the directors. The list of associates fills three folio pages.

Monday 18th April.

To lunch with Doctor Bevis, who gave me a more correct copy of the observations of Ibn Junis.^{M110} We went to Mr Neal^{M111} to take Mr Morand's letter to him. We went to see the admission of the ambassador of Venice (from the Tower to Sommerset House) only ambassadors are admitted.

At Mr Wilson's with Doctor Maty.^{M112} He is the premier electricity researcher in England. Mr Watson excels as a plagiarist, this one has

M107 Thomas Savery (1650?-1715); engineer who improved a vapour pump.

M108 John Canton (1718-1772); astronomer. *A method of making artificial magnets without the use of natural ones* (London 1751). Translated into French by P. Rivoire (1752).

M109 I did not find out anything about this music room.

M110 Ibn Junis: Ali Ibn Abd Al-Rahman, known as Ibn Yunus; great Muslim astronomer. *Le Livre de la grande table Hakémite*, 883. Translated from the Arab by the citizen Caussin (Paris 1804).

M111 George Neale (?-?); surgeon. *Observations on the uses of the agaric, and its insufficiency in stopping haemorrhages after capital operations* (London 1757).

M112 Benjamin Wilson (1721-1788), F.R.S.; painter, chemist and physician. He published *Treatise on electricity*, 8 vols (London 1750). He visited Paris in 1757 and repeated some of his experiments there.

genius. He conceived experiments to prove that air resists electricity, that there is less atmosphere in electrified bodies; that smoke is pushed away only because it is more electrified than other light bodies. It is the same for the air that one exhales.

It is my opinion that Mr Nollet does not understand electricity,^{M113} and that Mr Le Roy has not yet written enough to show what he knows. A long time ago he announced a long letter which has not yet appeared; he wrote a long letter four months ago to Abbot Nollet to be read at the academy, but he did nothing with it.

Mr Simmer is in the country. He is a fifty year old man and since he married he has not done anything important; he has the brain but not enough knowledge of electricity. He was pressed too much to draw conclusions from the facts that he had obtained.

Mr Wilson is persuaded that one can at will exhaust or condense electric fluid in the same body and consequently to more or less electrify it.

Two Spanish wax rods, one of which has a shilling on the end; if you pass the shilling flat by its polished surface over the other rod you electrify the shilling more. If you pass its edge over yourself it is electrified less. He believes that the changes observed by Abbot Nollet come about in a similar way to the use of wax. Because for him it has very constant effects.

In 1764 Mr Wilson almost lost everything by the bankruptcy of a Jew whom he had trusted.

Tuesday 19th April.

In the morning I went to Mr Dutens to consult his large collection of the statutes of England about corn. I returned to the bookseller in Piccadilly to buy old books for 21/- or twenty-four livres.

I went to Lord Morton's to go to Parliament, where the King came to finish the sessions; we met him on the way.

I dined with Mr Beaumont, Mr Nivernais having left today for Bath.

M113 Jean Antoine Nollet, abbot (1700-1770); Academy of Science; F.R.S.; tutor of the children of France. He inaugurated at the College of Navarre a course of experimental physics which had enormous success. He published the elements of it in his *Leçons de physique expérimentale* (Paris 1743) and *L'Art des expériences* (Paris 1770).

Diary of a Trip to England 1763

Wednesday 20th April.

I presented Mr Sarron's bill of exchange for 26 louis 13 shillings 4 sols; and as 25 guineas are worth only 26 louis 5 shillings I was given 25 guineas 8 shillings 4 pence.³⁷

I went to see Mr Russel, Mr Blaquiere, Mr Duval, Mr Mavit, Mr Simon and Mr Hainguet son of chevalier Hainguet, banker in Fenchurch Street, who stays with Mr Simon and who promised me a ticket to a ball in the city tomorrow.

I went to Mr Bird's, Mr Vaillant's and from there to the meeting of the Society of Arts where I saw Mr Templeman, Mr Parsons and Mr Wyche, who proposed me for corresponding membership of the society.

It was established in 1753. One votes by raising one's hand and the president counts the hands raised for 'yes' and 'no'. The resolution is not moved until all those who want to speak have finished their speeches. The question was discussed if a pump should be allowed a second experiment and if it were necessary to receive a certificate which came too late. I saw the exhibition of pictures which had been there for several days.

Mr Vaillant showed me Mr Guerin's letter of the 9th which recommended Mr Camus and Mr Berthoud to him and who must leave in 8 days in a hurry, from which it follows that they can come today or tomorrow. Mr Duclos^{M114} must also come on the first day.³⁸

I sent to Mr Duval samples of friezes and to Mr Sarron a receipt from Mr Bird as follows:

20th April 1763. Rec'd of M de la Lande twenty-five guineas being half the payment for a quadrant of eighteen inches radius which said quadrant I promise to deliver to his order with all convenient speed upon the payment of twenty-five guineas more. John Bird.

Also, I had lunch with Mr Mendes da Costa (Jewish Portuguese)^{M115}, relative of Mr Salvador and librarian of the Royal Society, to whom I brought the books that I have for the Royal Society and who showed

37 According to my calculation he should have got 25 guineas 6/10d. But he had altered the exchange rate from 26 louis 3 shillings and if the old rate is used he should have got 25 guineas 8/6 (6402.49 pennies).

M114 Charles Duclos (1704-1772); French Academy; historian to the king; visited England in 1763. Professor Green confuses Father Valette who hid under the name of 'Duclos' and Charles Duclos.

38 Berthoud and Camus did not arrive until the 1st of May.

M115 Emmanuel Mendes da Costa F.R.S. (1717-1791); naturalist and conchologist; *Elements of conchology, or an introduction to the knowledge of shells* (London 1776).

me the bad condition of museum. There is a snake twenty-five feet long, and Wallis's roof without nails or pins.^{M116} The printed catalogue of the library of Norfolk or Arundel and the catalogue manuscripts of the books acquired, that Mr Folkes did himself in 1743.

Thursday 21st April.

I went to see Mr Bontemps, in Marylebone. To Vauxhall by foot and returned by water for 6/-; I was about to give only 3. I saw the procession of the ambassadors of Venice pass in front of my windows going to St James.^{M117}

I had a curl. I went to the Royal Society with Mr Henri, who posted my certificate there. From there I went to Mr Hainguet's to go to the ball in the Haberdasher Hall, Wood Street close to Cheapside. It is a subscription of about two hundred people for three guineas each. Every Thursday one can play cards and drink tea, and there are four grand balls in the year. It cost me 8/6 from 5 pm to 1 am.

Friday 22nd April.

I went to see Mr Walmesley, one of the four catholic bishops in Bond Street, the second gate after Brook Street. He was with Mr Avard, General of the English Benedictines who will visit Paris. I went to Mrs Crowe milliner.

I went to Mr Maskelyne, Maddox Street, and to Mr Blanchet, milliner where his brother stays. I lunched there and remained there until midday.

Mr Short took me to Harrison to see his three longitude clocks and his watch. I read the act of Parliament by which he must have £5,000 and the request of the commissioners which evades the benefit of the act entirely.

M116 John Wallis, (1616-1703), Savilian Professor of geometry at Oxford, had perfected a method by which boards could be articulated one with the other so as to have a long surface without support. One of Wallis's models was in the museum of Charles II. It is probably the 'museum' about which Lalande writes. See Harold F Hutchinson, *Sir Christopher Wren* (London 1976).

M117 "Monday, April 18th: ... went to the Tower to see the landing of the Venetian ambassadors. It was very elegant to see the fine barges; and then the processions of their coaches, music and attendants was exceedingly splendid." Boswell, *London journal 1762-1763*, ed. F. Pottle (New Haven 1951), p. 242.

Diary of a Trip to England 1763

I went to see Mr Parsons very close to there. He told me that I would be elected to the Society of Arts next Wednesday. I went to see Gray's Inn, Lincoln's Inn and to Osborne to buy Smith for Mr Bailly.^{M118}

The evening I spent with Mr Walmsley. I went to see Mr Loten, a Dutchman, to whom I was addressed by Mr Levier. He will spend next winter on the islands of Hières. I saw Grosvenor Square.

Saturday 23rd April.

The morning with Mr Rochette, Mr Wyche, Great Ormond Street, Mr Vaillant. I bought Simpson and *Zodiacs and Planispheres* by Senen at 3/- per sheet. At Mr Bowles in St Paul Churchyard. To dinner at Mr Beaumont's. Mr Duclos arrived at 4:00 and the Countess of Boufflers.^{M119}

I walked with Mr Duclos. He lodges in Piccadilly at 26/- per week, two small rooms and an attic for his servant. We dined with the handsome brother of Miss Stephens who, with Mr Pringle, was consulted by Mr Senac on Madam Victoire's^{M120} disease which is judged to be the gravel³⁹.

I spent the evening with Mr Dutens. We examined the prints of Don Quixote.

Sunday 24th April.

I went to the Bavarian chapel, Warwick Street Golden Square. I went with Mr Duclos to St Pauls and London Bridge. I went to the Court where Mr Hawkins introduced me to Mr Fox⁴⁰, the Duke of Malborough, the Marquis of Granby, Colonel Draper who took Manila^{M121} and Lady Carteret wife of the master of ceremonies, a very pretty woman and very fashionable.

M118 Jean Sylvain Bailly (1730-1793); Academy of Science; French Academy; astronomer, then politician; published *Histoire de l'astronomie ancienne* (Paris 1755), *Histoire de l'astronomie moderne* (Paris 1779-1782), decapitated during the revolution.

M119 Charlotte, Countess of Boufflers (1725-1780?); Literary salon; friend of Rousseau, she put him in contact with Hume whom she had met during her visits to England.

M120 Jean-baptiste Sénac (1693-1770); physician; first doctor to the King. Madam Victoire: Louise Marie-Thérèse de France (1733-1799); called initially Mrs Fourth then, starting from 1745, Madam Victoire.

39 Small particles in the kidneys or bladder.

40 Perhaps Charles James Fox who, in 1772, supported Harrison's petition to parliament.

M121 Sir William Draper (1721-1787); he commanded the troops who invaded Manila in 1763; especially known by the polemic which he kept up against the *Letters of Junius*.

I dined with Mr Beaumont and Mr Duclos. We read various passages of Smollett on the campaigns of General Wolf, 1759.^{M122}

The evening I spent at the house of Miss Dutens where we discussed the court and the government. Mr Malborough left the position of Chamberlain out of pity for the King who was very embarrassed by the need to satisfy a number of people who wanted it.

I read in the Weekly Magazine a diabolic letter against Lord Bute and the Scots, attributed to Mr John Cesar Wilkes; but he disavowed it in a very formal letter. He speaks about poverty and the gall of the Scots.

Monday 25th April.

To the museum with Doctor Maty. I examined the instrument made by Sisson that Mr Maskelyne carried to St Helena. I saw the oldest editions which are in the library, 1460. There were four in the Sloane library which pre-dated 1457, but the Count of Pembroke clung to them and one could never get at them. Maittaire says, in his typographical annals,^{M123} that there is also a specimen of the *Speculum Salutis* by Celestins in Paris and one in the library of the King in Paris.

I noticed in the cabinet a very large scorpion from the Indies, Cobra di Capello which has a broad head, and a small toad in mourning, black and white.

For Mr Patt I searched the histories of London by Maitland and Stow^{M124} but I found nothing there on the statutes of the Kings.

I returned to see Father Valette and to dine at Mr Beaumont's with Mr Duclos. I went to the Slaughter coffee house where we read the Public Ledger. It contains a lover's request to a lady for a rendezvous on Thursday in a lodge. It says that all the inhabitants of Borough, friends of Mr —, will find coaches to go to the election. Sometimes some are sent to the extremities of England.

The North Briton complains about the speeches of the King and how he abandoned the King of Prussia:

M122 General Wolfe (1727-1759), beat Montcalm in Quebec in 1759. Tobias George Smollett (1721-1771), describes this campaign in his *History of England from the Revolution in 1688 to the death of George II* (London 1761-1765), edition of 1805, vi. 51-82.

M123 Michael Maittaire (1668-1747); typographer; born in France of Protestant parents who took refuge in England; tutor of Stanhope, son of Chesterfield.

M124 William Maitland (1693-1757), *The History of London from its foundation by the Romans to the present time* (London 1739).

John Stow (?-?); historian, *The Chronicles of England* (London 1580).

Diary of a Trip to England 1763

The King of England is only the first magistrate of this country but is invested by law with the whole executive power. He is, however, responsible to his people for the due execution of the royal functions in the choice of ministers, etc. equally with the meanest of his subjects in his particular duty.

However Mr Wilkes is, it is said, appointed Governor of Canada. Mr Granville has already been put out of the treasury.^{M125}

Tuesday 26th April.

I read the theory of refraction by Simpson.^{M126} I bought three eye glasses at 5/6d each, or six livres six sols in French money.

I wrote to Mr Fouchi^{M127} for whom I bought Gardiner 36 livres, the Zodiac and Planisphere 13 livres 14 sols and a chain 12 livres. total - 61 livres 14 sols.

Mr Diemar^{M128} told me that there are Pinchebeck⁴¹ buttons at 2/- up to 5/- the dozen, but he was too diffident to choose.

At the museum with Mr Duclos and Mr Henri; fungite or round madrepora of three palmes in diameter.⁴² Mousedeer bicornuate, fossils of Ireland, black, long and bent of which one does not know the equivalent.^{M129}

I went to see Mr Short and Mr Vaillant. I saw the Stock Exchange, high and low; then along Brick Lane to the end at the chams⁴³; Bethnal Green Church where there are many French silk makers who are worth up to £40,000. I returned by Shoreditch, Goodman Field⁴⁴ and then to Wapping, from where I returned by water.

M125 George Grenville (1712-1770); made Lord of the Treasury in 1747 and deposed in 1755.

M126 Thomas Simpson (1710-1761), F.R.S.; Professor of mathematics at the Royal Academy of Woolwich. *The Doctrine and application of fluxions* (London 1750).

M127 Grandjean de Fouchi (1707-1788); astronomer; Academy of Science; was to go to Peru with Condamine; his bad health prevented him going.

M128 E. M. Diemar(?-?). *The History and amours of Rhodope* (London 1780).

41 Christopher Pinchbeck (1670-1732) clock and toy maker; he or his son Christopher (1710-1783) invented an imitation gold.

42 Possibly *palme*, an Italian measure of about 8 inches, making it a bit over 24 inches.

M129 Mousedeer: *chevrotain*, musk-deer.

43 The Chambord St area presumably.

44 Goldman Field? See Saturday 9th April.

Mr Vaillant told me that Lord Bolingbroke called Pope a rascal. He had furtively produced an edition of the letters on history, to sell when the Lord died. His essay on man had been given to him in prose by Lord Bolingbroke following some conversations with Arbuthnot.^{M130}

Johnson is a corpulent countryman who drinks tea night and day, who is not frugal, who works for the booksellers.^{M131, 45} He built up Osborne. He has a pension of 200 *pièces* from the King. He put in his dictionary at the word *Alias*, Mallet *alias* Murdock, as in the procedures of criminals who change their names. He is extremely friendly with Garrick.^{M132}

Mr Short had a long conversation with me on the way of shaping the mirrors for his telescopes as perfectly as we see them. He gave me a booklet by Mr Harrison made by Mr White at the Foundling Hospital with the calculations by Mr Short.⁴⁶ He showed me that the observation of November 2nd was defective, with the consent even of he who did it, Mr Robertson.^{M133}

Wednesday 27th April.

I was at Mr Knight's (who died in 1772) with Mr Maty and Mr Morton from 8:00 until 1:00. He showed me all the magnetism experiments which are in the *Collection of Some Papers* of the Philosophical Transactions 1746-1747, which he gave to me.^{M134} He told me that he had a magazine of magnets on a carriage which filled a corridor of more

M130 John Arbuthnot (1667-1735); doctor and friend of Pope whom Voltaire frequented when he stayed in England, 1726-1728.

M131 Samuel Johnson (1709-1784); author of *Vie des poètes anglais* (1779-1781) and *Dictionary of the English Language* (1755). He had been established in an apartment in Inner Temple Lane for a few years.

45 Johnson was the ghost-writer of *An Account of an Attempt to ascertain the Longitude at Sea* by Williams, published about 1765.

M132 David Garrick (1716-1779); actor, director and dramatic author; he was the son of a French refugee and knew French.

46 *An Account of the Proceedings, in order to the Discovery of Longitude: in a letter to the Right Honourable *****, Member of Parliament.*

M133 John Robertson (1712-1776); mathematician.

M134 'A collection of the magnetical experiments communicated to the Royal Society by Godwin Knight, M.B., F.R.S., in the years 1746 and 1747'. *Philosophical Transactions*, Appendix to vol. xlv, p. 656.

than 30 feet, for which he had spoiled his apartment⁴⁷. He had not shown it to any foreigner except the Duke of Noia, who asked him whether he could not do as much with it. He answered him: "If I believed you I would not have shown it to you" He started in the manner of Saveri described in the Philosophical Transactions.

He showed me a magnet whose two ends are north poles and the middle is the south pole; it is sufficient to have held it between two bars by the poles of the same denomination, which would be repulsed, and to determine that the current leaves from the south pole by the friction of another bar magnet. He has disks where the north pole is around the outside and the south pole is in the middle or centre of them - where the south end of a needle is attracted.

The inclination of this country is seventy-five degrees about midday. If an iron bar is raised in this direction and a small bar is rubbed against it, from top to bottom by one end and bottom to top by the other, the small bar is magnetised. Several bars joined together are better than only one of equivalent mass because they can be better hardened, which is preferable for magnetism.

Mr Knight showed me a lump of loadstone whose irregularities demonstrate those of the earth. There are harder parts, more magnetic, which form separate poles. Thus between Madagascar and Africa there is a magnetic pole. The horizontal needle is indifferent and undoubtedly it inclines to the vertical by internal irregularities. The Atlantic Sea basin, the ferruginous sands of Africa and America, which are in great abundance, can produce large differences; Admiral Hawke discovered this with his compasses, which swung towards the ground, and so he found the ferruginous sand which he proposes to exploit.^{M135}

The super-abundant vitriolic acid, which is absorbed by other matter and which is released by iron mines, brings them to maturity, and from thence seem to come the secular variations of the declination of the needle.

47 *une mine de magnétisme par un grand apparatus ...* I presume *mine* is the English word meaning an abundant supply. "The late Dr Godwin Knight constructed two very powerful artificial magnets, or magazines of ... 240 magnetic bars ... kept together by means of iron braces, and the whole is suspended upon pivots and a proper wooden pedestal or carriage"; Rees, *The cyclopaedia or universal dictionary of arts, sciences and literature* (London, 1819).

M135 Baron Edward Hawke (1705-1781); first Lord of the Admiralty; especially known for the role which he played in the conquest of Canada in 1759. In his biography of Hawke, Ruddock F. Mackay mentions only one voyage on the West coast of Africa. *Admiral Hawke* (Oxford 1965), p. 6.

The diurnal variations observed by Mr Canton come from magnetism being stronger in winter than in summer. Fire destroys the magnetic virtue, which led to the belief that diurnal variations were caused by heat. However Mr Knight is not persuaded that those seen by Mr Canton are so caused. All the bodies of a house, the bricks, etc have a little magnetism. He gives justice to Michel whose methods belong to him and are truly his.

He showed to me a composition or paste which receives and retains much more magnetism than natural loadstones, but he is not sufficiently certain of constant success to dare to publish it.

In the evening I went to see Mr Watkins and I went to the comedy at Covent Garden, in the pit for 3/- with Mr Henri and Mr Poirier, friend of Mr Guerin.^{M136} They played *The Busy Body*, a Comedy written by Mrs Susanna Centlivre, drawn from Etourdi Molière. Mr Woodward, an excellent actor, played Marplot; many people prefer him to Garrick for comic roles. Mr Shuter played Sir Francis Gripe very well, and Miss Macklin and Miss Miller were Miranda and Isabinda. There were many changes of scene and of the very pleasant dances.

They played the pantomime *Arlequin statue*;^{M137} started at 6:30, finished at 10:00.

The theatre is broader but shorter than those of Paris. The actors better are heard. Their play is more varied, freer, more characterised. They barked, howled, shouted, hurled orange peel and apples at a man whose figure displeased the gallery, the gallery made sport and gave thanks. They made the actors who had entered leave, to have Woodward's prologue.

Thursday 28th April.

I saw Doctor Bevis who had finished his memoir on the boundaries of Maryland and Pennsylvania, between Lord Baltimore and Mr Penn. It is a matter of drawing a parallel of latitude in the north, a circle and a tangent to this circle through the middle of the land taken at midday.

I went to see Mr Cole and Mr Dimar. I made extracts from Fergusson and Long.^{M138}

M136 Green, p. 143, identified Mr Henri as 'Joseph Harris'; an error.

M137 *Busy body*, comedy by Suzannah Centlivre (1667-1723).

Arlequin statue a traditional pantomime. It is still played at Tivoli Garden.

M138 James Fergusson (1710-1776), F.R.S.; astronomer.

Roger Long (1680-1770); astronomer; Master of Pembroke Hall, Oxford. There he set up, in 1765, a hollow sphere representing on its interior surface the apparent movements of the stars.

Diary of a Trip to England 1763

I dined with Father Valette; he hopes to return to France when all his debts are paid. The establishments of Dominica were sold for 2,500,000, he left all debts paid for eight million inhabitants, in 1748 he did not have two. He had lost two millions worth of goods on the sea at the beginning of the war. He wanted Father Saci to assume and pay the bills of exchange, to force him he sent to Lionci the permission of the General from whom he had had to borrow all that he judged suitable for the good of the mission.^{M139}

Lionci had 120,000 livres from him when they failed, their assessment proves it. For three years Father Valette alone has supported that house, so far from being the cause of their bankruptcy.

In the evening I spent an hour with Father Couroyer. He spoke to me about the Moraves, a sect established by Count Sinzendorf,^{M140} which jointly shares everything and has an extremely odd liturgy, but their dogmas do not hold anything in particular. The methodists are notable for declaiming against the slackness of the priests, while sticking very strictly to the dogma of predestination with Calvin.^{M141}

In a letter I was told that Mr Camus will have 12,000 livres for his voyage to London, with the responsibility of defraying Mr Berthoud.

The papers announced a combat between two boxers or gladiators at Newmarket on the 11th of May. One is a nail maker, the other a carriage spring maker. There are large wagers, done publicly.

When Mr Shebbeare was put in the pillory, the sheriff talked with him and his servant held an umbrella over them. In the papers he invited all the printers' boys to come and regale themselves around the pillory and shout: Huzzah, freedom of the press! He had wanted to throw doubts on the birth and the succession of the electors of Hanover at the time of the Countess of Konigsmark. Subsequently he had fallen because of the limits of an act of Parliament.

Mr Wilkes is the son of a brewer of Clerkenwell, he has 3,000 pieces income. He stays in Great George Street under the arcade which goes to the abbey. It is believed that he will not accept the administration of Canada, indicating that he is afraid; he will ask for employment in Europe. He is supported by Lord Hardwick, formerly chancellor, and

Lord Temple.^{M142} He is very friendly with Mr Pitt. It is he who prints the North Briton.

The Duke of Bedford^{M143} came in haste at this change in the ministry, believing to be made first Lord of the Treasury; denied it, he set out again at once.

Friday April 29th April.

At the hospital for the maintenance and education of exposed and deserted young children in Lambs Conduit Fields. On Friday the 29 day of April 1763 at 12 o'clock, at noon precisely, there will be performed in the chapel of the said hospital a sacred oratorio called Messiah composed by George Fredèrick Handel Esq. The gentlemen are desired to come without swords and the ladies without hoops. N. B. there will be no collection. Tickets may be had of the Steward at the hospital at Batson's Coffee House in Cornhill, etc., at half a guinea each.^{M144}

Mr White sent me an invitation to dinner with Mr Short. I listened to the oratorio from midday until 3:00.

I dined with Mr Watelet who was for a long time Consul of England in Marseilles and who is one of the officers of the Foundling Hospital. The son of Mr Harrison was also there. He showed us a report of the eleven articles that he announced being in a position to fulfil at various times.

Mr White showed me ten volumes of birds and five of quadrupeds drawn large and painted in natural colours, many of plants, trees, etc, of birds applied to glass with their feathers, by his wife and his children.

Saturday 30th April.

I went with Mr Vaubicour to the synagogue of the Portuguese Jews of the tribe of Judas, Bevis Market and St Marian. We intended to sing in Hebrew; the ... on the head or the shoulders of each; the women in the high rostrums; the books of Moses, rolled and richly covered. We went to the other synagogue of the German Jews.

M139 Lionci: bankers who lent money to the Father Valette; their bank was absorbed in the bankruptcy of the Jesuits in the Antilles in 1761; see note M90.

M140 Nicolaus Ludwig, Count of Zinzendorf (1700-1760).

M141 See D. Dunn Wilson, *Many waters cannot quench: a study of the sufferings of eighteenth century Methodists*(London 1969).

M142 Richard Granville, Lord Temple (1711-1779); brother of George Granville, brother-in-law of Pitt; first Lord of Admiralty, Lord Privy Seal under Pitt and Newcastle.

M143 John Russell, fourth Duke of Bedford (?-1763); ambassador at the court of Versailles.

M144 *The Messiah* was initially given in Dublin in 1742. It was played each year in London for the benefit of the Foundling Hospital.

Diary of a Trip to England 1763

May 1763

I dined at the house of Mr Watkins in Charing Cross with Doctor Bevis. To the opera with Mrs and Miss Dutens, *Orione*. The Duke of Nivernais was opposite us with the beautiful Mrs Pitt.

I am told that Mr Wilkes is in the Tower and Mr Churchill has gone to Newgate for the North Briton of last Saturday, April 23rd, which is against the speech of the King to Parliament.

Sunday 1st May.

It has continued to rain and be cold for four days. I wrote to Mr Makeminet and Madam Boufflers, in Pall Mall at the house of the Countess of Yarmouth, mistress of the late king.^{M145} I went to see Mr Romgould, etc. and Lord Macclesfield. I dined at Mr Russel's with Mr Short, Mr Bevis and Mr Russel his brother, in Walbrough Street, a court opposite the church. The evening supper with Mr Pringle whence came Mr Murdoch, etc. They were almost all Scots.

Monday 2nd May.

Before 8:00 I was at the house of Mr Ellicott the son, Threadneedle Street. Then to Mr Russel who took me out to Mr Canton, master of the boarding-school or academy in Spital Square. He told me that the average variation of the needle was nineteen degrees thirty-two minutes in the middle of 1762. The observations of Mr Bliss in Greenwich differ by only two minutes.

I saw his rather thick, eight inch needle, having a line in the middle to align it with the divisions, suspended by an agate on a pivot which could be moved by four screws to put it exactly at the centre of the two circular arcs, which are of wood, divided every ten minutes. The compass is on a stone whose edge is oriented. There is a magnifying glass to look at it. With it one can estimate within one or two minutes.

He showed me his experiment on the condensation of water. The tube of the phial is marked along its length in divisions of three lignes which are five hundred thousandth of the total volume; having condensed the air of a quantity equal to the weight of the atmosphere, the water went down four divisions, and having covered the tube, the pressure on the bottle went up as much. Whether the water absorbed much air, or it was completely exhausted, the experiment is absolutely the same.⁴⁸

Mr Camus and Mr Berthoud arrived yesterday at 2:00 and are lodged near by in the Copnol, Suffolk Street. I went to see them at Mr Nivernais.

I dined at Lord Macclesfield's with Mr Walmesley and Mr Maty. Mr Nivernais wrote to present all three to us to Mr Mackensie, who came to say that he could not interfere in the business of Harrison any more because commissioners of Parliament were named for it.

M145 Amelia Sophie, Countess of Yarmouth (?-1765); wife of Baron Walmoden; mistress of George II.

48 Obscure. I presume that *ligne* is the unit of measurement (about 2.25 mm).

Diary of a Trip to England 1763

Tuesday 3rd May.

I went to Osborne to buy Gardiner and Dr Parron. At Mr Nivernais with Camus and Berthoud. We wrote to Lord Charles Cavendish and Lord Morton informing them that we had arrived from France on behalf of the Academy of Science to receive information on the discoveries of Harrison.

I took Mr Berthoud to Westminster and to St Pauls, where they practiced the music which will be played tomorrow for the festival of the children of clergy.

I went with Mr Russel to see the glass house at Whitefriars where glasses are made of flint glass. It takes three days for fusion and three days for manufacture; as much sand as red lead, and saltpetre to aid fusion instead of the soda which is put in crown glass. The workmen do not know the master's secret of the amounts.

This morning I saw three houses which had collapsed, from a lack of good building regulations, there were several people crushed in Whitefriars.

I dined at 4:00 at Mr Pringle's, with Short, Murdoch, Russel and Maty; the servants did not want my money. (It is the same at Lord Morton's and Mr Mallet's, Scottish.)

In the evening I took Mr Berthoud to see various places in London; Lincoln's Inn Fields, Cavendish Square, Leicesterfields, Covent Garden. I carefully examined the lamps in the streets to satisfy the questions of Mr Parcieux and I took note of other machines of which he wants to have information.^{M146}

I bought a troy pound from Mr Freeman, Leadenhall⁴⁹ at the corner of St Mary-Axe exactly equal to his standard which is used at the mint to weigh gold and silver. (In Paris it weighs twelve ounces and 48 grains, according to Mr Tillet in 1766).^{M147}

Wednesday 4th May.

I walked to Paddington and I returned by Tyburn where Rice, Lewis and Anna Diego were hanged without proof, no disquiet nor weakness, prepared, in rough cloth. They said good-bye to their friends, Rice's

M146 Antoine Deparcieux (1703-1768); encyclopaedist, mathematician; Academy of Science; he was interested in the improvement of street lighting in Paris; he is especially known for the mortality tables published under the title: *Essai sur les probabilités de la vie humaine* (Paris 1746).

49 Monod-Cassidy: *Londonhall* but *leadenhall* in the ms.

M147 Mathieu Tillet (?-1791). *Essai sur le rapport des poids étrangers avec le marc de France* (Paris 1767).

brother was with them, the minister came to pray, their eyes were bandaged and the cart left at 11:30.^{M148} Places were 6d and a crown.

Constables on horseback with their small batons decorated with silver, constables on foot with large batons with the arms of England, and guards of the King were around the gallows.

I received a letter from Madam Boufflers. I dined at Mr Nivernais and in the evening I walked to the Monument and the Tower with Mr Berthoud. I received a letter from Mr Mairan who sent ten louis to me from Mr Guerin.^{M149}

Mr Camus dined with Mr Vanek, for whom he had a letter of credit.

Thursday 5th May.

The day of thanksgiving. Sixty-one guns were fired at the Tower, public prayers were printed for the coming of peace and sermons preached on this subject.

I went to see some churches with Mr Berthoud. At Mr Johnson's with Mr Duclos and Mr Berthoud. He spoke to us in Latin; he would have liked us to stay longer, but it was too inconvenient.⁵⁰

In the evening we delivered Mr Berthoud's letters. We went to the Court, which was very splendorous.

Friday 6th May.

I, with Mr Camus and Mr Berthoud, wrote to Lord Morton, Lord Charles Cavendish and Mr Scott. We saw Lord Eglinton who is a Montgomery,^{M150} and who made us a generous proposal of service. He has a beautiful painting by Titian, women's bottoms. A race of four horses with a carriage, twenty miles in one hour. The first three miles were each made in two minutes instead of three. There was a courier in front with a watch.

M148 John Rice (?-1763); was condemned for forgery.

Paul Lewis (?-1763); served under Sir Edward Hawke; accused of many robberies, he was executed for shooting at a farmer.

Anna Diego: Hannah Dagoe (?-1763); condemned to died for stabbing a man.

See *The Gentleman's magazine*, May 1763, pp. 207-11 where there is a long article on John Rice and Paul Lewis.

M149 Jean-Jacques Dortous de Mairan (1678-1771); French physician and writer; Academy of Science; French Academy. *Nouvelles recherches sur la cause générale du chaud en été et du froid en hiver* (Paris 1767).

50 They probably couldn't understand a word he was saying!

M150 Alexander Montgomery, Count of Eglinton (1723-1769); pioneer in the improvement of agriculture; introduced Boswell to London society.

Diary of a Trip to England 1763

The cause of Mr Wilkes was pleaded in Westminster Hall, Common Pleas. It was full from 7:00. The cause was widened because the nature of the charge was insufficient to hold a member of Parliament, but the charge remained and was returned to Kings Bench.

I received a letter from Count Bruhl^{M151, 51} by Count Western.

The evening was spent with Mr Duclos and Mr Berthoud at Covent Garden to see *Every Man in His Humour*.^{M152} Woodward excels in the role of Bobadil. Garrick has the style to play the merchant Kately. This piece was followed by a farce and we left at 10:30.

Saturday 7th May.

I saw Mr Western and dined at the hotel of Nivernais. In the evening I saw Mr Watson, who spoke to me about Mr Bose^{M153} and electricity, with whom he has more and less agreed for ten years. I took Count Western, who complained a lot that it is very difficult to advance knowledge in Paris.

Lord Morton came to see us. He complained about the obstinacy of Harrison and persists in wanting Harrison make a second watch that can be tested. However he gave us hope that we would see the piece before our departure.

Much was said about the rider Johnson, who galloped on three horses at the Star and Garter, in Chelsea.

The gardens of Sadler's Wells, close to Kensington, and those of Marylebone have been open for a few days.

Sunday 8th May.

I saw Father Valette who told me his history since 1749. The General and the Rector of Paris were in a faction opposed to those who had authorised his trade and wanted to bankrupt him, and they refused to make a loan to him in France. The Jesuits of London borrowed 800,000 livres. The attorneys of the countries offered to pay all provided that the foreign missions would be shared between the countries, which they did not want.

M151 Jean Maurice, Count Brühl (1736 -?); Privy councillor of the elector of Saxony and his envoy in London. *A short explanation of the most proper methods of calculating a mean daily rate* (London 1794).

51 See Thomas Mudge (jnr) *A description with plates of the time-keeper invented by the late Thomas Mudge* (London, 1799 reprinted 1977). This contains copies of letters written by Mudge to Bruhl which relate to the work mentioned in the above footnote.

M152 Comedy by Ben Johnson, performed for the first time in 1661.

M153 George-Mathias Bose (?-?); German doctor and mathematician; research on electricity.

Father Valette borrowed money at par for four years from the date, then for three. That is, he received money in Martinique to be paid net in Paris in four years time. He always sent the funds in advance to Lionci, but after 1742 they were 200,000 livres behind, and it was he who raised it and supported them.

When Lionci failed, all the letters of credit that they had accepted became payable. That was what embarrassed the Jesuits, because it was necessary to pay them or get others to accept them. In 1753 Mr Rouillé sent a letter under seal requiring him to return to France, because he had been accused of foreign trade, but he was vindicated and returned. Father la Tour had orders from General Visconti to move for his re-establishment.

In the beginning Father Valette did not pay his debts to the extent of the bills of exchange that he had borrowed, but then he was obliged to send sugar and coffee because the other merchants, who were jealous, borrowed for three years and thereby made more profit than him.

I saw Madam Boufflers, Mr Dutens, Mr Campbell and Mr Wyche. Madam Boufflers claimed that at the Comedy, Macbeth, Richard III and King Lear were Garrick's three most beautiful roles.

I had dinner with Mr Berthoud and in the evening walked to Gray's Inn and Lincoln's Inn where there were many pretty people.

Monday 9th May.

We went to see the machine at York building^{M154} which cost 1,000 *pièces* to build and which supplies 2,500 houses by working only eight hours per day. Mr Watkins, formerly one of the owners, took me there with Camus and Berthoud.

Mr Merlin^{M155} came to see me, he told me that he was defied by his workman for a long time, but since he had learnt English he had had more co-operation.⁵²

Sisson had been in prison several times for failing to pay his workmen, he started many things and finished nothing, he took his instruments to a pawnbroker and they were sold for a tenth of their value. He is obliged to push himself hard and then he does nothing that is worthwhile; however nobody has as much genius as him.

M154 A water tower.

M155 Merlin (?); probably a member of the Huguenot family, Merlin, refugee in London.

52 Most likely John Joseph Merlin (1735-1803), an 18th century inventor and designer of musical instruments, clocks, watches, etc. See Jacob *et al* *John Joseph Merlin, the ingenious mechanik* (London, 1985).

Diary of a Trip to England 1763

Mr Sisson showed me his instrument floating on mercury, with which he can measure heights to the minute according to the certificate of the master of a warship. There is a mirror towards the centre and you put your eye to the circumference. There is a counterweight which is regulated by a screw. Its vibrations last less than four seconds and there is no need to see the horizon.

He showed us the first marine chair which was mounted on a suspension with four pivots and two boots,⁵³ whose pivots rolled on eight bell-metal rollers, the same as the pivots themselves. The second marine chair was an ordinary knee-joint from which a 6 foot pendulum hung, with the weight at the bottom in water. The third was made up of two circles each having two pivots, but whose directions cross. It is eight feet high and four in diameter. There are lead weights to dampen and stop its movement more quickly. There is a table for the telescope which is inclined to eye level and which is in balance.

9 May 1763.

We went to see Mr Harrison and his three longitude clocks. The seconds clock which he made in 1726 is still used as the regulator; the Ambassador of Spain wanted to give him 2,000 *pièces* for it.

Mr Berthoud found these pieces very beautiful, very clever, very well executed; and though the regularity of the watch was quite difficult for him to believe, he was even more impatient to see it after seeing the three clocks.

Tuesday 10th May.

I went to see Doctor Bevis late in the morning. We walked to Islington, on the edge of the New River, to the large and small reservoirs; to the place where there is a timber-framed sluice gate lined with lead; to where there is a lock to clarify the water. Then to Sadler's Wells, the gardens of White Conduit, thus named because there is a white reservoir which sends water to Charterhouse. We approached Haynet,^{M156} and measured the depth (three and a half feet) the width (six and a half at the top), and the speed on the surface: a foot and a tenth.

I went to Gresham College at 4:00 to attend Mr Mace's lesson on Civil Law - it lasted only half an hour.^{M157} He read his notes from the pulpit; there were eight people. A maid near the door of the school gave me the list of the professors and their days.

53 Probably blocks to prevent movement sideways.

M156 A water tower.

M157 Daniel Mace (?-1753); critic; presbyterian minister.

In the evening I walked to Somerset Hotel^{M158} with Mr Bird. I read the Public Ledger of the 9th.^{M159}

Wednesday 11th May.

I saw Mr Scott in the morning, who made me hope that he would be satisfied provided the clock and watch makers declare that they are able to make a watch similar to Harrison's.

At Mr Vaillant's I met Mr Baskerville and Lord Count Egmont.^{M160} Mr Short explained to me the method of polishing glasses by shaping pitch to them in two minutes⁵⁴. He showed to me his report on longitude for Greenwich; I made him erase Don Noël whose observations he quoted.^{M161}

I lunched with Sir James MacDonald who leaves for Scotland, to the Isle of Skye which belongs to him; he is a nephew of Lord Eglinton.

I dined with Mr Camus. I went to see Chelsea garden, the Physick Garden,^{M162} while passing through Chelsea College; that is to say the hospital.

I saw Mr Johnson at the Star and Garter, who galloped upright on two horses, a third in the middle. He pretended to be thrown off on the side. I spent the evening with Mr Condamine who arrived today.^{M163}

M158 Somerset hotel; started in 1547; the Protector Somerset, maternal uncle of Edward VI was executed in 1551 before its completion; the hotel became royal property.

M159 *Public ledger or daily register of commerce and intelligence*. Specimens of the *Public ledger* are found only in two or three libraries; I could not consult any of them.

M160 John Baskerville (1706-1775); English printer; invented velum paper; Beaumarchais bought some as well as the typeface called Baskerville, and used them to print the Kehl edition of the works of Voltaire.

54 Pure pitch is softened and the glass to be polished is pressed onto it. After it has hardened to the shape of the glass, the glass is polished by rubbing over the pitch lap with a slurry of rouge.

M161 don Etienne Noël, Jesuit (?-1660); a correspondent of Descartes; was interested in physics and the laws of gravity.

M162 Physic Garden: Royal Botanical Garden; given by Sir Hans Sloane to the Apothecaries for a minimum rent and the promise to maintain a garden of medicinal plants there; it is now the property of the Imperial College of Science.

M163 Charles Marie de La Condamine (1701-1774); mathematician; Academy of Science; travelled to Peru; introduced curare to Europe; in favour of inoculation.

Diary of a Trip to England 1763

Thursday 12th May, Ascension.

To lunch with Mr Condamine at Dr Maty's. From there to Mr Nivernais. I wrote a letter to be given to Mr Rochette who had left.

I dined at the Mitre with Mr Duclos, Condamine, Camus and Berthoud; from there to the Royal Society and then to Mr Olivier in Broadstreet where we had supper.^{M164} I took Mr Condamine to show him the Monument; it rained. Finally we dropped in on an attorney.

I saw Mr Raper, who wrote against me, at the Royal Society.^{M165}

Friday 13th May.

I lunched with Lord Morton, who told me how he had been in the Bastille for having been seen with Lorient before the invasion of the English under General Saint Clair. I went to see Mr Short, who is extremely surprised that Harrison's son went to Lincolnshire without confiding in him. To Mr Brook, dealer in birds.

In the evening I went to Mr Wilson's to see electrical experiments. On breaking a wax rod one end attracts and the other pushes away light bodies. By rubbing a shilling attached flat to the end of a wax rod, the shilling being handled by the wax rod, it pushes away or attracts. With a large piece of tourmaline from Ceylon, one side attracts and the other pushes away. When it is heated it becomes electric.

A little air is needed for light. Mr Wilson proved it by a tube where there is only a little air which is concentrated on one side, and the light is stronger there than when the air is dispersed. Two barometers joined by an almost void tube, where there is a bubble B of mercury suspended by a little air, or two or three bubbles. When side A is electrified, one sees the light accumulated at the top of each bubble of mercury, which shows the tendency of it.

Saturday 14th May.

I had a long discussion with Lord Morton⁵⁵ and I left convinced that we will not see the watch. I took Mr Condamine, Camus and Berthoud. We also went to Lord Macclesfield and from there to Mr White at the Foundling Hospital. He told us that at the next Parliament the commissioners would be reprimanded for vexing Harrison and that it was nec-

M164 Blaise Joseph Olivier (1701-1746); ship builder.

M165 Matthew Raper (?-?). See 'Remarks on a passage of the editor of the *Connaissance des mouvements célestes pour l'année 1762* in a letter to the right honorable George earl of Macclesfield, president of the Royal Society. By Matthew Raper, Esq. F.R.S.', *Philosophical transactions* (1761), p. 366.

55 Monod-Cassidy omits his name.

essary to have six votes to settle it, but he did not promise us, as before, that we would see the watch.

Mr Beaumont offered to present us to the King; Mr Camus, Mr Condamine and me. It will be on Sunday 22nd.

We dined at Mr Mallet's with Mr Camus, Duclos, Scott, Condamine and Maty. A striking comparison was made between Charles II and the Regent, who had corrupted the morals of their nation but who were not prudent in their affairs.

Sunday 15th May.

I took Mr Condamine to see the library of the Royal Society. I measured the lower half of St Pauls, 118 steps = 260 feet.

I dined at the hotel of Nivernais with Mrs Lafare, who stays near St Pauls. Mr Dromgold^{M166} told us of the persecution of catholics in Ireland.^{M167} They cannot bear weapons, a son can plunder his father, a neighbour can take away a horse which is worth more than six guineas. Their children are removed from them. To prevent carriages exceeding the stipulated weight, there are turnpikes with weigh-bridges which give way under excess weight.

The evening at Mr Pringle's who advised Mr Condamine to use every night, for his deafness, three drops of a solution of bay salt^{M168} or French salt made by evaporation by the sun for a month. This salt is uncommon in England, one cannot be satisfied with fish salt and the weather is not hot enough in England.

Monday 16th May.

All four of us went to the Tower to see the Weapons Room which is more than 300 feet long. Mr Nivernais, Mr and Mrs Usson (Bonnac),^{M169} and Madam Boufflers came and left for Deptford in the gilded barques of the admiralty. The princes and Lord Sandwich also went there. We went to Greenwich to see the observatory and dined at the Greyhound opposite the gate to the park.

M166 Jean Dromgold (1720-1780); professor of the College of Navarre; he belonged to an Irish family who took refuge in France; in 1763 he accompanied the Duke of Nivernais to Oxford and made a much applauded speech.

M167 In 1702, under the Queen Anne, were passed very severe criminal laws against Irishmen; they were only abolished in 1782.

M168 Bay salt: grey salt.

M169 Charles-Armand d'Usson de Bonnac (?-?), the marquis of Donnezun; lieutenant of the king in the county of Foix: belonged to the 'Temple' of the Prince of Conty.

Diary of a Trip to England 1763

At 4:00 the ship Albion of 74 guns was launched; it slipped on braces, eight on each side carried on a cradle.⁵⁶

I did not go to the party in the Kings-Yard at Deptford and I returned to the observatory with Dr Bevis. We observed pole star, the *épie* of Virgo⁵⁷, etc. I supped at the Black Lion with Mr Bevis and Mr Green, then the academicians returned to London.

Tuesday 17th May.

In the morning I saw the Greenwich hospital, the gilded church, the beautiful room of paintings, the building where Admiral Byng was jailed.^{M170}

We observed midday⁵⁸ and had lunch at the observatory. The observatory is not oriented. One sees more of west than of the east from the northern face of the building⁵⁹. Its greater width is approximately 50 feet. There is an inscription in honour of Charles II - 1676.

At midday⁶⁰ is Morden College for ten poor merchantmen, the house of Sir Gregory Page, the village of Lee where Halley is buried. The houses of Lord Chesterfield and the General Wolf are also at midday from the observatory.

Bradley was a hard, jealous, miserly, melancholic person according to Doctor Bevis.^{M171}

At Greenwich I saw the Society of Antigallicans whose standard represents England as *a cheval foulant les fleurs de lys, for our Country*.

Wednesday 18th May.

I went back to London for 6d, alone in a boat for two men, in one hour in spite of the current and the tide. On the left of the river I saw four or five dock-yards where ships of 74 guns are built; they are built by merchants for the King. On the right Lime, Shadwell and Wapping; there are two water towers or fire works on the river bank in Shadwell. On the left is Redriff.

I went to Guildhall where were the judges of the exchequer Common pleas, King's Bench, Council Chamber; of which the judges are Mr Parker, Mansfield, Liechtfield and Mayor Beckfort. The jurors were around the tables.

The sessions which I saw today at Guildhall take place every six weeks to empty the prisons; the violet robes with red hoods are the sergeants-at-law, who are the main lawyers; the others wear black and are only councils. The attorney and the Solicitor General wear robes of grey silk, the judges robes of silk with grey silk facings.

Close to Guildhall is an old house called Blackwell House, where cloth is unloaded.⁶¹

The house of Sir Robert Ladbroke at Foots Cray, six miles from Greenwich, is esteemed for its paintings.^{M172}

We dined at Lord Morton's with Lord Charles Cavendish and Mr Scott; they continued to assert that Parliament would accuse them if they so dearly paid for a secret^{M173} without making sure of its success and the sincerity of the author.

In the evening I went to Mrs Majandi,^{M174} Denmark Street, and to the Miss Dutens.

More than 500 merchants presented their petition for peace to the King; they all kissed the hand of the King.

56 Monod-Cassidy: *portées sur un verceau*, but *un berceau* in the ms.

57 The star Spica?

M170 John Byng (1704-1757); admiral; beaten by the Marquis de Gallissionnière; Newcastle condemned him to death and he was executed in 1757. A detailed account of the judgment of Admiral Byng will be found in the study of André M. Rousseau, *L'Angleterre et Voltaire* chapter 6.

58 The sun on the meridian; used to determine local time.

59 The observatory was built to face the view over the Thames, but the orientation is irrelevant from the perspective of its use.

60 In the direction of midday, due south.

M171 Dr James Bradley (1692-1762), F.R.S.; astronomer; Academy of Science of Berlin; connected with Macclesfield, Newton, Halley; in 1728 he discovered that the slope of the axis of the earth in the field of the ecliptic was not constant, and the period of variation was roughly nine years.

61 Blackwell Hall, a factory and warehouse for woollen cloths; Campbell, *The London Tradesman* (London, 1747).

M172 Sir Robert Ladbroke (?-?). *The Conference: instructions given to sir R. L... etc. (Feb. 10, 1769) by their constituents* (London 1771).

M173 The watch of Harrison, I think; see note M51.

M174 Elizabeth Prévost Majandi (?-?); wife of John James Majandi (1709-1783), tutor to Queen Charlotte, the Prince of Wales, and the Duke of York.

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A caricature was produced which is the portrait of Mr Wilkes, smiling and holding the cap of liberty on the end of a baton.⁶²

We are to be introduced to the King on Wednesday at his rising.

Thursday 19th May.

I went to see Mr G Neale surgeon, Mark Lane, who has been in Spain, Italy, France and America. He goes to the countryside in Nottinghamshire with the Marquis of Granby, Lord Chesterfield, the Duke of Portland, etc. On Monday he will take me to Lord Tyrel who has a charming estate.^{M175}

I went to the Old Bailey to see the trial or inquiry of the session. The witnesses were heard, the defendants questioned, the judge explained the matter to the jury. They immediately conferred together and one of the twelve announced to the judge that their opinion was that the defendant was guilty. There is a closed passage which takes them to Newgate. The sentence will not be pronounced until the last day of the session. I gave 1/- to enter the gallery.

I walked along the Hampstead road reading *An impartial history of the late war* which I bought for 3/6d - 408 pages, twelvemo.^{M176}

I dressed to go to Vauxhall^{M177} which is open today in spite of the rain. It is a magnificent garden 800 feet in length and from 320 to 550 feet wide. A pyramid, in the countryside beyond the gardens, can be seen when entering.

On the left is a beautiful salon for the orchestra when it rains, with a very large hall where there are three large paintings: the God of the sea giving the empire to the King of England (after the defeat of Mr Conflans, November 1759); General Hament who welcomed the Canadians; and General Clives who established Jasser Subah in the Indies (of Bengal). On the right and left are two large half-moons furnished with boxes; another elevated, architecturally decorated box for the princes.

62 By William Hogarth (1697-1764). Drawn when Wilkes was brought before Chief Justice Pratt on a charge of sedition. Wilkes had attacked Hogarth in North Briton No 17.

M175 John Tyrell (?-1786); high-sheriff of Essex?

M176 J. Knox. *A complete history of the origin and progress of the late war from its commencement (1756) to the exchange of the ratifications of peace between Great Britain, France and Spain, 2 vols* (London 1764).

M177 Vauxhall: built about 1661 under the name of New Spring Gardens; with a capacity of 16,000 visitors; open every evening at 5:00 from mid June to the end of August; closed July 1859.

In the middle there is a beautiful round tower for music and behind it a large wooden pavilion where there are tables. Large avenues ending in views of palm trees etc.

I ate heart cakes for 2d, a cream custard for 4d. A plate of ham or beef costs 1/-, a bottle of wine, 2/-, champagne, 8/-.

I spent eleven and a half hours there. The hackney coach cost a half a crown.

The music finishes at 10:00.

The waterfall has a mill wheel, a house, a landscape; the water falls from the top of a mountain. The lamps are very quickly lit by means of a tuft of lint which ends in a wick.

One gets there in seven minutes from Westminster bridge for 3d and it costs only 1/- to enter. It used to be the same at Ranelagh, but it fell too much into the hands of the rabble.

Friday 20th May.

I saw the machines of the Society of Arts; saws, water mills and wind mills.

I dined with Admiral Knowles, Sackwell Street, Piccadilly. He talked a lot about his experiments and his research on the design of ships and stowing.^{M178}

Admiral Hawke is the only one of the white flag^{M207, 63} who is in a position to serve. Mr Knowles is the first of blue; those of the red, are next. He quarrelled with Lord Anson^{M208} (and Pitt) who wanted Rochefort taken at any price, but for all these injustices the Duke of Cumberland compensated him by his friendship. Admiral Hawke said that, in the matter of 20th of November 1759, if Mr Conflans had remained or if he had acted on his resolution to withdraw early, he could have done nothing when he approached; but he changed his mind too often.^{M209} He esteemed Mr Clue, who behaved well in the business on the coast of

M178 Charles Knowles (1700?-1777); admiral; governor of Jamaica 1752.

M207 The white flag indicates here that peace was signed.

63 Actually the White Squadron of the Navy and nothing to do with peace, as is obvious from the mention of the blue and red squadrons.

M208 Lord George Anson (1697-1762); *A voyage around the world* (London 1748), translated into French in 1749.

M209 Hubert de Brienne, Count of Conflans (1690-1778); admiral of the fleet of Brest; defeated by Hawke at Quiberon in 1759. This defeat marked the failure of the project, formed by the government of Louis XV, to land in the south of England.

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Spain.^{M210} He said that there are no good ships in England, but those of France, Spain and Holland are good.

Admiral Knowles showed me the state of the English navy, which has 159 ships of the line, including those of fifty guns, and 179 frigates. There are only four of 100 guns and thirteen of 90. The vessels of 74 are those which are most built. One of the more esteemed is called the *Fame* has the following dimensions.⁶⁴

Length of the flotation line	165' 6"
Length of keel	135' 8"
Width	46' 7"
Depth	19' 10 1/2"
Weight of the ship in tons	1566
Number of men for service	650

74 guns, Bird the shipbuilder, to the design of W. Bately Sq.

Drago 168', 137' 11", 46' 7", 19' 9", 1614, 650, 74, by Mr Hayes modelled on the French vessel the *Invincible* (it was taken by Lord Anson in the last war). He pointed out that almost all the French vessels of 74 were made on this model.

Another: 168', 139', 47', 18' 10", 1615, 650, 74, *Torbays*.

The *Magnanime*, one of the French vessels which is made much of in England, has following dimensions: 173' 7", 140' 7 1/2", 49' 6", 21' 1/2", 1833, 74. It was taken from the French by the ship *Nottingham*.

The English ships of one hundred guns are 2,000 tons.

Saunderland and Mungo-Murray are the two best authors on the construction of ships, but Mr Knowles is sure that they are, on the whole, not worth anything.^{M212}

In the evening I went to see Garrick act in *Macbeth*. His role is formidable. Miss Pritchard also excels in that of *Lady Macbeth*. We got the theatre to reserve places for Mr Berthoud, Mr Condamine and myself. I saw Mrs Majandi.

M210 Mr de La Clue (?-?); admiral of the French fleet in the Mediterranean; defeated in August 1759 by *Boscawen*.

64 Lalande does not state the units he is using and I have assumed English measurements.

M212 Alexandre Mungo-Murray (?-1770); ship builder; friend of the Countess of *Boufflers*. *A treatise on shipbuilding and navigation* (Paris 1754).

Saturday 21st May.

We bade farewell to Mr Nivernais who leaves tomorrow, and to Mr Duclos and Moreau who leave this evening; Mr Duclos had arrived on the 23rd of the other month.

We were taken to see Admiral Knowles, where I saw Mr Robertson head of the Portsmouth school.

The naval academy at Portsmouth is made up of twelve masters paid by the state to teach thirty young people, who must be there three years and have a further three years at sea before becoming lieutenants. Mr Robertson proved that the dock of Mr Bouguer is not practicable.^{M211}

Mr Knowles told us that of all the ships there were not fifty in a state to be used. Lord Bute had not taken enough care to have them repaired; he was obliged to pay too much money, he put the nation in debt, and the least misfortune would be disastrous for him. For this reason he made peace, but he had to hand over the fortifications of *Havanne* (fort *Mooro*) and *Martinique*.

We dined at Mr Scott's, *Leicesterfields*, and from there I went to *Vauxhall* where time passed deliciously. The Duke of York was there with the Duchess of Buckingham.

There are 57 boxes on the left and 81 on the right.

Sunday 22nd May.

Whit Sunday, and the most beautiful day that there has been for a long time.

I left at 8:00 with Mr Berthoud. We went *Paddington*, then to *Hampstead* four miles north of London, then to *Highgate*, to *Islington*, to *Bagnig Waters*⁶⁵ close to the *Foundling Hospital* where there are some very pretty gardens. We admired the countryside and especially the view of the whole of London from the top terrace of a beautiful house in *Highgate* and of the *Hampstead cemetery*, the house of *Lord Mansfield* which was below between the two villages. The walks are delicious and the houses in these two villages are very pretty. In the country between them we rested a great number of times, because our circuit was

M211 Pierre Bouguer (1698-1758); French mathematician and physicist; Academy of Science. In 1735 he went with Godin and Condamine to Peru to determine the shape of the earth. *Théorie de la figure de la terre* (Paris 1749).

65 *Bagne, bagnio*, a public bathhouse. Probably what is now *Cold Bath Square* or *Spa Fields*. On the 10th of May Lalande visited Haygnet (said to be a water tower, but the description suggests a conduit); perhaps Haygnet refers to the same place.

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of about twelve miles not counting detours. We admired the plants, the view, the cleanliness, the houses. The countryside is much more beautiful than in Paris.

Monday 23rd May.

After lunch at Mr Pringle's we went to see the organ made for the Princess of Wales at Carlton House, Pall Mall. There are seventeen pipes from eighteen inches to four feet, a weight of 400 pounds for the three bellows, one of 250 for the mechanism, which returns by itself to the start. There are keys to swell and decrease the sound, to change playing and so on, all in the one mechanism. Lincha^{M179} designed the pipes. It cost £1,200. Started by Valrot, finished by Mr Merlin, 27/- per week.

I took Mr Condamine to Mr Simon for his business against Mr Hilton.

I went to see the machine of the port of London with Mr Magenis. It is made up of five large wheels and 72 pumps; each one makes 1,000 strokes in five hours during the rising tide, and 3,000 in seven hours during the falling tide. There is a dial which counts them. It provides water to Temple Bar, White Chapel, High Holbourn, Shoreditch and Southwark. There is a wheel which is on a mobile frame. By a crank and two gears the wheel can go up four and a half feet.

After dining at Mr G Neale's in Mark Lane we went to Lord Tilney at Wanstead⁶⁶, a superb castle six miles north-east of London; we passed through Mile End, Bow and Stratford. The house has a facade of 260 feet, made of freestone, an immense park and garden, orangeries, greenhouse, a stone grotto where all conceivable curiosities of natural history are assembled, a menagerie, lakes, cherries and apricots in greenhouses, flowers, antiquities, gilded and splendid apartments, another castle in view, an illuminated court.

There is a fire machine on the road to Bow whose tower was recently built. There are several hospitals on the way; there are many workshops for painted fabrics, many distilleries and a porcelain factory at Bow.

I received £5 for commissions on behalf of Mr Bailly at Mr Fonblanc & Theluss on Tower Street.

M179 Lincha: perhaps the name of the person who built this part of the organ's mechanism.

66 The visit was arranged on the 19th, where the name is given as Tyrel.

Tuesday 24th May.

I lunched at Doctor Pringle's with Bailli de Fleury, etc.^{M180} We went to see the king's microscope, which cost 3,000 *pièces* made by Mr Adam.^{M181} It has all the lenses on a revolving disk and each one has its place; the mounting is of silver. It has a pointer between the oculars which distinguishes movement of a ten-thousandth of an inch to measure magnification.

The mansion of the Queen has the most beautiful staircase in London; painted there are the meal of Aeneas and Dido, their arrival in Carthage and the queen's zebra; Doctor Knight, who makes sarcastic remarks, inquired 'where are the guards for the ass?'

Then I went to see the machine at Chelsea which gives fourteen piston strokes; each one shifts eighteen gallons. It burns nine caldrons of coal per week and the reservoir is in Hyde Park.

From there to New River Head. There are three reservoirs, two on the level of the river, one of which supplies the city and the other is an extension of the machine. The third is higher and the machine lifts water to it. This machine has eight pumps and it lifts 100 barrels of water per hour with 120 gallons each turn, and it goes sixteen hours per day. A house gets 3/4 of an inch of water for 20/-.⁶⁷

From there we went with Mr Henri and Berthoud to Sadler's Wells, a small theatre where you are given wine into the bargain. You can take hold of women's breasts⁶⁸, throw pennies onto the stage, howl at the actors, call out 'encore'. There were English ariettas, tumblers, a dancer on the trapeze who balanced a sword on a glass and a plate on the sword while shaking on the rope with a very great movement, beating of drums, boxing, etc. Pantomimes, dances (coarse and popular, the French are often played), and scenery rather pretty and also practical. We tasted public house beer at Sadler's Well's Tap House, and with ...

M180 Bailli de Fleury (?-?); one of the Frenchmen who came to England with the Duke of Nivernais.

M181 Robert Adam (1728-1792); architect to the King; member of Parliament; designed the residences of Lord Mansfield and Lord Bute.

67 Monod-Cassidy: *pour deux sh*, but the ms reads *pour 20 sh*. Either way, Lalande's statement is meaningless; this is presumably the depth of an unknown volume of water.

68 A strange statement, although Lalande's character suggests looking at them would be a distinct possibility.

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*Wednesday 25th May.*⁶⁹

Mr Berthoud, Mr Henri and I went Newgate, Charterhouse (where there are great walks), Moorfields, Bethlehem hospital, the Madeleine in Goodman Fields (where there are a hundred refugee girls), Well Cloven Square, Custom House, Doctor's Common, Intelligence House, Bridwell, and to the machine of London bridge which was stopped at the time. The evening at Marylebone for the first time; the orchestra was very good and there were rather pretty singers. Admittance 1/-.

Thursday 26th May.

I made various visits and I began my farewells. I prepared my books for shipping. I talked for a long time with Mr Robertson at the house of Nourse; he showed me his new edition of navigation and the demonstrations of trigonometric formulas, rather well made. I gave him the program of the academy for stowing and I strongly urged him to make use of it. I dined at Mr Beaumont's, who must present us tomorrow, and in the evening we wrote to Mr Greenville, Halifax and Egremont.

Friday 27th May.

I went to see Mr Wilkes who recounted his history, his detention and the origin of the present war.

We went to St James where Lord Hertford was to present to us to the King, but Mr Condamine was late and we missed the hour.

We dined with Mr Beaumont. I wrote to Mr Montmirail and sent a memoir to him - 17 livres 4 sols.⁷⁰

Saturday 28th May.

We had lunch at Doctor Pringle's with Bailli de Fleury and we went to the house of the Queen. The King and Queen left at 9:30, as they have the habit on Saturday to go to Richmond, but the King gave orders that his pneumatic machine be brought at 10:00 for us to see it. Mr Adams came himself though he had much difficulty moving it. This machine was designed by Mr Smeaton who had come from Yorkshire, having much talent for machines. The two pistons act by way of valves on top which discharge them of the weight of air, and can compress or rarefy at will. It can rarefy two thousand times compared with the ordinary machines, which can only go to three hundred times. In two large rooms there are many cupboards full of instruments, machines and

69 The dates in the diary to the end of May are incorrect. Lalande got confused and used Tuesday 24 and Wednesday 24 instead of Wednesday 25. The correct dates are given here.

70 Monod-Cassidy: *et lui ai envoyé un memoire 174.4* The number is, in fact, the amount 17 li 4 sols; presumably the cost of the document and/or postage.

books. The King is always occupied; in the evening he has concerts or sees his mother, or goes out with his wife, or talks with his ministers, or goes to the comedy or the opera; but he never receives anybody at his home. The King said to Doctor Pringle that he knew I was to be introduced to him and that he knew my work.

The Duke of Buckingham, who was a Jacobite, had built this house to defy the King.^{M182} His burial at Westminster was more beautiful than that of the King.

The King goes out in a small coach with only his wife, thirteen guards following him. A sailor threw a petition to him in his coach and the King took it. One does not enter the court when he is out in his coach. The King saw us when leaving his palace. He sent for one of his people and ordered that we be shown the queen's apartment, but he was not obeyed.

In the evening I was with Mr Maty the son⁷¹ in Long Lane Southwark to see the tannery and the preparation of the lime⁷², pigeon dung and barley. In the evening Merlin came to see me as well as Mr —, whom I saw in Berlin and who is under-master in an academy of 80 children near Marylebone. The boarding school costs £30.

Yesterday in the evening constables were sent to Mr Condamine to compel him to leave the same evening. He gave them 2/- and they went away.

Sunday 29th May, day of the Trinity.

I went to the garden in Chelsea, the Physick Garden

hortus botanicus societatis pharmaceuticae londinensis 1686

Mr Miller has been there for 42 years.^{M183} In 1718 Mr Hans Sloane, who owned all Chelsea, granted this site in perpetuity to the apothecaries for £5 rent. Consequently they raised a marble statue to him in 1733 inscribed:

M182 John Sheffield, Duke of Buckingham and Normandy (1648-1721); statesman and writer; favourite of Queen Anne who granted her titles to him; Lalande gives his epitaph (in the entry for 9th June).

71 Monod-Cassidy: *M. Ma[?] le fils*, but the ms reads *m. maty* (with *le fils* inserted later to distinguish him from the other Maty).

72 Monod-Cassidy: [*à la ch?*], but the ms clearly reads *a la chaux*; lime, dung and barley were used to prepare raw hides. See Campbell, *The London Tradesman* (London 1747).

M183 Philip Miller (?-?); head gardener of Chelsea after the death of Sir Hans Sloane; he enriched the botanical collections in Chelsea; he adopted the classification of Linneus.

qui hortum istum in botanices cultum et augmentum humanita assignavit

The building of the orangery and of Mr Miller is 90 feet long. On one side there are 90 feet of hot-houses and further 100 feet of another hot-house. This garden costs the apothecaries 200 *pièces* for maintenance. They subscribed for the building in 1735; the list of subscribers is in the main room. Doctor Sibthorp gives lessons for six months; two lessons each month, one in the countryside and the other in the garden where the medicinal plants are arranged in a square in alphabetical order.^{M184} Mr Willimir is the botanist at the garden in Oxford. Mr Hill was expelled from the garden when he stole plants to sell.^{M185} Mr Miller has three or four gardeners. He says that he has 6,000 species. He promised to give me some seeds and dried plants for Mr Duhamel.^{M186} The garden has a gate to the river. The spring tide of the last equinox flooded part of his garden, he had not seen the like for 42 years.

Mr Sloane's house on the river no longer exists. Mr Dunn has his academy very close to the garden, towards the hospital.^{M187} There are 500 invalids in the hospital and they are allowed to take their bread, their bowl and so on outside the hall.

Today was the festival of the restoration of Charles II. At 1:00 forty-one guns fired in the park and sixty-one at the tower, and people shouted 'huzzah'. The royal family was at the window of the pavilion of Charleton House.

I saw in garden the *mahogani, arbor fraxini folio catesby his. caroli. Cedrela linnaei, fleur monopétale quinquapar. fructus instar coni, inf. cedrus, unde cedrela.*

I went to the Court at 2:00. I dined in my room and afterwards went to Mrs Majandi, Denmark Street. Then to Lord Hertford's, who wrote to all three of us, he is in Grosvenor Street. I walked with Mr Bontemps in Green Park where there were many fashionable people. Tea with Mr Camus and the evening at Mr Condamine's, Suffolk Street opposite the

M184 Humphrey Sibthorp (?-?); Sherardian professor of botany in Oxford; it was said of him: 'that the world of science slept during the forty years of his professorship'.

M185 John Hill (1716-1775); the celebrated 'Sir John Hill'; gardener. *The Vegetable system* (London 1759-1775); *The British herbal* (London 1756).

M186 Henri Louis Duhamel du Monceau (1700-1784); botanist; he published five important treatises on trees in 1738 to 1768; he went on a journey to England to study structural timber.

M187 ? Dunn (?-1794); English mathematician; examiner of candidates for marine service with the Indies Company.

envoys of Algiers. Those of the Canadian natives lodge very close by in the same street.

I saw Banqueting House at Whitehall where there is a ceiling by Rubens; it is now a church.^{M188} The organ is near the window wall. The two guards on horseback, who are on guard in two stone guardhouses, belong to the Horse Guards. There was a large gate on the other side which was demolished two years ago.

Monday 30th May.

At 9:30 I left for Richmond with Mr Condamine, for 2/- by a coach from the Strand opposite Newchurch; we arrived at midday. On Monday, Tuesday and Saturday Richmond is closed and it was necessary to give a crown to the gardener, who received us with displeasure.

We entered by Richmond Green, a beautiful square of one hundred fathoms in any direction. We saw the lodge of the King, a small unassuming house, without furniture and whose rooms are low and narrow, rather ordinary.^{M189} The late King slept there sometimes. We saw the knives with which he trimmed trees. There are old portraits from the last century and a small library for the King.

The gardens are a mile and a half long and a quarter broad. The terrace along the river is most beautiful and there is a salon on the edge. The spaces between the avenues are mown and seeded with corn, hay, etc. Of note is the place called the theatre, where comedy is played, the oval and the hermitage. At the end is the house where the queen lived when the King went to Hanover.

The salmon nets were lifted, but there was nothing in them. Lord Mair leases the fishing there. The tide rises there to flood the gardens, although the Thames is very narrow.

Each year Caterpillars devour all the leaves.

There were many pheasants and hares, but the King let it decay and even to fall into ruins; the gardener says that he is miserly. It costs £1,000 *pièces*.

On the left is the beautiful house of Lord Northumberland, which was formerly a convent, and further on is Brentford. We did not have time to go to Richmond mountain where there is a very beautiful view.

M188 Banqueting House belongs to the palace of Whitehall built from 1619 to 1622 by Inigo Jones. The ceilings of the Grand Room are by Rubens. They were installed in 1635 by Charles I.

M189 The lodge of the King was a small farm which contained a collection of animals and birds. It was the retreat of George III. Richmond Green belonged to the gardens. *Guide de l'étranger*, p. 719.

Diary of a Trip to England 1763

At the end of Richmond park is the village of Kew, the houses of the Duke of York, the two princes, Lord Bute and of the princess who is the most important and who grows older each year.

The gardens are a mile long and a quarter broad.^{M190} There are groves and amphitheatres of foreign flowers and trees, and large birdcages with foreign birds.

The large Chinese tower has ten platforms and 253 steps; it is 172 feet high and is described in the Gentleman's Magazine, May 1763. There are eighty dragons.

There is a Turkish section with the temple of Maures, very well copied from the ruins, and a Turkish mosque with the dome and two minarets from where the priest calls the people.

The temple of the victory of the sun, designed by the King, Westminster Abbey, a large and beautiful stone orangery beside the house. Mr Chambers has just published the plans on sixteen sheets, 48 French livres.^{M191}

We took the post chaise to go to Hampton Court, passing Ham (where there was a fair) and Kingston - 6 miles, three-quarters of an hour on the road.

The castle of Hampton Court is ancient.^{M192} It was built by Cardinal Wolsey as Whitehall and King William repaired it; it is all brick. Two large courts without counting the entrance buildings, large staircases where are painted the twelve emperors, the gods, etc. There was once a botanical garden under the direction of Plukenet.^{M193}

The seven drawings of Raphael are in a small gallery, and represent the miracles of Jesus Christ and the acts of the apostles. Charles I liked it and he was imprisoned there. See *Tour Through Great Britain* I-237.

M190 Kew Gardens in Surrey were decorated with various constructions: an orangery, a temple to the sun, a botanical garden, etc. The botanical collection was started by Lord Capel at the end of the seventeenth century. The Chinese Tower, built in 1761, is situated opposite the lake. *Guide de l'étranger*, p. 712.

M191 Ephraim Chambers (?-1740), F.R.S.; author of a scientific dictionary *Cyclopaedia* (London 1728) that Diderot translated and which is the origin of the *Encyclopédie*.

M192 Hampton Court, largest of the royal palaces; Elizabeth installed the first botanical garden there; the palace built by Cardinal Wolsey was partially destroyed in 1690 and was rebuilt by Christopher Wren. *Guide de l'étranger*, p. 706.

M193 Leonard Plukenet (1642-1706), botanist. *Almagestum Britannicum phytographia plukenetiana* (London 1691-1692); *Opera Britannica* (London 1720).

The gardens are extremely beautiful; great avenues, lakes, surrounded by walls.

We returned by Vauxhall, twelve miles, in all 18/-. I had supper with Mr Condamine.

Tuesday 31st May.

I went to Hackney and I returned by the Hoxton Road. I saw Hoxton Square, well built and furnished with pretty trees and a lawn. Beyond is Charles Square, planted with trees which are shaped like sugar-loaves at the expense of the inhabitants of square. It has only one entrance. Old Street which is not paved and Sutton Street where all the houses are in ruin, poorer and more unpleasant than in the most miserable villages.

To Doctor Bevis, who showed me two translations from the works of Condamine, one on the obliquity of the eclipse and the other on the voyage to Italy, which have never been published.^{M194} The first was printed but Mr Halley, seeing that it was contradicted by Godin, did not want it to come out. The second he started to print himself when the book of Mr Thomas appeared, full of errors and ignorance.^{M195}

In the evening I walked to Queen Anne Square, a small place which gives onto the park, where there is a small statue of Queen Anne. I saw the church of St John which is beyond there, the prison which is at the entrance to the cloister of Westminster near the gate, and the school of Westminster where forty young people are taught. They all sleep in an immense room where they are like pigs one beside the other. The school, where they are from 7:00 until midday and from 2:00 until 5:00, has only one room for all the teachers. In their refectory the coal fire is in the middle on stone and the roof is open to let out the smoke.

The brother of Sir James McDonald showed all that to me. There is a large new building in the cloister, intended for the side of a new square.

M194 The titles of these works are not in the catalogues of the large libraries which I could consult. The catalogue of British Library mentions: *Journal of a tour to Italy* (London 1763).

M195 Louis Godin (1704-1760); astronomer; Academy of Science; went to Peru (1735-1742) with Bouguer and Condamine.

Edward Thomas (?-?), F.R.S.; in the catalogue of British Library there is following note: An extract from the observations made in a Tour to Italy by the chevalier de La Condamine ... Translated by a Fellow of the Royal Society (London 1768).

Diary of a Trip to England 1763

June 1763

Mr Camus wrote a letter to the commissioners, telling them that he cannot remain here longer.

Mr Bevis came with me to Mr Condamine's. Mr Berthoud and Henri returned from Oxford, Stow, Windsor and Buckingham, and came to see me in the evening.

Wednesday 1st June.

I was presented to the King by the Count of Coventry,^{M196} chamberlain of the week and by Mr Beaumont, resident of France; I also presented *La Connaissance des temps de 1763* to the King.

I dined at Dr Pringle's with Mr Camus and Mr Condamine, though I was invited to Mr Olivier's. I walked with Mr Condamine. I met and talked for a long time with Lord Hertford who will be ambassador to France.

The Quakers presented their petition to the King. There was, in the Public Ledger of the 30th, the adventure of Mr Condamine with Mrs Strafford, without naming her.^{M197}

Thursday 2nd June.

I visited Camus and Condamine, Madam Boufflers, etc.

I dined at the Mitre. I went to the Royal Society and to the meeting of the Society of Arts. I went to the meeting of the Society of Arts to examine a machine which can notify the master of a fire in an unspecified room.

Mr Camus presented his report to the commissioners on the matter of Harrison to get an answer.

Friday 3rd June.

I went to Hackney to Mr Ellicott, to bid my farewell, and to the museum. I had dinner at the Pine-apple. I wrote to Madam Lepaute⁷³, Mr

M196 George William, Lord Deerhurst, Count of Coventry (?-1809).

M197 It is also described in *The Gentleman's Magazine*. The article is divided into two parts. In the first, Condamine addresses the English people and recounts that, when returning to his home at 9 o'clock in the evening, two men entered his room and threatened to arrest him if he refused to leave. He refused and wrote a letter to the French representative (the ambassador, Mr Nivernais, was in France). The men of law whom he consulted discouraged him from taking legal action and advised to him to move.

In the second part, the owner of the establishment answers; she accuses Condamine of having brought two girls to his room and to have threatened the chambermaid with a penknife. She ironically wishes him a happy voyage. *The Gentleman's magazine*, No 233 (June 1763), pp. 304-305. We could consult neither the *Public ledger* nor the *Public advertiser*.

73 Monod-Cassidy: *Mad de P...*, but the ms reads *mad. lep.* I presume this is Lepaute as Lalande wrote to her earlier.

Diary of a Trip to England 1763

Mairan, Romilli, my mother, Mr Genet, Adamson, Montigni, Fouchi, Arnaud.^{M198}

I want to leave on Monday. Mr Condamine, to whom I am necessary, showed me a letter from his wife who makes me her attorney so that I have care of him, and she wishes that I could be like a woman as she loves her husband.^{M199} I promised him not to leave so that I would not be useless to him.⁷⁴

Inserted in the Public Advertiser of the 3rd was a denunciation in French, made by Mr Condamine to the English nation, against Mrs Strafford. In the evening we assembled at Mr Condamine's, including Bevis, Short, Maskelyne and Camus.

I went to see the machine of Northumberland Court, which belongs to the merchants, and which runs by the drain of Charing Cross.

I saw Mr Bird, who showed me the details of the two instruments for President Sarron.⁷⁵ Mr Watkins took me there.

Saturday 4th June, the Birthday.^{M200}

I went to the Court which was extraordinarily full. The Duke of Cumberland and Princess Amelia were there.

I dined at Mrs Dutens where I saw the beautiful clock which was made for the Grand Visir and which cost 300,000 livres of Tours.⁷⁶ I saw Doctor Hill. He showed me the fifth volume of his history of plants with sixty illuminated plates, and made at the expense of the King and Lord Bute. He has a garden in Kensington with 2,800 species, it is not as big as Chelsea. He showed me resemblances between the metallic growths

M198 Michel Adamson (1727-1 1806); botanist; Academy of Science. *Histoire naturelle du Sénégal* (Paris 1757).

Etienne Mignet de Montigny (1714-1782); Academy of Science; engineer and geometrician; nephew of Voltaire.

Fouché: perhaps Jean-Paul Grandjean de Fouchy (1707-1788); astronomer; inventor of the mean time meridian; permanent secretary of the Academy of Science.

Abbot François Arnaud de Grand-Champ (1721-1784); French Academy and Académie des inscriptions et belles lettres.

M199 Mrs Condamine (?-?); niece of Condamine; she received a special dispensation from Pope Benoît XIV to marry him.

74 Lalande intended leaving on the 6th June, but he didn't depart until the 10th.

75 Lalande only mentions one instrument elsewhere (Bird's quadrant).

M200 George III was born on June 6, 1738.

76 Currency used in Tours, France? It is also mentioned in a literary anecdote about the Covent Garden theatre.

of several solutions and various mosses; but Lord Bute does not want him to take advantage of the reasoning.

In the evening I went to the ball at 9:00; the Duke of York opened it with Princess Augusta. Each person dances by a ticket according to his status. Illuminating.

Sunday 5th June.

I saw Mr Smollett who is ill. I went to the Court where we were to be presented to the Queen, but she was sick.

Dinner at Mr Beaumont's with Father Valette.

I saw the garden and the terrace of the Duke of Richmond in Spring Garden where he will have a ball on Monday at 8:00.

Visits of farewell.

Monday 6th June.

I saw Mr Wadington, Simon and Blaquiere at Greenwich with five women. Then I went by foot to Woolwich. I saw in King's Yard five vessels of 74, the forging mill for anchors and several other buildings. There are 500 workmen.⁷⁷ At Gun's Warin, or Artillery park, a hundred French guns (of 36 or 42) from St Malo, Cherbourg, Foudroyant. I saw a ship which came from Lisbon discharging, which transported cannonballs. I saw torn down about 500 spars. I *cried* over our misfortunes.^{M201} I saw the foundry, the furnace where guns are melted down - it takes twelve hours firing - the moulds, the cores, the machine to drill the guns and the rope manufacture's rope-yard. I returned on foot to Greenwich and then went back to London at 7:00, for 6d.

I saw Mr Morris who gave me hope that the new tables of Mayer and the observations of Bradley would be published in the Philosophical Transactions.^{M202, 78}

I spent the evening at Mr Short's. Supper with Mr White, Misses White and Mrs Carrel, whose husband is in Caen where the son of president Folkes died. We saw the fireworks of the Duke of Richmond, his illumination, the rockets which were on the water. There were five hundred masks, but one needed clothing costing fifteen to twenty guineas.

77 Monod-Cassidy: *cinq mille ouvriers*, but *500 ouvriers* in the ms.

M201 The defeats of the seven year War; the English confiscated most of the French navy.

M202 Christian Mayer (?-?); professor of mathematics at Heidelberg. *Basis Palatina, ... hoc anno 1763 novis mensuris aucta et confirmata, recentissimisque observationibus et calculis stabilita* (Mannheim 1763).

78 Surely Tobias Mayer (1723-1762). See also note M104.

Diary of a Trip to England 1763

Tuesday 7th June.

I was with Mr Condamine in various places, the machine of London bridge, dinner at Mr Beaumont's with Mr Viri,^{M203} Count Usson, Mr Bailli de Fleury, Father Valette, Maty and Pringle. We were sixteen that evening. Father Valette gave me his report in the form of a letter to the Father General. We were still to see Irwin's marine chair and to say good-bye to Father Couroyer.

Wednesday 8th June.

I went to Mr Short with Berthoud to see his equatorial telescope of 125 guineas, his large telescope of six feet focus.

To Mr Bird to see the sector intended for Philadelphia.

I had dinner at Mr Fothergill's^{M204} niece⁷⁹ and one of the principal Quakers, he who presented the petition to the King in the name of all. He has a beautiful shelly,^{M205} the best arranged and the most elegant that I ever saw.

Mr Fothergill had a piece of wood where one can see camphor in the chinks, a chimney all covered with milk-vetches, a thin shell like an onion skin.

Then I took Mr Condamine to the New River, to the widow Roque⁸⁰ and I returned to pack my trunk.

Mr Merlin came to see me in the evening and told me about the popular criticisms of which we are the object in London, among the clock and watch makers, especially Mr Berthoud.

Thursday 9th June.

I reserved a place on the coach near Westminster bridge.

I saw Mr Beaumont and from there I went to Cole's.

In Cupp Gardens opposite Sommerset House there is a malt vinegar manufactory. I saw a slate store in Westmoreland; I bought several books close to Whitehall.

M203 Count de Viri (?-?); minister from Sardinia in London; he had offered (with Bailli de Solar) his services to prepare the conditions for peace.

M204 John Fothergill (1712-1780); English doctor; founded a rich botanical garden. *A catalogue of the collection of hothouse and greenhouse plants* (London 1781).

79 Monod-Cassidy: *M. Fothergill, Miss..., et ...*, but I am fairly sure the ms reads *m. fothergill nièce et ...*

M205 A cupboard with many drawers used to preserve collections of shells. The collectors of the seventeenth and eighteenth centuries had special pieces of furniture manufactured which were called shelly.

80 Presumably the seller of street maps mentioned in the notes.

I went to Westminster Abbey where I read the epitaph of John, Duke of Buckingham, died in 1721.

Epitaph of the Duke of Buckingham in the chapel of Henry VII on the left:

Dubius sed non impius vixi incertus morior non perturbatus humanum est nescire et errare. Deo confido omnipotenti benevolentissimo ensentium miserere mei.

This Duke was miserly and little esteemed. He built Queen House. He had a natural son by a lady who passed for his daughter. He had put in this epitaph: *Pro rege saepe, pro patria semper, et ensuite, Christum ad veneror, Solidum confido.*

I went to see Mr Maty, etc. It was decided after long debates at the Royal Society that the observations of Bradley and Halley will be printed each year at the expense of the Society.

Friday 10th June.

On the 10th of June in the morning I left London.

At six o'clock in the morning we left from Westminster Bridge. We went by Greenwich Park and, at eight miles, Shooter's Hill from where all the city can be seen.

At 11:30 we arrived in Chatham which is thirty miles. A ship of 116 is being built there called the Victoire, and four ships of 90. We changed coaches there.

In Ospring, 46 miles at 3:00, we changed horses; Canterbury, 5:00, changed coaches. I went to see the church. I saw the tomb of the black prince, the stone on which T. Becket was assassinated.

Arrived at 8:00 in Dover and I lodged at the King's Head opposite the White Lion: conveyance 20/-, luggage 10/-, tips 1/-, lunch 6d. To lodge at King's Head: bed and supper 5/-, carriers and commissioners 2/-.

Saturday 11th June.

We sailed at 9:25; one and a half hours before the full sea; we arrived at 12:39.

The passage from Dover to Calais is generally faster than that from Calais to Dover because of the tides; the former is sometimes done in two and a half hours.

The Duke of Bedford left and he was saluted by the gun of the port and by the house. I gave 12/- for my passage. It was the ordinary one so

someone told me; Mr Minet had misled me by making me pay 15/-. In all it cost me 56 livres up to my arrival in Calais⁸¹.

I spent the evening with Mr Blondeau, hydrographer to the King in Calais, and Mr Genousse, ship builder to the King in Le Havre. I saw the Asfeld lock which closes a branch of the St Omer canal and a discharge canal; there is a revolving gate in the middle, and a stay gate, to prevent the tide from going up the canal.

Mr Genousse told me that the additional bridge on the English ships, under the first battery, contributes much to the binding of their ships; their yards are shorter to catch the wind, their masts thinner and shorter, their stowage is good, they don't have to manoeuvre as much, they don't have pits for cables but they extend them to the middle, they have two pairs of bollards, which puts less load on one extremity of the ship, and their officers are better educated because they have more subordination.

Mr Grogard, Olivier, and Coulon are the most esteemed ship builders.^{M206} Nevertheless they only have the title of carpenters, Mr Grogard missed making twelve flat-bottomed boats for the King because he did not have enough capacity.

An advertisement was posted for the sale of 110 flat boats with all their fittings at Roüen, for the profit of the King, by order of the controller general.

Mr La Motte in Brest is a young ship builder who is much esteemed.

Spain gave orders to buy all the ships which could be purchased in England and it appears that Mr Genousse has some similar commission from Mr Choiseul, because he made several voyages to England. He was in Plymouth but he could not see the basin, for which one needs an order from the admiralty.

The basin of Dunkirk is to be demolished, but it is much feared that it will not be possible to pilot the port.

I saw the History and Analysis of the *Jasminium ramo uniflore pleno petalis coriaceis* du cap de b. e. [Bonne Espérance], exceed in beauty smell and duration every plant yet known to the botanist of Europe. Flowered in the curious garden of R. Warner, Esq. at Woodford, July 1758, written, designed and engraved by Mr George Dyon, Ehret, fellow of the Royal Society and member of the imperial academy antiquarian curios.

81 Monod-Cassidy: 5 <1 shil>; the ms is obscure but it is more likely that the amount is 56 livres.

M206 Antoine Grogard (1727-1797); ship builder and maritime engineer.

*Rundeletia arborestem tiaifacia plum. floruit eud. tampon.*⁸²

In Calais I saw Mr Carpentier, admiralty proctor of the King, friend of Mr Guerin and of Mr Jerard of Paris⁸³, doctor at the hospital where there are 700 patients; he almost only sees them die on the high-seas.

The ferry from St Omer to Dunkirk goes every day. That from Calais to St Omer twice per week. The diligence from Lille to Paris every second day, 55 livres. The stage coach from St Omer to Lille twice per week, 9 livres.

Sunday 12th June.

I left Calais on Sunday 12th at 6:00, passed over the Pont Sans-Pareil two leagues from Calais (which is on the Calais, St Omer, Ardes and Gravelines Canal). The road passes above in the angle of the two canals; we took a boat to see it. We passed through Ardes, a fortified city. For bed and dinner in Calais 5 livres 16 sols. For the coach which drove us to St Omer, 12 livres 8 sols.

There were four of us and we arrived in five and a quarter hours though we went eight leagues.

I lodged with the caretaker at the city hotel on the square of St Omer, I dined quickly at a table with officers of the Piemont regiment number 4 and the Chartres cavalry regiment.

We saw the church and the treasures of the abbey of St Bertin, where there are several very rich reliquaries and vases. We saw the cathedral where there was a carpet of flowers; the hospital makes it every year on the feast day of St Omer, in memory of a miracle.

There are six parishes and 27 other churches in St Omer and its surrounds. The house of the English Jesuits is one of the most beautiful; they are very much liked in St Omer. There is a house two leagues away in the jurisdiction of Douay.

There are three gates, Nar, St Michel and Haut Pas, with large avenues of trees to each one.

We saw from the ferry one of the floating islands, 36 feet wide and 4 thick, a quarter of a league from the city, for twenty-four sols for 3. The boat was guided by a pole.

We made a tour of the rampart which is extremely pleasant and is planted with trees.

St Omer is represented by a boat, because the sea came up to it in the past.

82 Omitted by Monod-Cassidy.

83 Monod-Cassidy: *Sérard*, but almost certainly *Jerard* in the ms.

Diary of a Trip to England 1763

Monday 13th June.

For 12 sols I went to Watten, the large house of the Jesuits two leagues from St Omer. From the top of their tower can be seen seven fortified cities and the castle of Douvry. There are fifteen English novices, ten brothers, ten fathers and twenty servants. There are three arresting wardens. Since the 14th August they live on the money which they have diverted or which they draw from England; they have more than 20,000 livres income.

I went to see the house of the English Jesuits in St Omer, which is extremely beautiful; they took away the best to Bruges. As much as they are liked in peace, the doorkeepers were attacked several times and were in danger for their lives. There are eleven Jesuit houses in the jurisdiction of Douay. The President is in favour of them, but they also have enemies.

I returned from Watten by the ferry to Dunkirk which runs daily. It costs twenty or thirty sols depending on how far you travel. From Dunkirk to St Omer, one leaves at 7:00 and arrives at 5:00. There are two horses which draw the coach.

Tuesday 14th June.

At five o'clock in the morning I left the square of St Omer in a coach with eight places. At 8:00 we passed Aire Sur La Lys, a fortified city; 10:15 at Lillers. Dinner at Béthune, a fortified city whose ramparts are extremely pleasant. Dinner 22 sols. Passed Bassée which is five leagues from Lille and Fournes which is three leagues. Coach, 9 livres; trunk, 2 livres; total 11 livres.

Lille. I lodged at the Petit Bourbon on the grand square, opposite the Stock Exchange. We travelled in a hackney carriage for two hours to go and see the church of St Pierre, Ramponeau, a very pretty tea-garden⁸⁴, the citadel, the arsenal, the esplanade, the riding academy, the state store, the general hospital, the shores of Basse-Deûle, the new bridge, Luik and the Ypres canal. While passing we saw the *Nouvelle Aventure*, a very beautiful tea-garden close to the gate of Dunkirk. I paid to St Omer 6 livres 10 sols. I lost my red frock coat there.⁸⁵ In Lille,

to see the city and for supper 4 livres 10 sols, for my seat, 55 livres 6 sols; for my trunk 4 sols per stage.⁸⁶

Wednesday 15th June.

I left Lille at 4:00 am. It is fifty leagues from Paris. One travels twenty leagues the first day and thirty the second. We changed horses at Pont à Marcq, three leagues from Lille, at 8:00. We arrived at Douay which is seven leagues from Lille.

At 11:00 we arrived at Cambrai, twelve leagues from Lille and 38 from Paris. We dined there. I went to see the very old-fashioned archiepiscopal palace and the metropolis, where there are many marble-mason's yards.

We departed at 1:00 and arrived at 6:00 at the hotel of the women of Peronne, eight leagues from Cambrai and thirty leagues from Paris. There are five parishes and seven convents, approximately five thousand souls. It was never taken. We left there at midnight.

Thursday 16th June.

Arrived in Airoi at 4:30, in Goum at 7:30. It is 18 leagues from Paris. We lunched there. Pont sur Oyse 10:30, twelve leagues from Paris; we dined there. We set out again at midnight and arrived in Paris at 7:00.

Friday 17th June.

Hackney carriage, tips, four livres. The total expenditure for my return by St Omer and Lille was 173 livres.

On my return I owe 334 livres which, with the 843 that I took with me, makes 1,177 livres the total expenditure of my voyage to England from March 4th until June 17th, 1763.

84 *guinguette*; "house of entertainment beyond the *barrières* of Paris, where the common people assemble ... to dance, eat and drink".

85 Probably a new coat he got in London; see Friday 22nd April when he visited two milliners.

86 In the above two paragraphs the three amounts in italics are different from Monod-Cassidy. Although the ms is ambiguous these are more likely to be correct.

The Notes ⁸⁷

Anecdotes

In 1752 Mr Dollond the elder was a weaver, a silk worker in Spitalfields, who Mr Short attracted to the Strand knowing that he had some talent; he even paid his debts.^{M213}

About 1728 Mr Hall had the idea of making an objective of two materials. Mr Bevis has a glass of this type; Mr Short knew the man who had worked for him.^{M214}

Lord Macclesfield wanted to give the £10,000 longitude prize to Mr Bliss, and for this reason he opposed Harrison.

Mr Granville is the handsome brother of Mr Pitt and brother of Lord Temple. But that does not prevent Mr Granville from being a party at the Court, and others in the opposition.

For thirty years there have been no gladiators in London, Broughton was the last.^{M215} His amphitheatre is still in Tottenham Court Road, north of Soho Square.

R—, who had invented the spinning top,^{M216} perished with the great ship the Victoire and her 1,300 crew, no-one escaping from it. He feared the sea and would only go on a large ship.

Mr Simmer is in the country but almost on his deathbed.

Mr Smeaton is in Yorkshire superintending a canal which he is building.

Mr Harrison was a carpenter making carriages and carts. Mr Fergusson was a shepherd. Lord Morton said to Lord Bute that it was he who recommended Lord Macclesfield.

In the month of August 1762 the executor of Mr Bradley, in a letter given to the council of the Royal Society, offered to give his papers to the Royal Society. This letter was withdrawn by somebody. There was

87 Entries in these notes have been re-ordered and a few have been moved to appropriate places in the diary. There are several which do not appear in Monod-Cassidy. A few repetitious or meaningless entries have been omitted.

M213 Jean Dollond (?-?); huguenot, emigrated to England. His son, John Dollond (1706-1761), became optician to the king and invented an achromatic telescope; F.R.S.

M214 Chester Moor Hall (1703-1771); worked on the achromatic telescope.

M215 'Gentleman' Jack G. Broughton (?-?); gladiator.

M216 An instrument to observe the horizon at sea in spite of rolling and pitching.

no mention of it in the registers and Mr Bliss told Mr Short that he could communicate nothing of it until Miss Bradley reaches 21 years and can send his papers to the Royal Society.

Mr Bradley did not want to obey the council decisions of the Royal Society. They decided in 1748 that he would submit all the observations each year; formerly he had only given the variation of the needle and the inclination. He never did it.

There are twelve English judges including four on Kings Bench, four in Common Pleas and four on the Exchequer.^{M217} Their judgements are under the jurisdiction of the House of Lords; some matters are under the jurisdiction of the King's Privy Council, such as those of ambassadors. There are nearly eighty advisers to this council but very little goes there.

Mr Wilkes, being sent for on Saturday by Halifax the Secretary of State, refused to answer any of his questions and the Lord said that he was obliged to send him to the tower; Wilkes spoke to him about his pictures and admired his paintings. On Sunday everyone went to see him in the tower and Lord Temple wanted to send his coach to take him to Westminster where his business had to be discussed. Mr Churchill went away having been warned by Mr Wilkes.

Mr Ellicott told me that Harrison hated him so much that he had said he would give up the longitude reward rather than make his invention known to Mr Ellicott.

Mr Graham^{M218} told Mr Pringle that the horology industry had improved much in France and that we would surpass them.⁸⁸ He told Mr Short that French watches contained excellent parts and neglected ones.

Mr Jones, dead for a dozen years, printed the explanation of the tables of Gardiner.^{M219} In May 1763 Mr Vaillant found six specimens in sheets, but they cost him 36/- or 41 livres⁸⁹.

M217 In 1820, there were four judges on the Exchequer and four more on King's Bench. The court of the Exchequer judges matters of finance. King's Bench is the court whose authority is widest and the court of Common Pleas deals with civil actions. *Guide de l'étranger*, pp. 319-21.

M218 George Graham (1675-1751); clock and watch maker and astronomer; F.R.S.

88 George Graham was instrumental in developing the cylinder escapement and, more pertinently, helped and supported John Harrison.

M219 Jones: undoubtedly William Jones, F.R.S., who published Newton and Flamsteed.

89 On Monday 21st March Vaillant sent Lalande the tables of Gardner.

Diary of a Trip to England 1763

On the 12th of May Mr Baskerville wrote to Mr Nivernais by sending a specimen of his characters to him and, having lost his only son and wanting to retire, offered the King of France his font, its secrets, etc for £800,000.

The hubs of cart wheels have a flange which covers the axle pin; it has a notch by which one can put in the pin. There is less fear that it will fall out if it comes loose.

Before the tax on brandy and the prohibition on selling small amounts, the people wasted away and woman lost their children.^{M220}

About 1690, William III signed an order to slaughter the people in a village of Scotland, and no-one knows who gave this order, not even the Secretary of State.^{M221}

The Royal Society has an income of about £1,000, each English member giving a shilling per week, 52/- per annum. There are 350 members. It is thinking of buying a large building,^{M222} previously it had met at Gresham College, but it had a dispute with the professors.

The address of City of London to the King only appeared on the 15th of May and was made in the absence of the Lord Mayor, who is strongly opposed to the ministry and the peace.^{M223}

The Covent Garden theatre employs 200 people who receive from 30/- to 10 guineas per week, but only during the time that it is playing. They are not paid during the four months recess. The production of plays sometimes costs as much as £700 = 6,000 livres of Tours. For some "benefits" they remove the scenery and build tiered seating on the stage.

The formulas of royal approval are: 'the will of the King' and also 'thanks his good subjects'; or 'the advice of the King' which is a sign of reprobation.

One of the most beautiful signs that I saw is that of Tounshend, alchemist to His Majesty in Hay Market. It is of iron, worked with art and supported by two stone pyramids.

Abbot Le Blanc said in his *Letters* that there is no law against those who buy votes for election; but I have seen in a paper that a man was condemned to prison for one year and fined for similar soliciting.^{M224}

Mr Knowles told me that it was necessary cut off the head of Lord Anson when with Mr Byng, for the reason that he had to be put to death. Moreover he liked money. He wanted to spare himself to catch prizes and grow rich. For this reason he did not fight.

At the comedy one shouts 'encore'.

The bayettes^{M225} or white flannels of Colchester are whiter than ours; our makers in Beauvais would be extremely curious to know how they are degreased and bleached. Degreasing is done with clay and bleaching by washing with soap several times.

If a great lord spends two days with his neighbour and he gives twelve louis to the servants they will not be satisfied.

Miss Chudleigh, first lady-in-waiting to the Princess of Wales, gave a superb fete with fireworks and so on, on the 18th of May. She is kept by the Duke of Kingston who had Madam La Touche, who someone said Abbot Le Blanc had taken away from him.^{M226}

The widow of Lord Ferrers has been to the Court since her husband was hung. She will marry a young Lord, a relative of Hamilton.

There is more similarity between the manners of France and Scotland than those of England; they kiss the women of visiting strangers, etc.

The innkeeper of Canterbury who made Mr Nivernais pay forty louis for lunch was given up by the English. He was obliged to come to him to make excuses, saying that he was drunk, and he requested he come there again.

Madam Boufflers has assured me that she went a mile in five minutes on her trip to Bath and Bristol.

Mr Conduit married Miss Barton niece of Newton, died in 1739. They had a girl who also died.

M220 This tax goes back to 1751 and encouraged the people to drink beer. R. Ben Jones, *The Hanoverians* (Leicester 1972), p. 21.

M221 William III did not become king of Scotland until 1689 and was lenient on the Scots. We could not trace this anecdote.

M222 The Royal Society met in Crane Court from 1710. It moved to Somerset House in 1780 when Joseph Banks was president. It remained there until 1857.

M223 See 'The humble address of the lord mayor and alderman of the City of London to his majesty of the peace'. The answer of the King in *The Gentleman's Magazine* (May 12, 1763), p. 249.

M224 Jean-Bernard Le Blanc, abbot (1706-1781). *Lettres sur les Français et sur les Anglais* (1745); second edition (Amsterdam 1751), volume 2, p. 29.

M225 Archaic term. 'Baize', a woollen fabric, was manufactured in Colchester. The term has changed meaning in modern language.

M226 Elizabeth Chudleigh (?-?); lady-in-waiting to Princess Augusta, Princess of Wales. The Duke of Kingston, in fact, (forcibly?) carried off Madam La Touche. The abbot Le Blanc followed the duke and his mistress to England, and they remained eighteen months, from 1737 to 1738.

Diary of a Trip to England 1763

Mr Hauksbée, who died in 1762, was librarian of the Royal Society before Mr da Costa. He was old and took no care of the books.^{M244}

The ordinary embassy of 150,000 livres, there are accessories of 50. Thus it costs 200,000 livres. Mr. de Guerini still contributes to his, because he does not have a month that his house does not cost him 1700 pieces, is what Mr. Lescalier told me on March 9, 1765.⁹⁰

Mr Beaumont's son is a sub-delegate and is elected. With enthusiasm he worked at Mr de Sauvigny's. He was known there by Mr Michel who was then tutor to the son of Mr de Sauvigny, was soon known by Count Douglas and sent to Russia in 1756. He threatened Beaumont, Douglas had a sword fight with the grand duke and Beaumont made it known to the ministers; he was charged with bringing? the treaty^{M243}

English and French grammar where each word has its pronounciation in the French manner with its quantity.

Scoundrel, pitiful fellow, base fellow, mean fellow, lean beast, rascal (Johnson).⁹¹

Journals

Morning:

Daily Advertiser.

Public Ledger.

Gazetteer and London Daily Advertiser.

Public Advertiser.

The Gazetteer and London Daily Advertiser is published every day and 4,000 are printed. It is a much esteemed paper. Mr Vaillant is one of the 20 owners. They provide all the funds and advances, and it is sold to their profit. They pay the printer if he is put in Newgate or goes to King's Bench for having written too personally against the ministers.

M244 Hawksbee, Francis (1687-1763), F.R.S.; librarian of the Royal Society since 1723.

90 This and the following paragraph were probably written at the same time. The hand writing is minute; they are written in 9 lines occupying 23 mm with a gap between the two paragraphs! Monod-Cassidy substituted *sur l'assurance* for *l'ambassade* and *et* for *car* in the ms, despite it being fairly easy to read. Although the ms appears to read *m. de guerchy* I suspect Lalande is referring to Guerini, the ambassador he met on March 17th and perhaps the same person referred to on April 21st. But this is a barely justified if sensible substitution.

M243 It is about the Treaty of Versailles between France and Russia, May 1756.

91 These two paragraphs omitted by Monod-Cassidy.

London Chronicle or Universal Evening Post.

The London Gazette, published by authority.

Lloyd's Evening Post and British Chronicle, in 4to.

St James' Chronicle or British Evening Post. Baldwin White Friars Street.

Political Controversy or Weekly Magazine (Monday).

North Briton (Saturday).

Monthly Review, Becket in the Strand.

Notes of the House of Commons.

The whole proceedings on the King's Commission of the Peace (criminals).

At the head is the Gentleman's Magazine.

I saw in 1766, Say's Craftsman, which appears each week.

Philosophical Transactions in sheets. (They are 1/6 from the bookseller, 6 sols for stitching, 2/- for binding.)

1753 etc, 9/-, 12/-, 9/-, 10/6, 10/6, 12/-, 12/-⁹²; 1760, 14/-, 12/- . Davis and Reymen in Holborn.

Books

The Beauties of Shakespeare by W Dodd, two volumes, 1757 Waller opposite Fetter Lane Street.

Kent's Directory, addresses of all the merchants.^{M227}

Atalantis, a famous book written about that time by a woman; full of court and party scandal; and in a loose effeminacy of stile and sentiment, which well suited the debauched taste of the better vulgar. Pope note on verse 165, third canto of *The Rape of the Lock*.^{M228}

A Plan of the English Commerce by Rivington, at the Bible and Crown at St. Paul Church Yard, 1728.

92 The price per year, 1753-1759.

M227 *Kent's directory*: begun in 1738 with the title of *Directory for the year 1738 and containing the names and places of residence of people in the businesses*; continued initially under the title of *Kent's directory* (1764-1810), then under the title of *Kent's original London directory* (1814-1827).

M228 'As long as Atalantis shall be read, Or the small pillow grace a lady's bed, [...] So long my honour, name, and praise shall live!' Pope, *Rape of the lock*, third canto, l.165 (London 1969), p. 28.

Diary of a Trip to England 1763

Treatise on Commerce by Joshua Child.^{M229}

Gee on trade, highly esteemed.

A political Survey of England by Campbell, under press.^{M230}

Husbandry, work on the rural economy at Owen's near Temple Bar.^{M231}

Court and City register. 2/-. Printed each year, and containing details of the army, the court, the navy, Parliament, the pledges of each person.^{M232}

Hudson Flora anglicana 8vo 1762 - drawn from the varii sinopsis, and Linnaeus.^{M233}

A Collection of the parliamentary debates from the year 1668 to the present time. Vol. 19 for 1740.^{M234}

A new universal etymological English dictionary, Bailey, Scott, (by Osborn 1755).^{M235}

The parliamentary or Constitutional history of England. 8vo. 24 volumes 2nd edition 1762. Millar.^{M236}

A Compleat Guide &c. the addresses of all the merchants, and departures of all the stage Coaches.^{M237}

Louth, a short introduction to english grammar, Millar in the Strand, Dodsley in Pall Mall 1762, he promises a new edition.

Hume's history of England 6 vol. 4to. from Julius Caesar to William 3.^{M238}

New experiments and observations, Franklin, the third ed. 1760. 4to (Henry and Thomas Cave at St John's gate. 2/6. He refutes Abbot Nollet).^{M239}

The great charter, and charter of the forest, with other authentic instruments and introduction, by W Blackstone esq. Oxford at the Clarendon Press. 1759. 4to.

Locke works. 3 vol. fol. 1759.^{M240}

Francis Bacon works 1753. 3 vol. fol. by Mr Mallet.^{M241}

A treatise of algebra, Maclaurin, 8vo 2nd. ed. 1756. Nourse.^{M242}

An introduction to natural philosophy Keith 5th ed. 8vo 1758.

The method of fluxions, with the demonstration of Mr Cotes' forms of fluents in folio part of his trigonometria, by Nicholas Saunderson London 1756: 8vo Millar in the Strand.

Theatrical records or an account of english dramatic authors, in 12mo, at Dodsley.

History of the english stage of his age by Colley Cibber.^{M246}

Catalogues of books printed from 1700 to 1763 with prices. Molini.

A new edition of *Recherches sur l'origine des decouvertes attribuées aux modernes* was printed in 1772.^{M245}

Art of poetry, Bishe, 8vo. It is a collection of the most beautiful passages of the English poets.

Tables of antient coins, weights, and measures, by John Arbuthnot. 1754, 4to (Browne without Temple Bar, Millar in the Strand), 2nd edition. At the end of this work there is a table of modern measurements. (Molini edition of 1747 large 4to 18/-).

Londres et les environs, 2 vols, at Buisson's.

M229 Sir Josiah Child, *A new discourse of trade*, fifth ed. (Glasgow 1751).

M230 See note M79.

M231 *A collection for improvement of husbandry and trade*, ed. by J. Houghton (London 1692-1703); second ed. (London 1727).

M232 *Court and City kalendar: or gentleman's register for England, Scotland, Ireland, and America* (London 1745-1769).

M233 William Hudson, *Flora Anglica, exhibens plantas per regnum Angliae sponte crescentes* etc. (London 1762).

M234 21 vols (Dublin, London 1741-1742).

M235 First edition (London 1721); several reprintings.

M236 First edition, 24 vols (London 1751-1761).

M237 *A compleat guide to all persons who have any trade or concern with the City of London, etc.* (London 1740-1783).

M238 David Hume (1711-1776), *The History of England, from the invasion of Julius Caesar to the revolution in 1688 ... a new edition, corrected* 6 vols (London 1762).

M239 Benjamin Franklin (1706-1790), *New experiments and observations on electricity* 3rd ed. (London 1760).

M240 *The Works of John Locke*, etc. Sixth edition. *To which is added the life of the author*, published by M. Desmaizeaux (London 1759).

M241 *The Works of Francis Bacon... To which is prefixed a new life of the author by M. Mallet*, second ed., 3 vols (London 1753).

M242 Colin MacLaurin, *A treatise on algebra* (London 1748).

M246 *The History of the stage... together with the theatricallife of Mr Colley Cibber* (London 1742).

M245 Louis Dutens, *Recherches sur l'origine des decouvertes attribuées aux modernes* (Paris 1766).

Diary of a Trip to England 1763

Financial

Currencies

1000 grounds are worth 6.8 French livres.

6/9d = 7 livres 14 sols, 1200 grounds.⁹³

The crurade is 400 grounds.

The Portuguese piece 36/-, 6400.

30 sol coins to 3 crowns and 3 fleurs de lys weight in St Omer; guineas, old louis, the pieces of 35 livres 10 sols etc. There is an almanac in Lille in which is printed all the old moneys of France.

When the exchange is at 29 it indicates that one gives 29 pence Stirling for 3 livres.

If guineas are equated to louis the par of exchange is 31 1/2. The exchange is usually below par and it was 29 1/2 during the war. It is currently 32 1/4 because the funds in France have taken some credit and the English send a lot of cash; exchange costs 2.5% and transport of money to Paris costs only 1%, so there is an advantage in sending cash. Portuguese coins are sent, because guineas are contraband and a felony.

Course of the exchange on the March 18, 1763 1 day's date - 32 1/8, according to a small ticket which is printed the day after.

The 3% bank are sold at 96. They went down during the war to 61 1/2 from 103 where they were before the war.

fifty collectors of excise at £250 year	12,500
50 supervisors at £100	15,000
4 000 excise men at £50	200,000
	227,500

which at £3 percent is a sum sufficient to discharge the interest on £7,400,000.

Supplies for 1763, £10,000,000 = 230,000,000; London Chronicle 30 April 1763.

A half crown is 2 liv 17sols 1 5/7 den.⁹⁴

	livres	sols	den
1 penny		1	10 1/2
2d		3	9
3d		5	8 1/2
4d		7	6
5d		9	4 1/2
6d		11	5 1/7

Shillings	livres	sols	den	Pounds	livres	sols	den
1	1	2	10 2/7	1	22	17	1 5/7
2	2	5	8 12/21	2	45	14	3 3/7
3	3	4	6 12/21	3	68	11	5 1/7
4	4	11	5 4/7	4	91	8	6 5/7
5	5	14	3 3/7	5	114	5	8 4/7
6	6	17	1 5/7	6	137	2	10 2/7
7	8	0	0	7	160	0	0
8	9	2	10 2/7	8	182	17	1 5/7
9	10	5	8 4/7	9	205	14	3 3/7
10	11	8	6 6/7	10	228	11	5 1/7
11	12	11	5 1/7	11	251	8	6 6/7
12	13	14	3 3/7	12	274	5	8 4/7
13	14	17	1 5/7	24	548	11	5 1/7
14	16	0	0	25	571	8	5 6/7
15	17	2	10 2/7	30	685	14	3 3/7
16	18	5	8 4/7	40	914	5	8 4/7
17	19	8	6 6/7	50	1142	17	1 5/7
18	20	11	5 1/7	60	1371	8	6 5/7
19	21	14	3 3/7	70	1600	0	0
20	22	17	1 5/7	80	1828	11	5 1/7
21	24	0	0	90	2057	2	10 3/7
				100	2285	14	3 3/7

93 r \grave{e} z in the ms.

94 The following 4 tables were omitted from Monod-Cassidy's transcript.

Diary of a Trip to England 1763

New table				1786			1788						
shillings				pounds			shillings			pennies			
	liv	sh	den	liv	sh	den	liv	sh	liv	sh	sh	den	
1	1	3	6.9	23	11	5.1	1	5	25	5	2	1	1
2	2	7	1.7	47	2	10.3	2	11	50	10	4	2	2
3	3	10	5.6	70	14	3.4	3	16	75	15	6	4	3
4	4	14	3.4	94	5	8.6	5	1	101	0	8	5	4
5	5	17	10.3	117	17	1.7	6	0	126	5	10	6	5
6	7	1	5.2	141	8	6.8	7	12	151	10	12	7	6
7	8	8	0.0	164	19	12.0	8	17	176	15	14	8	7
8	9	8	6.9	188	11	5.1	10	1	202	0	16	9	8
9	10	12	1.7	212	2	10.2	11	7	227	5	18	11	9
10	11	15	8.6	235	14	3.4	12	13	252	10	21	0	10
11	12	19	3.5				13	18			23	1	11
12	14	2	10.3				15	3			25	2	12
13	15	6	5.2				16	8			27	4	
14	16	10	0.0				17	14			29	5	
15	17	13	6.9				18	19			31	6	
16	18	17	1.8				20	4			33	7	
17	20	0	8.5				21	9			35	8	
18	21	4	3.4				22	15			37	9	
19	22	7	10.3				24	0			39	11	
20	23	11	5.2				25	5			42	0	
21	24	15	0				26	10					

£sterling	livres	sols	din
100	2285	14	3 3/4
200	4571	8	7 1/2
300			
400	9142	17	3
500	11428	11	6 3/4
600			
700			
800	18285	14	6
900			
1000			
1200	17428	11	9

To the exchange of 28 1788. I paid to Mr Tourton 25 livres 14 sols for a pound sterling. One can pay 25 livres 4 sols with letters of exchange in London. The average is 25 livres 9 sols.

Portuguese gold in species, gold coin, is worth £4-0-9d the ounce in March 1763.

Silver in standard bars, fine silver 5 shillings 6 3/4 d. In January it was 5 shillings 5 3/4 d.

62 shillings are cut out of a pound troy of silver (an essay upon money p.54).

44 1/2 guineas are cut out of a pound troy.

62 pence or 5/2d is said to be the mint price of silver. £3-17-10 1/2 the ounce is the mint price of gold.

The silver to be 11 oz 2 dwts fine.

The gold 11 oz or 22 carats.

There are Portuguese gold coins worth 4/6, 6/9, 13/6, 9/-, 18/-, £1-7-0, £1-16-0, £3-12-0.

According to Invi[?] guineas weigh 157.7g and louis 153 1/2. difference 4.2g = 13s 1d 2/4; checked and exact.⁹⁵

But in 1785 Mr. Bourgeois found 17s 7d 3/4. The guineas are of a finer standard, of Portuguese gold, the one ... according to Mr. Bourgeois.

Accommodation

The accommodation of Mr Camus in Suffolk, three pieces down and one in addition for the servant, two and a half guineas per week.

Mr Camus pays 18/- per week for a servant.⁹⁶

Mr Vaillant rents a house for £40, he pays 35/- for the windows independent of the owner who pays 1/5 of his income in tax. This tax varies because it depends on the declaration which was made during the settlement of the tax.

All the houses are marked with the number of the fire insurance and that for the furniture.

One pays £25 board to a small private individual like Mr Cole. He provides light, washing &c = 570 livres. £20 near Christ school.

⁹⁵ On the basis of the price of Portuguese gold per ounce, 4.2 grains were worth about 8.4 pennies; the value of the weight difference is sensible in French currency.

⁹⁶ These (separate) entries agree if 3 pieces = 2 1/2 guineas (52/6d). Thus the total for lodging was £3-10-6.

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A room in the city of first quality costs 7/- per week, but one also finds some at 1 sols per day, as one can find dinner for 3 sols.

Mrs Steele, Bell Alley Colman Street asks 18/- per week for a room and meals.

One cannot have a servant at home for less than 14/- or 16 livres per month. Mr Frisquett who never wished for less gives 8/- per week to his boy.

Mr Nivernais has 50 servants not counting secretaries, costing 20,000 livres per month for board and wages. His house costs 20,000 livres rent fully furnished.

Living expenses

Burgundy wine costs 2/6 for cartage and rights according to Mr Lescalier. He sells it for 7/6. It is sold for 10/- in the taverns. He pays £17 import per barrel of 250 bottles, 31 sols the bottle.⁹⁷ That for port⁹⁸ is approximately £5.

A pint of beer (which costs half a sol, a sol and three-quarters, or 2 sols, depending on the quality) is three and three-quarter inches in diameter, and three and a half high.

A gallon of wine or beer contains 4 Paris pints, a barrel of 36 gallons of strong beer costs 27 to 28 shillings, small beer 10 to 12 shillings.

Rum is worth 9/- to 12/- the gallon.

Brandy 10/- to 12/-.

Arack or palm tree spirit of the Indies 12/- to 16/-.

Gin 7/- to 8/-.

Mocha coffee 5 to 6 shillings.

Contraband Jamaican coffee 2/- to 3/-.

A cup of coffee, small, 3 pence = 6 soups in London.

Good tea from 5 to 15 shillings. Green tea from 8 to 21.

Chocolate from 4 to 6 shillings a pound.

A pound of sugar 8 to 9 pence.

A stone of meat is approximately 14 lb and costs at least 20d which amounts to ... French livre.⁹⁹ Calf costs about 5 to 6 pence a lb and there is also meat for the poor at 1 1/2 pence.

97 Monod-Cassidy: [*pence?*]. But on the preceding figures the import is actually 16 1/3d per bottle, so *sols* are intended.

98 *port*. I assume the English word (port wine) rather than *carriage*.

99 Lalande did not fill in the amount in livres.

A quarter of corn is worth 30/-. It contains 8 bushels, or 17,203 English cubic inches.

The London Chronicle or Universal Evening Post from Tuesday 22nd to Thursday 24th March 1763.

Price of corn		
wheat red	30 to 32	shillings
ditto, white	30 to 32	the quarter
Rye	26 to 27	
Barley	22 to 25	
Oats	16 to 21	

A pound of corn was worth, in 1674 to 1714, 2 livres 8 sols 1/3 den; and from 1714 to 1754 in London it was 1 livre 10 sols 2/3.¹⁰⁰

Price of bread, the quarter loaf wheaten 5 1/2d, household 4d.

On the trade of England

The penny loaf or two half penny loaves to weigh	wheaten, white	0 lb.	12 oz.	1 dr.
	household, economy	1	0	6
The two penny loaf	wheaten	1	8	3
	household	2	0	11
The three penny loaf,	wheaten	2	4	4
	household	3	1	1
The peck loaf to weigh 17lb 6oz 0dr		1s	11d	0f
		1	5	0
The half peck loaf to weigh 8lb 11oz 0dr		0	11	2
		0	8	2
The quarter loaf to weigh 4lb 5oz 8dr		0	5	3
		0	4	1

Sixteen drams make an ounce, and sixteen ounces a pound.

Green oysters 144 for 3/6.

The price of salt, set by order of the court of lord mayor and aldermen dated the 21st of October 1735 is two shillings a bushel, 56 lb. to the bushel

A caldron cart for pit coal holding 36 bushels¹⁰¹ costs 40/- in winter, 36/- in summer; a small bushel lasts 2 or 3 days. London uses 700,000 caldrons per annum.

100 The amounts are ambiguous and may be sterling.

101 Monod-Cassidy: 736 *bushel*. Actually, Lalande originally wrote 86, crossed out the 8 and inserted 3.

Diary of a Trip to England 1763

The twelve coal bags which make 36 bushels and a caldron are the load of a car with four horses. Bushel: 17p 4li diameter, 7p 9li high. It is measured to the top.¹⁰²

A bushel of coal 1/- and 1d to deliver; 60 are burnt in an ordinary chimney. Some time ago it cost double because it is regulated in this respect.

One can eat extremely well and have what one wants at the Pine-apple near to Ponce coffee house, for 1/-. Mr Condamine ate there the day of the Trinity.

Cloth is worth 17/- to 18/- the yard and 4 1/2 yards make a complete costume. The black of England is not worth anything, but the blue is very good.

Shoes 8/- or 6/6 depending on their shape.

Silk stockings 13/- to 14/-.

Wool stockings 5/- to 6/-.¹⁰³

A pound of candles 7 pence.

Buck ashes of hay¹⁰⁴ contain 36 trusses of 50 lb. each and are worth 50/- to £3.

Straw 23 to 24 shillings.

Bread and beer cost less than in Paris. In the places where one can eat for 3 sols the costs are attached to the table and they go down one by one in a scale for paying exactly.

Each visit to Dr Pringle and the most skilful doctors such as Mead¹⁰⁵ are 24/-. I believe that Mr Pringle earns £5,000 each year.

Transport

A hired horse from 3 to 5 shillings per day.

A glazed coach 10/- or 13/-.

It costs 3/- per week to put a horse to pasture.

Mr Condamine pays £12 per month or £3 per week for a glazed coach.

102 The measurements are vague and I guess they are French inches and lignes. The volume described is a bit more than a bushel of 2178 inches (see later table).

103 Lalande does not specify the unit and I have assumed shillings.

104 Used to make a liquor (soap) in which to wash clothes.

105 Very hard to read in the ms. I believe Lalande would have mentioned someone he knew so I preferred Neal; but a physician Mead was Wilkes father-in-law and thus there is a tenuous link.

The passage from Dover to Calais is generally shorter than that from Calais to Dover because of the tides; the former is sometimes done in 2 1/2 hours.

Mr Condamine with a courier hired a small ship to Calais for 3 louis; which was much faster than the steamer, but he needed a louis for the boat.

Mr Peronnau, a painter, told me that to go to Rotterdam by Brussels and Anvers will cost me 6 louis.

London to Windsor 20 miles or 27 via Oxford; 5 to Woodstock, Blenheim

Cambridge 44

Dover 55 (Dartford 12, Rochester 23, Canterbury 43)

Plymouth 173

Portsmouth 60

Bath 87

Birmingham 88

Other

A quadrant by Bird, eight feet diameter. £350 and £10 for packing = 8,270 livres.

Objectives of eighteen feet by Dollond, 1/6 per foot. Achromatic objective of two feet, 1 guinea and the assembled glasses, 2 guineas.

Flint glass 2/6 a pound.

An extremely pretty gilded watch chain 6/-, Henry Nettlehipp, Cheap-side near Honey Lane; an enamelled chain for 18/-.

A three-colour gold chain, 13/- in Moorfields at Mr — who Mr Lescalier addressed to me. Everyone at Mr Beaumont's wanted one when I showed mine.

My bag cost me 16/- on the 24th May.

Repeater watch made by Ellicott, 70 louis, to Mr Nivernais.

Bricks cost 2/- the hundred. They are 8 or 8 1/2 inches long 2 1/4 or 2 8/11 thick and 3 2/3 wide. They are made on the Hampstead Road. It follows that a cubic foot is worth 9 sols and 894/1000 nearly ten sols.¹⁰⁶

106 Other than knowing bricks are about 5 1/2d per cubic foot, this is obscure to me.

The maps of Mrs Roque cost no more in Paris than in London because she exchanges with Julien, the red. 5 sous¹⁰⁷ a piece for plans, which are on the same scale, of the surroundings of London and Paris, 2 1/2 for those of the cities of London, Paris and Rome.

Sets of 52 charts cost 18d.¹⁰⁸

Population

There are in England, in March 1763, 28 thousand French prisoners, perhaps about 25 thousand died; colds were especially disastrous to them.

The annual number of parish deaths over 40 years was 19,040 in Paris; and 25,778 in London (Messance page 309). If there are 576,000 inhabitants in Paris, then there are 779,839 in London¹⁰⁹.

The British merchant computes the value of labour to that of the land in England to be as 7:2. He supposes the people in England to be 7 millions, and each man on average to expend £7, which makes the whole annual consumption of England 49 millions, 45 millions of which he supposes to be our own product, 4 millions foreign commodities; and the rents of the lands he makes 14 millions.

Mr Bielfeld institutions political 1760 p.508 estimates the United Kingdom at 8 million, Portugal and Spain 10, Italy 8, Switzerland, Germany and the Netherlands 30, Denmark, Sweden and Norway 6, Russia 18, Turkey approximately 50. Undoubtedly 20 in France. The total for Europe is 150. Asia 500, the Africas 150, the Americas 150. Total 950. See Riccioli, Specht, Susmilch.

Every Tuesday there is printed a paper which gives, from the parish clerks, the number of births and deaths in each parish, and diseases and casualties, the deaths of each disease, abortive, aged, apoplexy, etc.

Christened males 170, females 133 in all 303. Buried males 277 females 275 in all 552.¹¹⁰

107 5 shelins, which must French currency and would roughly agree with the following cost of a set..

108 Intelligible, but not related to the above or anything else.

109 Monod-Cassidy: ... *et 25778 a Londres (naissances 309[?])*, but the ms reads ... *et 25778 a Londres (messance p.309)*

Lalande has assumed both populations have the same rate of death and so the populations are in the same proportion. The name *messance* is a little dubious.

110 In the diary this is separated from the previous paragraph and was written at a different time; the two may not be related.

London

Bridge Street, a new street, is 50 feet broad including the foot paths.

St John Street near Smithfield is lined by wooden houses, houses in ruin. Old street is not paved.

Hay Market is 80 feet broad, including the foot paths. Bridge Street 50 including 12 for the foot paths.

There is still development around Marylebone, Berkley Square, Oxford Road. During the last 6 years 20 streets were constructed around Cavendish Square.

Westminster bridge has only 1,000 feet of railing, the remainder is the abutment.

In Bridge Street Westminster all the signs are put against the walls.

The weather cocks carry 4 arms to direct the on-lookers.

In some places I encountered pumps on main roads, with cups hanging from them.

Inoculation House, preparing house to Islington, small pox hospital, Cool Bath Fields, near Foundling Hospital. Each subscription of 5 guineas per annum can have continual use of them. An imprimatur is given. There have been 3,500 of them over the last 10 years.

Miscellaneous

The variation of the magnet in the middle of 1762 was 19° 32'. p.20. see W. Cosiard [?], history of Astronomy about the variation.

The Grand Master of Malta has approximately 500,000 livres revenue; there is a basin for 4 ships and 4 galleys. The island is 20 leagues round. The Grand Master is sovereign.

Bernard made me ask for news of Mr Henn and of Joseph Guinand in little St Hellens.

I lodged in Dover at the Ship, close to the customs house.

In the St James chronicle of the 7th is the address of the Quakers, which was given to his majesty.¹¹¹

In 1786 it was written that 27,000 new houses have been built over 14 years. Traduction du Plutarque Anglois volume 8, May 8 1786, at the office of the English Theatre, rue St Appoline No 5.^{M247}

111 Not in monod-Cassidy.

M247 *The British Plutarch, containing the lives of the most eminent statesmen, patriots, divines [...] of Great Britain and Ireland from the accession of Henry VIII to the present time*, second ed., 6 vols (London 1776). *Traduction du Plutarque Anglois*, etc. by C. Wouters, 12 vols (Paris 1785-1786).

Measurements

Length and area ¹¹²

English yards	French feet			French ells	French feet		
	feet	inches	lignes		feet	inches	Lignes
1	2	9	9	1	3	7	10
2	5	7	6	2	7	3	8
3	8	5	3	3	10	11	6
4	11	2	0	4	14	7	4
5	13	11	9	5	18	3	2
6	16	9	6	6	21	11	0
7	19	7	3	7	25	6	10
8	22	5	0	8	29	2	8
9	25	2	9	9	32	10	6
10	27	11	6	10	36	6	4
11	30	9	3	11	40	2	2
12	33	7	0	12	43	10	0
13	36	5	9	13	47	5	10
14	39	2	6	14	51	1	8
15	41	11	3	15	54	9	6
16	44	9	0	16	58	5	4
17	47	7	9	1/2	1	6	11
18	50	5	6	1/3	1	2	7
19	53	2	3	2/3	2	5	2
20	55	11	0	1/4	0	9	5
3/4	2	1	2 1/2	1/5	0	8	
1/2	1	4	9 1/2	1/8	0	4	8
2/3	1	10	6	3/8	1	2	1
1/3	0	11	3	1/6	0	7	3
3/8	1	0	7	1/16	0	2	4
1/4	0	8	5	3/4	2	4	4
1/5	0	6	9	5/8	1	11	6
1/6	0	5	8				
1/8	0	4	2				

¹¹² The following 2 tables were omitted from Monod-Cassidy's transcript.

feet	feet	inche	lignes
1	0	11	3.17
2	1	10	6.34
3	2	9	9.51
4	3	9	0.68
5	4	8	3.85
6	5	7	7.02
7	6	6	10.19
8	7	6	1.36
9	8	5	4.53
10	9	4	7.70
20	18	9	3.40
30	28	1	11.10
40	37	6	6.8
50	46	11	2.5
60	56	3	10.2
70	63	8	5.9
80	75	1	1.6
90	84	5	9.3
100	93	10	5.0
200	187	8	10.0
300	281	7	3
400	375	5	8
500	469	4	1
600	563	2	6
700	657	0	11
800	750	11	4
900	844	9	9
1000	938	8	2

The English foot is to the French foot :: 15:16.

The Scotch foot is 12 1/15 English inches.¹¹³

The English yard is 3 English feet, the English foot is 15/16 of that of Paris. 11 feet 3 li 162.¹¹⁴

¹¹³ This is from Gray; see the first entry under weights.

¹¹⁴ *11 p. 3 li 162*; an added note in the ms. An English foot in French inches, but the meaning of 162 escapes me.

Diary of a Trip to England 1763

20 [?] perches make 16 Parisian ells.¹¹⁵

1000 yards = 470 fathoms (toises).¹¹⁶

An English mile is 880 fathoms, 1760 yards or 5280 feet. Or 829 1/2 fathoms according to ...

The acre of one hundred perches square of eighteen feet made 36,864 English feet.¹¹⁷

Those whose perches are twenty-two feet = 55068 and the English acre, 43,560 smaller by a fifth = 1210.¹¹⁸

The arpent or French acre = 55206 square English feet = 1 1/4 English acres.

English square measures

inches					
144	feet				
1296	9	yards			
3600	25	2 7/9	paces		
39204	272 1/4	30 1/4	10.82	poles	
1568160	10890	1210	435.6	40	Rood
6272640	43560	4840	1743.6	160	4

Volume

The English cubic inch is to ours :: 3375:4096.¹¹⁹

It is necessary to remove 1/(5.5) from English solid inches to convert them into French solid inches. Thus a gallon of wine of 231 inches contains $190 \frac{1385}{4096} = 3 \frac{23}{24}$ pints of Paris.¹²⁰

115 The ms is ambiguous, but it looks like 20 verges. However, 16 ells of 45 inches = 720 inches = 40 perches of 18 inches.

116 This is correct if using a French fathom of 6 French feet; I calculate about 466 fathoms using Lalande's tables.

117 $18 \times 18 \times 100 = 32,400$ French square feet = 36,864 English square feet (by squaring the 15/16 rule).

118 Likewise for this second example. 1210 is clearly wrong, but it is in the ms.

119 From the 15:16 ratio. The ms reads 409...

120 $4096 - 3375 = 721$; so an English inch has to be reduced by $721/4096 = 1/(4096/721) = 1/5.681$. For example, 231 English cubic inches are $231 - 231/5.681 = 190.34$ French cubic inches, which is exactly $190 + 1385/4096$. The ms reads $3 \frac{23}{24}$ not $13 \frac{23}{24}$ pints which is in Monod-Cassidy.

A puncheon of wine contains 84 gallons of 231 English inches each.

Paris bottle of wine = 1 pint

pint = 2 pints

setier¹²¹ = 2 gallons

muid = 1 1/7 hogshead, wine, beer, cider

English measures of capacity

Wine measure

solid inches			little used		little used				
28 7/8	pint								
231	8	gallon		used					
4158	144	18	rundlet						
7276 1/2	252	31 1/2	1 3/4	barrel		used			
9702	336	42	2 1/3	1 1/3	third		used		
14553	504	63	3 1/2	2	1 1/2	hogs head		used	
19279	672	84	4 2/3	2 2/3	2	1 1/3	punchion		used
29106	1008	126	7	4	3	2	1 1/2	butt	
58212	2016	252	14	8	3	4	3	2	tun

English corn measures are raised from a winchester 272 1/4 solid inches

inches									
34 1/32	pints								
272 1/4	8	gallon							
544 1/2	16	2	peck						
2178	64	8	4	bushel					
17424	512	64	32	8	quarter	= 21 1/2 bushels of Paris			

121 Setier, 8 French pints of wine. Muid, French hogshead. This table equates French and English measures.

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The bushel contains 1794.1 French inches.¹²²

Paris bushel = 785.34 solid inches = 1 4/9 peck nearly, (corn flour).¹²³

Pint of milk, 1 penny: 4 inches high, 3 inches top diameter, 1 3/4 bottom diameter. Another pint: 2p. 3li. 1/2 bottom diameter, 4. 8 high 3. 0 top diameter.¹²⁴

Weight

Of the measures of Scotland compared with those of England by James Gray p.200. Essays and observations Edinburgh 1754. 8vo vol 1.

	troy grains
the troy ounce being equal to	480
the scotch ounce is equal to	476
the avoirdupois ounce is	437 1/2

By an accurate comparison of standard weights made at London the avoirdupois pound was found equal to 7,000 troy grains (phil. trans. No. 470)

The troy pound is divided into 12 ounces, the avoirdupois 16 ounces.

175 ounces troy make 192 ounces avoirdupois.

175 pounds troy make 144 pounds avoirdupois because

$$175^{12}/12 : 144^{16}/16 :: 175 : 192 :: 175 : 4/3 . 144^{125}$$

The following weights are from *asensch*[?] given in troy grains

Strasbourg ounce	454 3/4
Strasbourg pound of 16 ounces	7276
Nuremberg ounce	491 7/8
Nuremberg pound of 16 ounce	7870
Paris medicinal pound of 12 ounces	5670
The medicinal ounce in Germany	460 2/3
The carat for weighing diamonds	151 3/10

122 From the following table and the 15:16 ratio it is 1794.6.

123 78534 in the ms. It makes sense if the figure is 785.34; 1 4/9 pecks are 786.5 inches from the above table.

124 The second pint appears to be measured in French inches and lignes (about 2.25 mm).

125 Confusing, but correct ratios!

Table of the gold and silver weights of Several Countries from *Greaves* given in English troy grains.

Roman ounce	438
Roman pound of 12 ounces	5256
Spanish ounce	443 1/2
Spanish pound of 16 ounces	7090
Venetian ounce	460 2/3
Venetian pounds of 12 ounces	5528
Neapolitan ounce	412 1/2
Neapolitan pound of 12 ounces	4950
ounce at Florence Pisa and Leghorn	440 1/2
their pound of 12 ounces	5286
Genoan ounce	405 1/2
Dutch ounce	570
	&c

In the same book there is a table of the moneys of all Europe.¹²⁶

The troy pound is to the avoirdupois pound :: 9:11 :: 5760 grains is to 7000¹²⁷ and to the French pound :: 5760:7560.

9216 grains of French weight = pound = 1lb. 3oz 15 pwt 0 gr reduced to troy weights¹²⁸; there are 20 pwt in the ounce and 24 grains in the pwt.

thus the avoirdupois pound	= French 14 oz 6 gr 1 scr 13 1/3 g
	= French 8533 1/3 grains
troy pound	= French 12 oz 1 gr 1 scr 13.8 g
	= French 7021.68 grains ¹²⁹

An avoirdupois pound is 14 oz 6 gros 37 1/3 gr and a troy pound is 12 oz 1 gros 11 gr; according to my standard.

A quarter of wheat weighs 458.

A quarter according to Mr Lescalier contains 2 bags. The bag 4 bushels, the bushel 4 pecks.

126 Referring to Greaves.

127 The ratio of a troy lb to an avoirdupois lb is 5760/7000 = 0.8229. 9/11 = 0.8182 which is close.

128 Exactly right if a French lb is 7560 troy grains.

129 *Scr*, scruple = 20 grains. According to me it is 7021.71 grains.

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In the Negotiator's Magazine p.359 it says that 19 setiers make 10 1/4 quarters in London and thus they are 76:41. Thus the setier weighing 246 lb, the quarter weighing 456, a bag 228, a bushel 60, a peck 15 pounds. Thus it costs 1 1/2 d the pound in France

In freighting of ships by a tun is meant 2,000 weight, there being reckoned 112 pound to the hundred (avoirdupois).

100 ounces of Portuguese gold weighed in London makes 101 1/2 of them in Paris according to Mr Mavit.

112lb weight in England makes 104 in France.

The tonne contains 20 *quintaux*, each of 112 lb avoirdupois or 103 1/2 French pounds. Also the tone is 2075 marine pounds.

Addresses ¹³⁰

Princess *Amelia* and Mr *Fox*, Cavendish Square. The Princess is in one of the wings of the house of the Duke of Chandos, who was made bankrupt. The Duke of Cumberland Grosvenor Square.

Mr *Avuarre*¹³¹, South Audley Street near the house of Lord Chesterfield and the Ambassador of Portugal.

Baikie stay maker at Golden Head in Orange Street, near Leicesterfields.

Dr *Bevis*, Brick Court No 1. Inner Temple, address to Mr Ravenhill at the post office.

Mr *Birch*, Norfolk Street the last house, his house is adjoined with that of Mr Short.

J. P. *Blaquiere* and sons, bankers, in Austin Fryars, Trogmorton Street. On behalf of Mr Levier, friend of Madam Conti.

Charles *Boyd* to be left at Blunt coffee house, Charing Cross. It is necessary to go there between midday and 1:00. His father was decapitated.

Mr *Brisbane*, physician to the Middlesex Hospital, at Mrs Fullarlons St Margarets Street, Cavendish Square, near a chapel. On behalf of Mr Murray¹³². The morning.

Mr *Canton*, Spital Square Bishop Gate Street.

Lord Charles *Cavendish*. Great Marlborough Street Hanover Square.

Cole in Whit Street, facing the back door of St Clement coffee house near the Strand, Mr *Diemar* is at his house.

Mr *Colinson*, Grace Church Street near the Monument; he has a house in the country some miles above Islington.

Mr Peter *Colinson*, mercer, at the Red Lyon Grace Church Street between the Monument. and Grace church, the other side (tea at 5:00).

Andrew *Dury* at the Indian Queen in Duke's Court, St Martin's Lane. He is French and sells geographical prints, which is in relation to Julien and Danville¹³³.

Mr *Dutens* in Leicesterfields, the first gate on the right when coming from Coventry St. Mr Louis Dutens, in Leicesterfields.

130 In the manuscript the addresses are not in alphabetical order.

131 Monod-Cassidy: *Audley Adouarre*. In the ms *audley* is crossed out and the name appears to be *avuarre*.

132 *De la part de m. murray* and other entries referring to Mr Sayd.

133 Monod-Cassidy: *du Villers*. Uncertain, but *danville* is more likely.

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Mr Louis *Dutens* at Mr Mackenzie's, Hill Street, Berkeley Square, London.

Misters Pierre and François *Duval*, Genevan traders Trogmorton Street, near Bishopsgate. On behalf of Mr Sayd.

Lord *Eglinton* Queen Street May Fair.

Mr *Fothergill*; White Hart Court, Grace Church Street.

C. *Gouya* trader, in Bennet St James on behalf of Mr Sayd.

Lord *Halifax* in Great George Street.

Mr *Harrison* watchmaker near Red Lion Square. Orange Street.¹³⁴

Mr *Hawkins*, a surgeon of the royal family in Pall Mall near St James Square.

Doctor *Hill*, on behalf of Mr Kirwan, in St James Street.

George *Hubbard*, Kings Head, at Dover. The only house where places are taken in the original machine from London.

Mr *Johnson*, inner Temple Lane, the 2nd near Temple Bar to the right, there are two booksellers when entering and it is the next door.

Paul *Lefevre*, jeweller in Grafton Street near Soho, he is a relative of Mr Le Roy.

Mr *Lescalier* painter Rue St Martin, opposite the St Martin prison, at the *Moulin Traiteu* in Paris.

Mr *Lespinass*, Greek Street near Queen Street, to the left when going to Soho Square.

Mr *Loten*, member of the Royal Society. Formerly counsellor of the Indies and governor of the island of Ceylon. I have his address care of Bearens bankers in the city; Bond Street, near Clifford Street.¹³⁵

Lord *Macclesfield* St James Square near Mr Pitt.

James *Macdonald*, Cavendish Street. The right honourable (brother of a lord constable of Scotland).

J. H. de *Magalhaens* at No 98 Wood Street, Cheapside, London. Fleet Street No 188.¹³⁶

Mr J. H. de *Magalhaens*, friend of Doctor Sanchez, in Cornhill, at a mathematical instrument maker.

134 *Orange Street* appears to be a later addition to the ms; Harrison lived there in 1739-52; see Andrewes *The quest for longitude* (USA, 1996), p 213.

135 Monod-Cassidy: *de la Soc. Roy. Edgmare Cons[eiller]*, but the ms reads *de la Soc. Roy. Cy devant cons.*

136 This entry is the last address in the ms, looks different and may perhaps have been written by Magalhaens or at a later date.

Magenis, Seating Lane, near Tower Street.

Madam *Majandi*, Denmark Street near St Giles Holles Street Cavendish Square.

Mr *Mallet*, George Street Hanover Square opposite the Church St George, morning coffee.

Maskelyne, New Bond Street near Brook Street, the sign of the housemaid.

Madam *Massé* beautiful sister of Mr Massé painter of Paris, and beautiful mother of Mr Olivier, associate of Mr Vanek, Broad Street near Bedlam Hospital.

Mr *Mavit* and *Casenove*, traders in Bury Court, St Mary Axe, the last house on the right hand. On behalf of Mr Sayd.

Merlin at Mr Sutton goldsmith at the Acorn in New Street near Covent Garden.

Mr *Metayer* French boarding school. Charter House Square, at the French academy.

Peter *Molini* at the Smyrna Coffee house, in Pall Mall.

Mr *Mountaine* owner of the school in Southwark. (about the magnet¹³⁷).

Lord *Morton*, Brook Street on the left when going by Bond Street.

Mr Gael *Morris* in Dyers Court, Alderman Bury, he is a broker for public funds. He is found at Batson's Coffee house opposite the stock exchange. Aldermanbury is the 3rd street on the left after St Paul, in Cheapside.

Mr *Nadal* at Mr Regnier, in Compton Street, Soho. He will take me to see his yacht at Deptford.

Mr George *Neale* a celebrated surgeon Mark Lane Fenchurch Street. He has another place in Old Jewry Cheapside.¹³⁸

George *Neale* surgeon, Mark Lane Fenchurch Street, near London bridge. He translated the memoirs of the Academy of Surgeons.

The Duke of *Newcastle* in Lincoln Inn Fields.

In Lincoln Inn Fields, the Duke of *Newcastle*, counsellor *Morton*, Lord *Talbot*, the Ambassador from Sardinia, whose arcade opens into Duke Street where he built his chapel. At the end of it is an immense Shakespeare sign.

137 Monod-Cassidy: *sur S. aiman*, but the ms reads *sur l'aiman*.

138 Monod-Cassidy: *il y en a un autre 60 ans old jewry chippside*, but the ms definitely reads *il y en a un autre dans old jewry cheppside*.

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Newton lodged in the south-west of Leicesterfields. In St Martin Street at the corner of Long's Court; there is a type of observatory in this house.

Mr *Parsons* in Red Lion Square.

Mr *la Peyre*, surgeon. Church Street St Anne, Soho at the green door.

Prebbit at the Red Lion, Canterbury. The only house where places can be taken from London to Dover.

Mr *Pringle*, physician to Her Majesty Pall Mall Court, Alex. Murray.

Mr *Richardson* printer stays in Salisbury Court Fleet Street.

Mr *de la Rochette*, West Street, the last door when coming from St Martin's Lane.

Mr *Roestner* in Gottingen.

Mr *Russel*, Salters Hall close to Cannon Street. His brother lives in Walbrough Street. He is a director of the East India Company.

Mr *Russel* Walbrough Street - and his brother Salters Hall, Cannon Street.

George Lewis *Scott* esq. Leicesterfields. Tutor of the Prince of Wales; the tutor of many English men of letters whom I saw in Paris.

Dr *Shebbeare*, Dean Street, Soho. He was put in the pillory for his writings at the time against Newcastle, Fox, and Hardwick, informing the people. On behalf of Mr Rich. Kirwan.

Mr *Peter Simond* in Bishop Gate Street within opposite the pump. Where Mr Cousin is addressed. One of his daughters married Lord St John who is a Bolinbroke.

Mr *Sisson*, Strand at the corner of Beaufort Building.

Mr *Smollett* opposite St James Church. He goes to Bordeaux. He earned 10,000 louis from his works and spent them all.

Mr *Symmer* in Mount Street, Grosvenor, Soho. He is sick in the country, weakened by a hectic fever and diarrhoea.

Dr *Templeman*, in the Strand opposite Beaufort Buildings, close to Covent Garden.

Vindeat stay maker in Long Acre near Covent Garden.

Misses *Tomassé* have boarders to learn French, Great Marlborough Street Hanover Square.

Mr *Valette* at Mr le Blanc's Rue S. Thomas of the Louvre, correspondent of Mrs Dutens in London. At Mr Mackenzie's, Hill St Berkeley Square.

Mr *Vouler* at Mr Duval, jeweller.

Wadington, Three Tun Court Miles Lane near the Monument.

Mr *Watkins*, optician, in Charing Cross. On behalf of Mr Sayd.

William *Watson*, in Lincoln's Inn Fields No. 15.

The Count of *Western* in Leipzig.

Mr *Wilson*, painter, Great Queen Street who deals in Lincoln's Inn Fields. On behalf of Mr Leroy, the academician.

Mr *Witchel*, in Holborn, Union Court. No 6. opposite St Andrews. Must get him to engrave a chart of the eclipse of 1764.

Mr *Witchell* at the front house White Fryars Gate Fleet Street.

Mr *Wyche* esq. FRS Great Ormond near Bedford House.

Ambassador of France at ... formerly lived at Lord Winchelsea's in Soho.

Ambassador of Naples, Stanhope Street near South Audley Street.

The Chapel of Bavaria Warwick Street Golden Square.

Rothmells coffee house in Henrietta Street Covent Garden, it is where one goes with other men of letters.

Diary of a trip to England - manuscript order

Introduction

The following is a complete translation of the diary, including the covers, in original page order. Each page of the original is presented separately and the illustrations are included.

There are a few points which should be noted :

- (a) Each page is headed by two numbers **p-s**.
p is Lalande's hand-written number. It is in parentheses if Lalande did not write a number on the page and the number has been deduced.
s is the number of the sheet of paper on which the page is written. There are 42 sheets.
- (b) The illustrations are on the correct pages but do not appear in their correct places within the pages.
- (c) Being a translation line breaks are different from the original. In a few places where they are important remarks are given in foot notes.
- (d) Lalande frequently used short lines to separate entries and occasionally full width lines. I have included some of these lines but omitted many where I feel they are not important.
- (e) ~~Words crossed out~~ are crossed out in the manuscript.
- (f) All entry dates have been standardised to *weekday day month* for clarity.
- (g) A *very* few bits have been omitted. These are a few scribbles and notes that I cannot interpret.
- (h) Lalande underlined many words and some of these are given in italics here and in the annotated translation above. As noted in my postscript, I suspect underlining was used to mark words that were to be included in the table of contents.

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Diary of a Trip to England 1763

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The diary

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A quarter of wheat weighs 458.

A pound of corn was worth, in 1674 to 1714, 2 livres 8 sols 1/3 den; and from 1714 to 1754 in London it was 1 livre 10 sols 2/3.¹⁴⁰

An avoirdupois pound is 14 oz 6 gros 37 1/3 gr and a troy pound is 12 oz 1 gros 11 gr; according to my standard.

The gallon of wine of 4 pints (148) or more exactly 190 1/3 inches *defra*

The bushel French 1778 inches, 2 2/3 of Paris which is 661.71.

A quarter of wheat contains 21 1/2 of Paris. See page 146.

Guineas are worth 13s (or 17 1/2¹⁴¹) more than large louis, which they are by weight. See page 140.

An English mile is ~~880 fathoms~~, 1760 yards, 5280 English feet. Or 829 1/2 fathoms according to *le some vâpon...*?¹⁴²

Foot 11p 3 li ~~1164~~ 1154¹⁴³

1000 yards = 470 fathoms (*toises*).

An acre of 1135 fathoms square = 4 rood, the rood = 40 poles.

700,000 caldrons of coal a quarter¹⁴⁴ in London.

The tonne contains 20 *quintaux*, each of 112 lb avoirdupois or 103 1/2 French pounds. Also the tonne is 2075 marine pounds¹⁴⁵.

139 The top half of the front cover of the diary has "scribbled" notes.

140 The amounts are ambiguous and may be sterling shillings and pence.

141 Later addition relating to the added note on page 140.

142 Dubious.

143 It appears that 1164 was written and then the 6 changed to 5. See also page 147.

144 *de term?* Dubious.

145 *liv. poid de mare.*

Diary of a Trip to England 1763

cover (front inside)

(1)-1

Voyage to England

London to Windsor	20 miles or 27 via Oxford; 5 to Woodstock, Blenheim
Cambridge	44
Dover	55 (Dartford 12, Rochester 23, Canterbury 43)
Plymouth	173
Portsmouth	60
Bath	87
Birmingham	88

Londres et les environs, 2 vols, at Buisson's.

Diary of a Trip to England 1763

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3-2

Trip to England

Final return at page 152.

I departed Paris at 8:45, Friday March 4th 1763. I passed through St Denis, St Brice, Poncelle. I dined in Moisselles at 2:00.

I paid 25 livres for my place to Boulogne and 8 livres for sixty-four pieces of luggage, and I gave 6 livres 10 sols more for Calais. I arrived in Beaumont at 5:30, passing through Nointel.

Saturday 5th March.

I left at 6:00 and passed through Chambly, Puiseaux, Mare-d'Ovillers, St Genevieve and Noailles; I arrived in Blainville at 10:45. Departed at 3:00; arrived in Beauvais at 5:00.

I went to see the tapestry workshop of which Mr Charron, farmer general, is the contractor; Mr Trudaine superintendent; Mr Dumont, the Parisian director; and Mr Deshays the painter after Mr Boucher. There is a foreman who is paid every week. There are about forty workmen. It takes eighteen months to make a hanging. A piece three ells high by two and half long is worth 600 livres.

There is a picture by Mr Bardon, Jason fighting the bulls of Hespérides, which was not finished. The design is drawn from the Gobelins.

While leaving Blainville I saw the thirty-first milestone. I saw the thirty-second after 25 minutes. There are three other intermediate ones.

(4)-2

In Beauvais I went to see Mr Borel, lieutenant general, Rue du Prévôt; I saw the cathedral which is eight hundred years old; and the town hall, which is very new, on the main square, the Promenade du Rempart.

Sunday 6th March.

Left at 5:30 and arrived in Oudeuil at 9:45 - three hours on the worst road, a bad small inn, bad bread. Poix is six leagues from Oudeuil.

I left Oudeuil at midday. At 1:00, Haute-Epine, a long, very narrow thatched village; at 3:00, Hamel where I saw the chains of Mr de Crêqui who, being taken by Saracens and being consecrated in Our Lady of Hamel, was transported miraculously from the earth. The women wear petticoats¹⁴⁶ on their heads.

At 6:45 Poix, landholding of Mr de Noailles, a large borough. Six leagues to Amiens. The bad road has lasted from Beauvais and will continue tomorrow until dinner-time, until Airaines.

Monday 7th March.

The last three nights were cold.

We started from Poix at 5:15; Fay les Tuloi, 7:30; Lincheux, 8:15; Camps-l'Amiénois 9:00; Airaines, 11:30. There remain four great leagues to go to Abbeville.

Abbeville is twenty-six leagues from Calais, ten leagues from Mountreuil, ten leagues from Amiens, thirteen leagues from Dieppe and four leagues from St Valery.

There are thirteen parishes, five and a quarter leagues round.

5-3

I went to the factory of Van Robais; a superb building, where there are 1,500 workmen. I saw the press which gives the gloss to cloth, those which comb it, etc. I returned by the rampart along the Doguet roadway.

The previous Monday, February 28th at midday, the tide went up along the Somme further than it had been seen for sixteen years. Sometimes it comes suddenly across the bars, which are three feet high, like a wall and overturns the boats. The tide went to the bridge at Ormi.

I went to a mineral fountain within two leagues of Abbeville, the Royal Palace where there is a walk, the Mall, St George's Square, St Gilles Street, lined with very beautiful houses.

There are five gates: St Gilles, Portelette, Marcadet, Dubois, Doguet. The grazing land is close to the Portelette.

St Valery trades groceries with Holland and the Islands. Manufacturing draws its wools from Flanders and Spain.

In Abbeville the Shield of Brabant hotel is for the locals, but the Ox Head hotel is frequented by foreigners; they are both in St Gilles Street. They made me pay 40 sols for a very small supper.

146 *jupons*.

(6)-3

I left Abbeville on Tuesday March 8th at 5:00 in the morning; Bigni, St Meulon, Ouvilé, Outite, Rouvion, Foremoutier at 8:45, and Bernay at 10:45. At dinner we saw on our left St Valery and the sands of the shore. We departed Bernay at 1:00. I slept in Montreuil where we arrived at 6:30. I saw the citadel and the ramparts. The city is rather well protected.

Wednesday 9th March.

We left Montreuil at 6:00 and arrived in Samer at 11:15, a large well-built town. There is a large abbey whose abbot is the seignior of the region, it is three leagues from Boulogne. The landholding of Tingri, bought by the Duke of Ayen, is close to here.

We departed Samer at 1:00, passed Pont-de-Brique at 5:00 and arrived at 5:45 in Boulogne, capital of the Boulonnais.

The low city is long and well built, inhabited by tradesmen. The port will take vessels of two hundred and fifty tons and frigates of thirty guns. There is one of them on the slip-way, of twenty or twenty-two, which belongs to the carpenter Mr Rennes. The main businesses of Boulogne are tea from the East, brandy from La Rochelle for the English smugglers and the wine warehouses of English merchants, who find the cellars of Boulogne excellent; they are very deep and have very expensive rent.

I lodged at the Royal Table but I slept at Mesdemoiselles Dezoteux where I supped with

(7)-4

the Viscount of Villeneuve. I saw Mr Destrés, notary, and Mr — , prosecutor.

There are two breakwaters at the entrance of the port, bristling with guns. I saw the sea rise, but it was dead water. The spring tide will come on Monday.

The King came to pay homage to the Blessed Virgin of the county of Boulogne, that Louis XI transferred from the Count of Artois to Our Lady of Boulogne. This good virgin was taken several times, she is black, silver, she was in the fire¹⁴⁷; she is miraculous.

There was a silver organ which is in Canterbury. Mr Desmarres, a doctor, works on animals with wool.

Thursday 10th March.

I departed Boulogne at 7:00. Arrived at 9:00 in Wimille¹⁴⁸, 10:00 in Marquise, Inglevert one and a half leagues from Marquise; and the road has ~~2 leagues~~ 1 1/2 leagues to go to Calais.

There are 900 new houses around ~~Calais~~ Boulogne Wimille.¹⁴⁹

It is seven leagues from Boulogne to Calais.

The young man who joined us at St Denis had agreed with the coachman a price of 22 livres to go to Calais, but he handed over 15 and left in Boulogne.

It costs 8 livres to go from Boulogne to Dover.

At Marquise I got half-guineas and guineas of William III, Queen Anne, George, etc.

147 *elle a été dans le feu.*

148 *9h. à huit mil* which is an insertion.

149 *Il y a aux environs de Calais Boulo huit mille neuf cent neufville.*

(8)-4

I left Marquise at midday and arrived in Calais at 5:00. While traveling I saw Fort Violet, the eastern breakwater and the western breakwater with Fort Rouge. Fort Risbanc is behind; to the east is Fort Verd. There is also Fort Lapin which lacked powder in the war. I saw Mr Blondeau, hydrographer to the King, who gets only 600 livres. He assured me that the settlement of the port is eleven and three quarter hours from Calais. I saw Mr Genousse, shipbuilder, who had been sent for to build a frigate and a lighter for the King, and who usually lives in Havre.

The port is sometimes dry in certain places. Then vessels of 250 tons cannot enter.

He made warships, a score during this war. The biggest was of fourteen guns. They succeeded in the beginning, but in the end they were all taken. He wanted to transfer the office of Mr Blondeau to Dunkirk, but everything is more expensive there. He evaded the order.

There are thirty thousand men in Dunkirk and five thousand in Calais. There are eight flat boats in the basin. They have only one mast and a bowsprit with a topmast which, in some, are in one piece. They were to carry structural timber to Dunkirk, but the English blockaded the port.

(9)-5

There is a lighthouse at the end of the eastern breakwater for vessels which arrive night. There are also pilots who go out when they see vessels along the coast. They cost one ecu per foot of draught. One also pays 5 livres per ton to the admiral.

Two or three English captains have already come and offered to take us. Their freight is five to six loüis.

Mr Blondeau resides in Orleans Street at the house of Mr Gameri. I lodged at the Royal Table in Calais.

The Blancné is the famous mountain two leagues from Calais, where the court maintains a lookout in times of war. You can see to the Thames river.

The Calais canal goes to Saint Omer. In Dunkirk there are locks and a ferry¹⁵⁰ to Saint Omer on Tuesday.

The tower of Caligula in the middle of Fort Risbanc defends the entrance of the port.

Coulevrine de Nancy. The port is called the cemetery of Dutchmen. It is very dangerous, especially when the winds are in the south-west.

150 *une messagerie qui va par eau.*

(10)-5

Monday 14th March.

In Calais I drew up a power of attorney for Mr Danin and Mr Blondeau undertook to dispatch it; 3 livres 10 sols.

Mr Cassieri, director of the post office, gave me a letter for Mr Minet in Dover. I did not have time to see Mr Carpentier, proctor of the King to the admiralty, for whom Mr Guerin and Mr la Tour had given me a letter. It cost me 6 livres for two suppers and a bed. Mr Cassieri is a relation of Mr Genet. He gave me eighteen guineas for all my lous.

The engineer gave me a sachet of saffron to prevent vomiting. He showed me a plan of Calais. I went to get passports from the Commissioner of Classes, and the Major to whom 13 sols is due.

Mémoire sur l'histoire de Calais, académie des inscriptions T.43 by Mr de Brequigny. Town walls in 1227. Taken by the English in 1347 and yielded up in 1363.¹⁵¹

(11)-6

Friday 11th March.

At 7:00 I left Calais for Dunkirk, passed Oualdan and arrived at 11:00 in Gravelines which is four leagues from Calais. On Friday and Monday a coach with ten places goes to Dunkirk. I had dinner in Gravelines, whose fortifications are in very good condition and very wide. It is said that it has never been invaded.

Left Gravelines at 1:00, passed Great Mardik after two leagues and Fort Mardik where the lock of the canal is. One league further on this lock releases so much water that it scours the mouth of the port of Mardik and vessels of fifty guns can enter. The English were against it.

At 4:15 I arrived in Dunkirk with a terrible wind, passed the Bergues lock and stayed near the port in the Caretaker's lodge. It is near the stock exchange and the town hall. I saw the embankments which border the channel of the port, Fort Risbanc on the left, two forts on the right which will be demolished. There were ten boats at anchor awaiting the tide, one run aground, one sunk, and the remains of a stranded vessel. The port is difficult. It costs as much for insurance to leave the port as for the voyage to America, two percent. There are currents at the entrance of the port between the banks, which push ships towards the coast.

151 This is a later annotation.

Diary of a Trip to England 1763

(14)-7

Mr Borda experiments on the resistance of air and water. He found it as the square of the speed, but not as the square of the sine the angle of incidence; this varies a lot according to the shape of the bodies. He works on a large frame beside a frigate of Mr Denis in the basin of Dunkirk.

Mr Foulet, jeweller (Sainte Anne Street in Paris close to the Palace), is one of those interested. At the least he also made experiments on the speed of water and he believes that within two feet of the bottom the speed of water is higher than on the surface.

(15)-8

Monday 14th March.

I was in the port of Calais at 11:15 and the steamer started to leave, towed by sailors. At 11:50 it passed the breakwaters and at midday I started to feel sea-sick. I made myself safe by lying down on my back. At 3:20 we arrived at the coast off Dover; see pages 123 and 152. We dropped anchor and a launch came to take us. They wanted a half guinea per person, but Mr Minet gave only 6/-. For the men who came on the launch, customs, and the tavern, 2/-. For the steamer according to use, 15/-; see page 124. For the customs' visit 2/6.

At 5:00 I made my way to the tavern from the ship.

The women of Dover wear very large hats with long scarlet coats as in London.

The city is large, but the streets are narrow and the houses are low. It is dominated by a steep cliff, at the end of which is the castle on the top of the mountain. It cost us 20/- for the coach, half in advance.

The Duke of Coal. A bed each 1/- and a table-fowl 2/-, in all 4/10 for two of us.

(16)-8

Tuesday 15th March.

I left Dover at 2:15 with Mr Cousin, in a coach which was to the landlord his *Ship*, and we arrived in Canterbury at 5:15. I saw the condition of the cathedral. We changed coach and horses there, and also in Sittingbourne and Rochester. The port of Chatham is very close to Rochester. We passed a very beautiful bridge in Rochester which is five miles from Sittingbourne, ten miles from Canterbury and fifteen from Dover.

From there we went to Dartford and then Welling¹⁵⁴ where we ate. We saw the port of Deptford two miles from London and we arrived on Westminster Bridge at 4:15.

I watches the milestones, mile on mile, counted from the Standard in Cornhill. It is the shop of a pastry cook on the corner of Cornhill at the end of Bishopsgate. We took eight to nine minutes to go one mile, when

17-9

there wasn't a rise.

We got down in Charing Cross. I travelled by hackney coach to Mr Simon in Bishopsgate St; it cost a crown. I slept there, but before supper I saw the Monument and London Bridge.

Wednesday 16th March.

I went to a wig maker where I gave six pence for a shave and a hair cut.¹⁵⁵ I went to see the Tower, and from there by water to Surrey Street to see Mr Short who spoke to me about the difficulty in giving his mirrors a parabolic figure. It is done only by guess-work.

He showed me his calculations for the parallax of the sun and the longitude from Greenwich to Paris, nine minutes sixteen seconds, which he found by the passages of Mercury and Venus.

154 *Villen.*

155 *pour une barbe et un coup de peigne.*

(18)-9

To Nivernais' hotel where I found Mr Rochette, Mr Bontemps, Mr Leboucher (to whom I was recommended by Mr Genet), Mr Moreau, Mr Lescalier, etc., with whom I had dinner. I saw the palace of Whitehall, St James, Marlborough, Queen Palace, the park; and I took lodging in Panton Square with Mr Rodgers.

I have approximately forty letters of introduction. I started with Mr Short, Mr Nivernais, Mr Maty, Mr Leboucher, Bontemps and Rochette; and afterwards I dined with Mr Vaillant opposite Southampton Street which leads to Covent Garden. He took me to a meeting of the Society of Arts whose subscription is two guineas and who give prizes on all kinds of matters for the encouragement of the arts.

Thursday 17th March.

I went to the museum, to Lord Macclesfield's and to the Royal Society. Dinner at the Mitre Tavern near the Temple with Lord Macclesfield, the ambassador of Venice, Lord Willoughby,

19-10

the Bishop of Clarence, Short, Morton, Birch, Ellicott, Watson, Maskelyne and others.

Normally it is 3/1d but this time because of the claret, Bordeaux wine which costs 5/- a bottle, one paid 4/6. Plum pudding, chestnut pudding¹⁵⁶, etc.

At 5:15 we were at the Royal Society in Crane Court, Fleet Street. A letter which referred to me was read. The meeting lasted one hour. I saw Mr Wadington who was in St Helena with Maskelyne and who has a school close to the Monument. After each lecture the president thanks the author. Mr Morton read the minutes of the last meeting and Mr Birch read the other papers. In the room are the portraits of Newton, ~~etc~~ Folkes, Sloane,

156 *marou potinger* in the ms. I presume *marron*, chestnut.

Diary of a Trip to England 1763

20-10

Friday 18th March.

I was at Mr Maskelyne's and then went to see Mr Bevis. While returning I saw Holborn, Lincoln's Inn Fields, Bedford House and the Foundling Hospital. I stopped in Holborn to buy books - poetry, history, law, policy; 12/- for thirteen volumes.

In the evening I saw Westminster Abbey. The mausoleum of Newton is on the left opposite the door, that of Lord Stanhope on the right. On the right side Congreve, Freind, Chardin, Dryden; on the left a famous organist.

I was up until 9:30 in Rothmells coffee house in Henrietta Street with Mr Birch. There one can read the votes of the House of Commons which are printed each day.

Today there was an *Oratorio* in Covent Garden. It is a type of sacred concert music.

Saturday 19th March.

It is the festival of St Joseph. I went to Mr Cole and Mr Templeman. I saw the Slaughter coffee house in St Martins Street, where Newton went every day, and the house of Mr Moivre.

In the evening I went to the Haymarket opera where Orion played. Pit and box, half a guinea;

(21)-11

gallery, 5/-. The second gallery is wretched. It costs ... Men and women are pell-mell in the stalls, the boxes and the gallery.

Mr d'Amicis played Candiope; Miss Valsecche, Diane; Miss Cremonini, Nice; Miss Segantini, Betrée; Miss Carmignani, Argia; Mr Ciardini, Orion. The dancers are Miss Asselin, Mrs Binetti, Mr Binetti and Mr Galliai; music of Bach, Saxon; words of Mr Bottarelli.

Sunday 20th March.

One does not make visits in the morning, one cannot walk by the river. I saw Hanover Square, Golden Square and Grosvenor Square, Oxford Road and Tyburn to the barrier. I wrote to Mrs Lepaute and to my mother, to go by the ordinary post tomorrow.

At 2:00 I was at the Court presenting chambers. The King, the Queen, Princess Augusta, the Duke of York, Prince William and Prince Henry all came there. I noticed among the pretty women Miss Pitt, Miss Bishop, the Duchess of Exeter, ~~the Duchess~~ Lady Bolingbroke,

That evening I made visits and I went to the Slaughter coffee house.

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(22)-11

I had four or five cups of tea there. It cost 10 pences.

Monday 21st March.

I went on the Thames from Whitehall Stairs to Three Cranes Stairs for 3d. I saw Mr Blaquièrre, Mr Mavit and Mr Casenove, Mrs Duval. I saw Morfields, West Smith and then went to Mr Bevis. I bought logarithms in folio 2/- and the third volume of the Spectator 1/-. I bought a hat, 16/- or 18 livres 6 sols in French money, and a small plan of London for 6 sols; two pocket knives, one which closes by a spring 2/6 and one with a sheath 1/6.

Mr Vaillant sent me the tables of Gardiner.

Tuesday 22nd March.

I saw Mr Shebbeare who is working on a history of England. He spent three years in prison for his sixth letter to the people, against the ministers Newcastle, Hardwicke and Fox. Mr Pitt, for whom he had worked, abandoned him in a cowardly way. He has just published a picture of England under the name of Sumaton.

I saw Mr Wyche in Great Ormond; he is a large-scale farmer. I dined with Mr Morris, who showed to me his calculations, and spent the evening with Mr Collinson.

23-12

Wednesday 23rd March.

I saw Mr Maskelyne and at 11:00 I took a coach from Charing Cross to Greenwich. I arrived there at 12:15, but I could not see Mr Green until 3:30. He showed me the observatory. I saw the hospital and I set out again at 4:30. It cost 1/-.

In the evening I saw Mr Hawkins, surgeon.

I paid 10/6d for my room, half a guinea per week.

Thursday 24th March.

I saw Mr Edwards at the College of Medicine, who showed me many birds. He is occupied publishing the seventh and last part of his collection. I dined at the Mitre. There were sixteen people. The Mitre Society was originally formed by Mr Halley when he came from Greenwich to attend the Royal Society. It is made up of forty people, some of whom are not in the Royal Society, and an election is held when more members are needed. Each one has the right to bring a friend.

I went to the Royal Society in Crane Court, near the church of St Dunstan. Very close by is the tavern of the devil where Ben Johnson used to go. The sign shows St Dunstan holding the devil by the nose with tweezers. There will not be another meeting until April 14th because of Easter.

Mr Parsons, with whom I had made acquaintance, took me to the Antiquarian Society (Chancery Lane).

Diary of a Trip to England 1763

(24)-12

Friday 25th March 1763.

On the 22nd, peace was proclaimed at five places in London. In the evening there were some illuminations on the side of Whitehall etc. But in an extremely petty manner, the English called out curses: 'You are stupid like the peace.'

The first Lord of the Treasury is actually Mr Bute who is master of all, because it is he who grants employment, handles the money, borrows on its behalf, etc. The Secretaries of State are only his tools.

On the 24th I saw Lord Morton. He has the Order of the Thistle, *Nemo, me impune lacessit*. It is at his house that Mr Lemonnier observed the eclipse of the sun in 1748. Mr Short told me that he did not have a micrometer at that time.

Friday 25th March.

I saw Mr Pringle and Mr Gouyn in Bennet St James. I bought the cosmography of Heylyn in English, 4/-. I dined at Mr Nivernais; the evening with Mr Nourse.

Saturday 26th March.

I had breakfast with Sir MacDonald, who had wanted to meet me for a long time. I saw Mr Lefèvre, jeweller in Grafton; Mr Charles Boyd at Blunts coffee house. He lived in Picardy, with the result that he is a friend of Mr Briche in Boulogne, from whom I had a recommendation.

25-13

I went to the St Johns coffee house (close to the door St Johns, St Johns Square) for lunch and to look for Doctor Bevis. To Drury Lane, *Venice Preserved*. At 5:00 I could only get the last place in the gallery. It was full, 2/-. Jassier by Mr Garrick, Priuly by Mr Navard, Pierre by Mr Holland, Belvidera by Mrs Cibber. I was so hot that I did not stay for *School Boy*.

In the evening I got letters from France and proofs of my book. The mail had been delayed in Calais for eight days by head winds. I also received a letter from Doctor Bevis who is in the country and who has been looking for me for several days.

I saw Mr Metayer at Charterhouse. It has twenty boarders at twenty-five guineas. They go to the school at Charterhouse, the ancient convent of Chartreux, which retained the institution for forty old men and forty young people to learn Greek and Latin in six different classes, *the first form* etc, starting with the lowest.

(26)-13

Sunday 27th March.

I was at Court. I dined at Mr Dutens, where I saw Mr Dutens, his cousin who is at Mr Mackensie's, behind Barington Hotel. I was with Mr Parsons in the Red Lyon.

Monday 28th March.

I went to the Chamber of Pairs, and in the evening I had supper with Mr Lefèvre.

Tuesday 29th March.

I went to see the marine chair of Mr Irwin, at Sisson's, opposite Covent Garden. Jeremy Sisson, son of Jonathan Sisson, worked for several years with his father who was crippled, and it is he who made the quadrants for Mr Lemonnier, Lord Macleaf, Pisa and Boulogne.

I went to Mr John Bird in York Buildings in George Street, *Villiers, Duke, of, Buckingham*, Streets. There is a short name 'of' so that all the words of this phrase are used.

In the evening I saw Doctor Bevis whom I have sought for a long time. We took tea

27-14

in Windmill Street with an optician of his friends.

Mr Bird asked 1,200 livres, half in advance, for a quadrant of eighteen inches, and £350 or 8,000 livres for a quadrant of eight feet, to take two years. There is an additional £10 for packing. He says that he has heard complaints of the work of Sisson.

I wrote to Mr Sarron by a mail which leaves tomorrow March 30.

Mr Bevis told me that Mr Lemonnier had a young lady, Sophie, who had a girl; while going to Oxford with him and Mr Maldonado the girl got tired learning how to pronounce 'strength'.¹⁵⁷ It was her Shibboleth.

I saw the *North Briton* of the 19th by Mr Churchill and Mr Wilkes, who have just left for Paris where they will spend six weeks. They called Mr Bute *insolent and all grasping minister*¹⁵⁸. They accused him of making an onerous loan of 3,500,000 to profit his

157 *strencth.*

158 English.

(28)-14

adherents, and of giving war commissions to people who had not served so that they get only half pay¹⁵⁹.

Mr Ellis, Secretary of the Treasury, is called *jackal of pay master*¹⁶⁰ - it is an animal which seeks to take the plunder of the lion.

I have seen in papers the history of the sailors who hung an effigy of the police chief of Bayonne, *monsieur was in French dress*¹⁶¹. It was towards Spitalfields and White Chapel.

I bought Whiston for 6d.

Mr Lescalier, secretary to Mr Nivernais and brother of Mrs Rollet, has a son in the academy of painting in Paris, and one who is with him and who works in geography, plans. In London he trades in wines; he has the best.

29-15

Wednesday 30th March.

In the morning I was with Mr Bevis. We lunched together and I remained there about two hours. He showed me many books, papers, letters, calculations of astronomy and especially his *Uranographia* in 52 engraved plates.

I dined with Mr Ellicott the son, who is associated with his father; Threadneedle Street, opposite a large coach gate and on the left coming from the exchange. There I met Mr Russel¹⁶² who is extremely interested in astronomy, who was in Turkey and who promised to take me on Wednesday to the Tower with Mr Harris. He gave me two small engraved sheets of English measurements.

Mr Ellicott gave me a letter for Mr Bliss.

I had caught cold at Doctor Bevis and I left there and went to sleep early.

It took me approximately fifty minutes to go from Clerkenwell Close to Panton Square.

Oxford 58 miles.

159 *d'avoir donné des commissions de guerre à des gens qui n'avaient pas servi pour leur faire avoir la demie paye.*

160 English.

161 English.

162 There are 3 mentions of *Roussel* (here, 6 April and 12 April) and several of *Russel* including 2 addresses. I have used the spelling *Russel* throughout, assuming the same people (two brothers).

(30)-15

Thursday 31st March.

I went to Oxford with Sir James Macdonald. From London to Windsor, 9:30 to 1:00 = three and a half hours; we left Windsor at 2:45 and arrived in Oxford at 9:15 = six and a half hours - in all, ten hours. We made one mile in eight minutes; the changes of coaches took ten minutes.

In Windsor I saw the weapons of the Black Prince and King Jean, the triumph of the Black Prince, the beauties of the court of Charles II, his equestrian statue in the middle of the castle court, the most beautiful view for several miles around, the Thames, the park, the forest. It is the place where Edward III instituted the Order of the Garter for the Duchess of Suffolk.

We made ten to sixteen miles in each coach.

Friday 1st April.

Sir James showed me all the colleges of the city; there are twenty main ones. I dined at 5:00 with Mr Hornsby, Savilian professor of astronomy. I saw Mr Bliss.

Great Christ Church College is tallest, the best building; it was built by Cardinal Wolsey before his disgrace. He was a chancellor minister, had three bishoprics and served

31-16

in the Lords¹⁶³. It was to get his assets that the King took action against him.

Saturday 2nd April, Easter Saturday.

I saw the paper mill at Wolvercote 1 league from Oxford. It does not rot.¹⁶⁴ There are only two cylinders and two tanks. It is not glossy.

I dined with Mr Bliss. He told me that Mr Lemonnier attached the wire to his quadrant with wax from his ears, that he went to Oxford with his sword broken, and that his observations agree less well with those of Mr Bevis than those of Caille. He promised me letters to Mr Green and a bed in Greenwich.

I saw the Thames, the bridge on which is *Friar Bacon's Study*, the old tower; and beyond that the tomb of beautiful Rosamonde (see *A Tour Through Britain*). The theatre for public performances is a very handsome building, the carpentry in it is very beautiful. It was designed by the famous Wren. The building of the printing works is also extremely beautiful, but only bibles and sermons are printed there because the majority of people at the university are clergymen. There are no houses where one is welcomed, not for girls, not for people of quality.¹⁶⁵ It takes seven years to be a Master of Arts, twelve years to be a Doctor of Laws, fourteen to be a Doctor of Medicine, sixteen for Divinity. The fellows of the various Colleges obtain church livings and then they can marry.

163 *se faisait servir par des seigneurs.*

164 *On ne pourrit point.*

165 *Il n'y a point de maisons ou l'on receive, point de filles, point de gens de qualité.*

(32)-16

The two Savilian professors, Bliss and Hornsby, have approximately £140 for thirty or forty public lectures in the four terms of the year. They give special courses which earn them as much again.

Mr Bliss does not know of any English book on the construction and design of ships; the English have always imitated our ships but they construct them better than we do.

Sunday 3rd, April, Passover.

I went to Blenheim, eight miles from Oxford. An immense house which the benevolent Queen Anne gave to Marlborough with 10,000 *pièces* annual income; it cost 2,000,000 *pièces* to build. It is a mass of stone.

Mr Macdonald took me there in a post chaise. There is a steel works at Woodstock.

Monday 4th April.

I saw I saw ~~the paper mill at Wolvercote 3 miles from Oxford~~ the library of ~~Kings~~ Queens College, the Radcliffe library in a beautiful round building, the Bodleian library, the room of the great men which is nearby, the marbles of Arundel and the leather tannery.

33-17

Tuesday 5th April.

I left in a post chaise at 6:15 and arrived in London at 2:45. That is eight and a half hours for 58 miles, which is seven miles per hour. It cost me 30 livres for my place. We had five postilions and each one needed 1/-. Four turnpikes 7d, 2d, 3d and 10d - and 9d for each mile. We passed through Dorchester, Benson, Henley, Maidenhead, Southall, Hounslow, Brentford and Kensington.

Wednesday 6th April.

I had lunch with Mr Russel where I met Mr Michel, curator of the cabinet of natural history in Cambridge. He spoke to me about Mr Smith, Mr Dunthorn and Mr Long.

We went to see Mr Harris and the different workrooms of the mint. He promised me a standard weight as soon as there was one from the workbench.

I dined at the Stag in Bishopsgate and saw the clock of London Hospital, about which I have written part of a small description.

(34)-17

Thursday 7th April.

To lunch at Mr Bird's with Mr Hornsby. We were together in Greenwich, by the river through which a thousand vessels pass in an hour; dinner 9/-.

Friday 8th April.

Dinner with the Duke of Nivernais, Mr Beaumont,¹⁶⁶ Mr de Romgould, Mr Wolf, nephew of a banker in Paris, and Mr Lamotte nephew of Mr Miret. I saw Mr Pringle, Mr Avuarre in South Audley Street, Mr Butler and Mr Bontemps in his inoculation house in Marylebone. I had supper with Mr Maskelyne.

Saturday 9th April.

I saw Mr Henri (arrived from Angouleme) with Mr Vaillant, Mr Short, Mr Duval a trader, and Mr Bevis.

I saw Gresham College, where mathematics lessons, etc are done in four terms. His brother refused to help Chancellor Gresham when he was about to become bankrupt. His ships arrived the same day that he had written to his creditors to settle. He disowned his family.

166 Eon de Beaumont. The diary refers to *d'Eon* which I have replaced by Beaumont throughout.

35-18

I went to see Goldman Field, Wellclose Square, Spital Square, Spitalfields Market, Spitalfields Church.

They are 5 of the places¹⁶⁷ where the resignation of Lord Bute was declared. It is said that his wife decided he had to leave the ministry for his security and for that of the King. Some say that it was because he is a Scot, others because he gave too much to the Spaniards and the French, and that he was to take the treasures of South America.

Supper with Mr Simon.

Sunday 10th April.

I went with Mr Dutens to see Doctor Campbell in Queen Square, close to the Foundling Hospital. I saw the clocks and watches that James Newton left him.

I learned that Mr Camus and Mr Berthoud are coming for the secrets of longitude from Harrison.

In the evening I conversed for a long time with Mr Watson, Lincoln's Inn Fields, and Miss Dutens, Leicesterfields.

167 *C'est le 8 que la démission de Mil Bute a été déclaré* but only 5 places are listed.

(36)-18

Monday 11th April.

I went to see the fire pump at Chelsea with Mr Rochette and Mr Vaubicourt. Lunch at the Dog-and-Duck where there is mineral water. To St Thomas Hospital in Southwark, which Mr Russel showed to us. There are 480 beds, 5,000 *pièces* of fixed income and five of voluntary subscriptions. Displayed in the main room are the names of all the benefactors.

To the Custom-house, in the long room of which there are more than one hundred clerks.

To the Tower, the room of the armada which preserves the remains of the famous Spanish fleet, which is painted in the House of Parliament. The guard who led us took 1/- per person; regalia, 1/-; the lions, 6d; the weapons rooms about 6d; in all, 3/-.

Dinner cost 10/- of which I paid half, 5/6; coffee and a hackney coach, 2/6. I ate extremely delicate cakes of the City, *apple puffs*¹⁶⁸.

168 English.

37-19

I went to see the birds of Brookes, golden pheasants, which are very beautiful. I saw Osborne's bookshop, the garden of Gray's Inn, that of Furnival's Inn where Mr Smeaton stays, the hospital of Christ Church and that of St. Bartholomew which is in Smithfield.

In the square tower or White Tower built by William the Conqueror there are the offices¹⁶⁹, archives and powder store. One never goes in there.

In the *horse armouries*¹⁷⁰ on the right are all the horses and the kings of England since William the Conqueror. You pass under the bloody tower where children of ... were massacred. There you see the famous Duke of Lancaster who was seven feet tall and was son, father, brother and uncle of kings and never King himself.

The hatchet which cut off the head of Anne Boleyn and of the Count of Essex, the door of the traitors, the tower where Lord Ferrers was held. Mr Paul Vaillant, Esq

169 *tentes*.

170 English.

(38)-19

was then Sheriff of the city. These two magistrates are charged with the commission of executions and of summonses. It is the Lord Mayor with the thirty aldermen who govern.

~~Sunday~~ Tuesday 12th April.

I went with Mr Dutens to Payne's bookshop close to the Mews. From there to Mr Romgould and to Mr Moreau where I saw Mr Deshays, deputy of Guadeloupe, where Mr Duclos or Father Valette stays. They have between them a girl named Miss Gilbert.

I went to the court of the Princess of Wales, the second ~~Sunday~~ Tuesday of each month, and I dined with Miss Dutens and Mr Lespinass physician.

I went to Marylebone to see Mr Bontemps with Mr Leboucher and Mr Lescalier. Mr Deshays, Mr Rochette and Mr Vaubicourt were there.

39-20

Wednesday 13th April.

I went to Greenland Dock near Deptford to see the dock-yard of Mr Randal, where he is building a ship of 74 guns. The timbers appeared to me to be of a smaller size, better cut and better assembled. There are hardly any nails in the timbers.

I dined at Mr Simon's with Mr Blaquiere, Mr Bernard (minister for the Church in Threadneedle Street which is new chapel) and Mr — , a Genevan who goes back to Geneva.

Mr Simon said that the principal cause of the war had been to stop the development of the navy, which had much occupied France and about which we spoke too grandly in our speeches and in our books. The small usurpations of Lake Champlain were used as a pretext.

Mr Silhouette spent eight years at Mr Simon's. He was a tobacco broker; he worked continuously, he studied unceasingly and made remarks on everything.

Father Couroyer of St Genevieve stays with Mr Russel, hardware merchant, very close to me. He is well regarded in Kensington. He is more than eighty years old. He is a doctor of Oxford because of his book on the validity of Anglican ordinations; he is not hindered by being a catholic¹⁷¹, but he says the dogma of the trans-substantiation is stupid.

171 *cela n'empêche pas qu'il ne soit catholique.*

Diary of a Trip to England 1763

(40)-20

The nonconformists differ from the Anglicans in that the former do not recognise bishops and do not have a liturgy similar to the catholics. The presbyterians of Scotland are like the nonconformists, but are much more attached to dogma, the revelation, predestination and are more severe; they have synods to elect their ministers.

~~Thursday 14th.~~

I gave Mr Hainguet the bill of exchange from President Sarron for Mr Bird's instrument, in order to receive it on Thursday 14th.

Thursday 14th April.

I lunched with Mr Vaillant. I saw Mr Deshays, deputy of Guadeloupe, in Dean Street opposite the Crown. I dined at the Mitre where Mr Knight took us, Mr Short and I; 3/1d. And then to the Royal Society where a report of my testimonials was submitted, to be displayed for ten weeks.

I went to the bookseller Mr Whiston, younger son of the famous astronomer. He showed me two volumes of the life of his father who died in 1752, written by himself.

I looked for the catalogues of Baker, Davis, Wilcox.

41-21

I went to Mr Watkins where I saw an odometer that has a large wheel which, with the dial and the hands, can measure 12,000 in yards, poles and furlongs. It is worth about five guineas.

There is a smaller one for ladies. I also saw there a small, very portable electric machine for 7 guineas with all the attachments.

I went to the Royal Society where I saw Mr Wilson, Mr Murdoch, Mr Edwards and the portraits of Flamstead, Brounker, Folkes, Sloane, Newton, Macclesfield and Williamson.

On the 13th I received a letter from my mother of March 24, which reported to me that she had given 2,000 livres to Mr Navier for Mr Var-
enne.

The 14th of April is the first day of good weather and heat which I have had in London.

Mr Moivre said that if God wanted to grant immortality to people then the House of Commons would oppose it, not wanting to wrong the apothecaries; indeed one sees there support for particular interests at the same time as they oppose the public interest. As in Paris, there is no prohibition of swords because of the sword and scabbard makers.

42-21

We learned that on April 6th the Opera of Paris and part of the Royal Palace was burnt. (and again on June 8, 1781).¹⁷²

On the 13th there was a meeting of the eleven commissioners named for the discovery of Mr Harrison's secrets. They declared that they needed Mr Harrison to make three watches before receiving the £5,000 and that they be tested on a voyage to Jamaica; he went this morning to complain to the Speaker about this condition. Mr Short was the only one who opposed it. Lord Morton, Lord Willoughby, Mr Scott, Mr Comyn, etc. were there.

Friday 15th April.

I lunched with Mr Beaumont; we walked to Kensington where we saw the beautiful lawn, which surrounds the lake on the London side, and inside the Cuba Room. The gallery, where the pictures were that have just been moved to Queen Palace, is beautiful. The staircase has extremely good paintings, there is a succession of portraits of kings since Henry VIII. Hyde Park, that one crosses to go there, is extremely pleasant for coach drives and riding on horseback. The King does not live in Kensington at present.

(43)-22

In the evening I went to Chelsea see the hospital, where there are approximately 500 soldiers in red; and from there I went to Ranelagh.

Ranelagh¹⁷³ is a round room which has an interior circumference of 550 feet, 60 windows and 52 boxes on each floor lit by 400 lights which are all in glass globes. There is a quadruple fireplace in the middle, all white, gold, neat, new born. It opened on Monday the 4th and it will only last until the opening of Vauxhall.

I was surprised by the sight. There were more than a thousand people and one can have tea, coffee, butter, etc. The waiters are numerous, instrumental and vocal music every fifteen minutes, a quadruple fireplace which resembles an altar surrounded by benches and tables, spirit stoves on the tables; women without hats, men without swords. The music finishes at 10 pm, but people stay there until after midnight. On entering one pays 2/6d and 2/- for a coach to go there. You can also get there by water, to the bottom of the gardens of Ranelagh and Chelsea Hospital, or there is a gate to enter. The gardens illuminated by moonlight are delicious.

172 Later addition.

173 *Ranelagh* written about 3 times the size of the surrounding text.

(44)-22

Saturday 16th April.

I saw Father Couroyer; eighty-two years old, forty-six years in London. He obtained a passport for Mr Pingré. His brother was excluded from the abbey of St Genevieve because of him.

I was with Lord Morton who will take me to the Parliament next Tuesday.

In the evening I went to Westminster Abbey where I saw Milton, Ben Johnson, St Evremond, Conduitt who had married the niece of Newton, Casaubon, Shakespeare, Wales (who was chaplain to the Princess of Wales and made the monument), Prior, ~~con~~

In the evening I had supper with Mr Pringle. I wrote to Mr Fargès, Mr Lorgerie, Mr Bourset, Mr Montmirail and Madam Mayer by Mr de Mechel, engraver, rue St Honore in the house of Mr Lenoir, notary.

Sunday 17th April.

In the morning I went to Mr Duclos where I saw Father Valette with Peyre the surgeon. I attended mass in Dean Street, in a small chapel of the resident of Venice which resembles a small stable. I lunched in Marylebone, saw Mr Bontemps and returned to Mr ~~mor...~~ Mallet. From there I went to St Clement, Newchurch, St Dunstan, St Paul, St Steven in Walbrook. I returned to Mr Dutens where I took a note of the current poets of England:

45-23

Mason, Mallet, Gray, Churchill, Lloyd, Dodsley, Young, Whitehead, Coleman, Murphy and Hume.

From there I went to Mr Lespinass who showed us many instruments for physics and for geometry. He told us about Mr Martin the optician, who gives ridiculous courses on physics. Mr Mainbrai is rich; he has good employment with the Excise. He is disgusted by the thought of making more.¹⁷⁴ He gave up physics. He does not even have the desire to show his instruments to Mr Franklin. Music made by glasses, very pleasant and very sonorous, that one gets by more or less water.

He showed us various instruments with which he made experiments for the young princes. He told me that Mr Knight's small bars, of which he does not explain the method, are made by the method of Mr Servington Savery which has been in the *Philosophical Transactions* for a very long time. He wanted recompense of 1,000 *pièces* when Canton published his treatise on artificial magnets which used the method of Mr Michell without acknowledgement.

174 *Il est dégoûté d'en faire davantage.*

(46)-23

It is eleven days since Mr Bontemps was inoculated and nothing has happened. The nurse says that it often goes for sixteen days. His two wounds are still suppurating. In England one is always persuaded that you cannot have small pox twice, though there are some people who claim it.

I was promised I would be shown the music room of Madam Cornelié, where lords pay a subscription of five guineas for twenty concerts per annum, Thursday every fifteen days¹⁷⁵ in Soho.

Mr Vaillant spoke to me about fire insurance; which for a £3,000 house¹⁷⁶ sometimes costs less than 7/-. Life insurance costs £5 each year but one's heirs get £100 from it. This year he is one of the directors. The list of associates fills three folio pages.

175 *le jeudi de quinze en quinze jours.*

176 *une maison de trois mille liv sterling.*

47-24

Monday 18th April.

To lunch with Doctor Bevis, who gave me a more correct copy of the observations of Ibn Junis. We went to Mr Neal to take Mr Morand's letter to him. We went to see the admission of the ambassador of Venice (from the Tower to Sommerset House) only ambassadors are admitted.

At Mr Wilson's with Doctor Maty. He is the premier electricity researcher in England. Mr Watson excels as a plagiarist, this one has genius. He conceived experiments to prove that air resists electricity, that there is less atmosphere in electrified bodies; that smoke is pushed away only because it is more electrified than other light bodies. It is the same for the air that one exhales.¹⁷⁷

It is my opinion that Mr Nollet does not understand electricity, and that Mr Le Roy has not yet written enough to show what he knows. A long time ago he announced a long letter which has not yet appeared; he wrote a long letter four months ago to Abbot Nollet to be read at the academy, but he did nothing with it.

177 *Il en est de même de l'air qu'on sent souffler.*

48-24

Mr Simmer is in the country. He is a fifty year old man and since he married he has not done anything important; he has the brain but not enough knowledge of electricity. He was pressed too much to draw conclusions from the facts that he had obtained.

Mr Wilson is persuaded that one can at will exhaust or condense electric fluid in the same body and consequently to more or less electrify it.

Two Spanish wax rods, one of which has a shilling on the end; if you pass the shilling flat by its polished surface over the other rod you electrify the shilling more. If you pass its edge over yourself it is electrified less. He believes that the changes observed by Abbot Nollet come about in a similar way to the use of wax. Because for him it has very constant effects.

In 1764 Mr Wilson almost lost everything by the bankruptcy of a Jew whom he had trusted.¹⁷⁸

178 Late addition.

(49)-25

Tuesday 19th April.

In the morning I went to Mr Dutens to consult his large collection of the statutes of England about corn.

I returned to the bookseller in Piccadilly to buy old books for 21/- or twenty-four livres.

I went to Lord Morton's to go to Parliament, where the King came to finish the sessions; we met him on the way.

I dined with Mr Beaumont, Mr Nivernais having left today for Bath.

Wednesday 20th April.

I presented Mr Sarron's bill of exchange for 26 livres, 13 shillings, 4 sols; and as 25 guineas are worth only 26 livres, ~~3~~ 5 shillings I was given 25 guineas, 8 shillings, 4 pence.¹⁷⁹

I went to see Mr Russel, Mr Blaquiere, Mr Duval, Mr Mavit, Mr Simon and Mr Hainguet son of chevalier Hainguet, banker in Fenchurch Street, who stays with Mr Simon and who promised me a ticket to a ball in the city tomorrow.

I went to Mr Bird's, Mr Vaillant's and from there to the meeting of the Society of Arts where I saw Mr Templeman, Mr Parsons and Mr Wyche, who proposed me for corresponding membership of the society.

It was established in 1753. One votes by raising one's hand and the president counts the hands raised for 'yes' and 'no'.

179 *26 liv* and *26 li*. Lalande means louis. Although debatable, I have no doubt that 3 was overwritten by 5 and not the converse.

(50)-25

The resolution is not moved until all those who want to speak have finished their speeches. The question was discussed if a pump should be allowed a second experiment and if it were necessary to receive a certificate which came too late. I saw the exhibition of pictures which had been there for several days.

Mr Vaillant showed me Mr Guerin's letter of the 9th which recommended Mr Camus and Mr Berthoud to him and who must leave in 8 days in a hurry, from which it follows that they can come today or tomorrow. Mr Duclos must also come on the first day.¹⁸⁰

I sent to Mr Duval samples of friezes and to Mr Sarron a receipt from Mr Bird as follows:

20th April 1763. Rec'd of M de la Lande twenty-five guineas being half the payment for a quadrant of eighteen inches radius which said quadrant I promise to deliver to his order with all convenient speed upon the payment of twenty-five guineas more. John Bird.

The same day 20 I had lunch with Mr Mendes da Costa, Jewish Portuguese, relative

(51)-26

of Mr Salvador and librarian of the Royal Society, to whom I brought the books that I have for the Royal Society and who showed me the bad condition of museum. There is a snake twenty-five feet long, and Wallis's roof without nails or pins.

The printed catalogue of the library of Norfolk or Arundel and the catalogue manuscripts of the books acquired, that Mr Folkes did himself in 1743.

Thursday 21st April.

I went to see Mr Bontemps, in Marylebone.

To Vauxhall by foot and returned by water for 6/-; I was about to give only 3. I saw the procession of the ambassadors of Venice pass in front of my windows going to St James.

I had a curl. I went to the Royal Society with Mr Henri, who posted my certificate there. From there I went to Mr Hainguet's to go to the ball in the Haberdasher Hall, Wood Street close to Cheapside. It is a subscription of about two hundred people for three guineas each. Every Thursday one can play cards and drink tea, and there are four grand balls in the year. It cost me 8/6 from 5 pm to 1 am.

180 *M. Vaillant m'a montré une lettre de M. Guerin du 9 qui lui recommande M. Camus et M. Berthoud qui doivent partir dans huit jours en poste d'où il suit qu'ils peuvent arriver aujourd'hui ou demain.*

Diary of a Trip to England 1763

(52)-26

Friday 22nd April.

I went to see Mr Walmesley, one of the four catholic bishops in Bond Street, the second gate after Brook Street. He was with Mr Avar, General of the English Benedictines who will visit Paris. I went to Mrs Crowe milliner.

I went to Mr Maskelyne, Maddox Street, and to Mr Blanchet, milliner where his brother stays. I lunched there and remained there until mid-day.

Mr Short took me to Harrison to see his three longitude clocks and his watch. I read the act of Parliament by which he must have £5,000 and the request of the commissioners which evades the benefit of the act entirely.

I went to see Mr Parsons very close to there. He told me that I would be elected to the Society of Arts next Wednesday. I went to see Gray's Inn, Lincoln's Inn and to Osborne to buy Smith for Mr Bailly.

The evening I spent with Mr Walmesley. I went to see Mr Loten, a Dutchman, to whom I was addressed by Mr Levier. He will spend next winter on the islands of Hières. I saw Grosvenor Square.

53-27

Saturday 23rd April.

The morning with Mr Rochette, Mr Wyche, Great Ormond Street, Mr Vaillant. I bought Simpson and *Zodiacs and Planispheres* by Senen at 3/- per sheet. At Mr Bowles in St Paul Churchyard. To dinner at Mr Beaumont's. Mr Duclos arrived at 4:00 and the Countess of Boufflers.

I walked with Mr Duclos. He lodges in Piccadilly at 26/- per week, two small rooms and an attic for his servant. We dined with the handsome brother of Miss Stephens who, with Mr Pringle, was consulted by Mr Senac on Madam Victoire's disease which is judged to be the gravel.

I spent the evening with Mr Dutens. We examined the prints of Don Quixote.

(54)-27

Sunday 24th April.

I went to the Bavarian chapel, Warwick Street Golden Square. I went with Mr Duclos to St Pauls and London Bridge. I went to the Court where Mr Hawkins introduced me to Mr Fox, the Duke of Malborough, the Marquis of Granby, Colonel Draper who took Manila and Lady Carteret wife of the master of ceremonies, a very pretty woman and very fashionable.

I dined with Mr Beaumont and Mr Duclos. We read various passages of Smollett on the campaigns of General Wolf, 1759.

The evening I spent at the house of Miss Dutens where we discussed the court and the government. Mr Malborough left the position of Chamberlain¹⁸¹ out of pity for the King who was very embarrassed by the need to satisfy a number people who wanted it.

I read in the Weekly Magazine a diabolic letter against Lord Bute and the Scots, attributed to Mr John Cesar Wilkes; but he disavowed it in a very formal letter. He speaks about poverty and the gall of the Scots.

181 *chamberland.*

(55)-28

Monday 25th April.

To the museum with Doctor Maty. I examined the instrument made by Sisson that Mr Maskelyne carried to St Helena. I saw the oldest editions which are in the library, 1460. There were four in the Sloane library which pre-dated 1457, but the Count of Pembrock clung to them and one could never get at them. Maittaire says, in his typographical annals, that there is also a specimen of the *Speculum Salutis* by Celestins in Paris and one in the library of the King in Paris.

I noticed in the cabinet

a very large scorpion from the Indies

Cobra di Capello which has a broad head

a small toad¹⁸² in mourning, black and white.

For Mr Patt I searched the histories of London by Maitland and Stow but I found nothing there on the statutes of the Kings.

I returned to see Father Valette and to dine at Mr Beaumont's with Mr Duclos.

I went to the Slaughter coffee house where

182 *crapeau.*

(56)-28

we read the Public Ledger. It contains a lover's request to a lady for a rendezvous on Thursday in a lodge. It says that all the inhabitants of Borough, friends of Mr —, will find coaches to go to the election. Sometimes some are sent to the extremities of England.

The North Briton complains about the speeches of the King and how he abandoned the King of Prussia:

The King of England is only the first magistrate of this country but is invested by law with the whole executive power. He is, however, responsible to his people for the due execution of the royal functions in the choice of ministers, etc. equally with the meanest of his subjects in his particular duty.¹⁸³

However Mr Wilkes is, it is said, appointed Governor of Canada. Mr Granville has already been put out of the treasury.

57-29

Tuesday 26th April.

I read the theory of refraction by Simpson. I bought three eye glasses at 5/6d each, or six livres six sols in French money.

I wrote to Mr Fouchi for whom I bought Gardiner 36 livres, the Zodiac and Planisphere 13 livres 14 sols and a chain 12 livres. total - 61 livres 14 sols.

Mr Diemar told me that there are Pinchebeck buttons at 2/- up to 5/- the dozen, but he was too diffident to choose.

At the museum with Mr Duclos and Mr Henri; fungite or round madrepora of three palmes in diameter.¹⁸⁴ Mousedeer bicornuate, fossils of Ireland, black, long and bent of which one does not know the equivalent.

I went to see Mr Short and Mr Vaillant. I saw the Stock Exchange, high and low; then along Brick Lane to the end at the chams¹⁸⁵; Bethnal Green Church where there are many French silk makers who are worth up to £40,000. I returned by Shoreditch, Goodman Field and then to Wapping, from where I returned by water.

183 English.

184 *fungite ou madrepora rond de trois palmes de diamètre.*

185 *là en Brick Lane jusqu'au bout dans les chams.* The Chambord St area?

(58)-29

Mr Vaillant told me that Lord Bolingbroke called Pope a rascal. He had furtively produced an edition of the letters on history, to sell when the Lord died. His essay on man had been given to him in prose by Lord Bolingbroke following some conversations with Arbuthnot.

Johnson is a corpulent countryman¹⁸⁶ who drinks tea night and day, who is not frugal, who works for the booksellers. He built up Osborne. He has a pension of 200 *pièces* from the King. He put in his dictionary at the word Alias, Mallet *alias* Murdock, as in the procedures of criminals who change their names.

He is extremely friendly with Garrick.

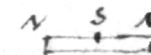
Mr Short had a long conversation with me on the way of shaping the mirrors for his telescopes as perfectly as we see them. He gave me a booklet by Mr Harrison made by Mr White at the Foundling Hospital with the calculations by Mr Short. He showed me that the observation of November 2nd was defective, with the consent even of he who did it, Mr Robertson.

59-30

Wednesday 27th April.

I was at Mr Knight's (who died in 1772) with Mr Maty and Mr Morton from 8:00 until 1:00. He showed me all the magnetism experiments which are in the *Collection of Some Papers* of the Philosophical Transactions 1746-1747, which he gave to me. He told me that he had a magazine of magnets on a carriage which filled a corridor of more than 30 feet, for which he had spoiled his apartment¹⁸⁷. He had not shown it to any foreigner except the Duke of Noia, who asked him whether he could not do as much with it. He answered him: "If I believed you I would not have shown it to you" He started in the manner of Saveri described in the Philosophical Transactions.

He showed me a magnet whose two ends are north poles and the middle is the south pole; it is sufficient to have held it between two bars by the poles of the same denomination, which would be repulsed, and to determine that the current leaves from the south pole by the friction of another bar magnet.



He has disks where the north pole is around the outside and the south pole is in the middle or centre of them - where

186 *un gros païsan.*

187 *une mine de magnétisme par un grand apparatus ...* I presume *mine* is the English word meaning an abundant supply.

(60)-30

the south end of a needle is attracted.

The inclination of this country is seventy-five degrees about midday. If an iron bar is raised in this direction and a small bar is rubbed against it, from top to bottom by one end and bottom to top by the other, the small bar is magnetised. Several bars joined together are better than only one of equivalent mass because they can be better hardened, which is preferable for magnetism.



Mr Knight showed me a lump of loadstone whose irregularities demonstrate those of the earth. There are harder parts, more magnetic, which form separate poles. Thus between Madagascar and Africa there is a magnetic pole. The horizontal needle is indifferent and undoubtedly it inclines to the vertical by internal irregularities. The Atlantic Sea basin, the ferruginous sands of Africa and America, which are in great abundance, can produce large differences; Admiral

(61)-31

Hawke discovered this with his compasses, which swung towards the ground, and so he found the ferruginous sand which he proposes to exploit.

The super-abundant vitriolic acid, which is absorbed by other matter and which is released by iron mines, brings them to maturity, and from thence seem to come the secular variations of the declination of the needle.

The diurnal variations observed by Mr Canton come from magnetism being stronger in winter than in summer. Fire destroys the magnetic virtue, which led to the belief that diurnal variations were caused by heat. However Mr Knight is not persuaded that those seen by Mr Canton are so caused. All the bodies of a house, the bricks, etc have a little magnetism.

He gives justice to Michel whose methods belong to him and are truly his.

He showed to me a composition or paste which receives and retains much more magnetism than natural loadstones, but he is not sufficiently certain of constant success to dare to publish it.

62-31

In the evening (27) I went to see Mr Watkins and I went to the comedy at Covent Garden, in the pit for 3/- with Mr Henri and Mr Poirier, friend of Mr Guerin. They played *The Busy Body*, a Comedy written by Mrs Susanna Centlivre, drawn from Etourdi Molière. Mr Woodward, an excellent actor, played Marplot; many people prefer him to Garrick for comic roles. Mr Shuter played Sir Francis Gripe very well, and Miss Macklin and Miss Miller were Miranda and Isabinda. There were many changes of scene and of the very pleasant dances. They played the pantomime *Arlequin statue*; started at 6:30, finished at 10:00.

The theatre is broader but shorter than those of Paris. The actors better are heard. Their play is more varied, freer, more characterised. They barked, howled, shouted, hurled orange peel and apples at a man whose figure displeased the gallery, the gallery made sport and gave thanks.

(63)-32

They made the actors who had entered leave, to have Woodward's prologue.

Thursday 28th April.

I saw Doctor Bevis who had finished his memoir on the boundaries of Maryland and Pennsylvania, between Lord Baltimore and Mr Penn. It is a matter of drawing a parallel of latitude in the north, a circle and a tangent to this circle through the middle of the land taken at mid-day.¹⁸⁸

I went to see Mr Cole and Mr Dimar. I made extracts from Fergusson and Long.

I dined with Father Valette; he hopes to return to France when all his debts are paid. The establishments of Dominica were sold for 2,500,000, he left all debts paid for eight million inhabitants, in 1748 he did not have two. He had lost two millions worth of goods on the sea at the beginning of the war. He wanted Father Saci to assume and pay the bills of exchange, to force him he sent to Lionci the permission of the General from whom he had had to borrow

188 *par le milieu des fermes pris au midi*. The ms is unclear.

64-32

all that he judged suitable for the good of the mission.

Lionci had 120,000 livres from him when they failed, their assessment proves it. For three years Father Valette alone has supported that house, so far from being the cause of their bankruptcy.

In the evening I spent an hour with Father Couroyer. He spoke to me about the Moraves, a sect established by Count Sinzendorf, which jointly shares everything and has an extremely odd liturgy, but their dogmas do not hold anything in particular. The methodists are notable for declaiming against the slackness of the priests, while sticking very strictly to the dogma of predestination with Calvin.

In a letter I was told that Mr Camus will have 12,000 livres for his voyage to London, with the responsibility of defraying Mr Berthoud.

The papers announced a combat between two boxers or gladiators at Newmarket on the 11th of May. One is a nail maker, the other a carriage spring maker. There are large wagers, done publicly.

(67)-33¹⁸⁹

When Mr Shebbeare was put in the pillory, the sheriff talked with him and his servant held an umbrella over them. In the papers he invited all the printers' boys to come and regale themselves around the pillory and shout: Huzzah, freedom of the press! He had wanted to throw doubts on the birth and the succession of the electors of Hanover at the time of the Countess of Konigsmark. Subsequently he had fallen because of the limits of an act of Parliament.¹⁹⁰

Mr Wilkes is the son of a brewer of Clerkenwell, he has 3,000 *pièces* income. He stays in Great George Street under the arcade which goes to the abbey. It is believed that he will not accept the administration of Canada, indicating that he is afraid; he will ask for employment in Europe. He is supported by Lord Hardwick, formerly chancellor, and Lord Temple. ~~He is ... of~~¹⁹¹ He is very friendly with Mr Pitt. It is he who prints the North Briton.

The Duke of Bedford came in haste at this change in the ministry, believing to be made first Lord of the Treasury; denied it, he set out again at once.

189 The omitted page numbers 65-66 are discussed in my postscript.

190 *dans les bounds d'un acte de parlement* in the ms. I presume the English word bounds, but it be *dans les bourds* (lies) *d'un acte de parlement*.

191 ~~*il est ?? de*~~ crossed out in the ms and replaced by *il est très ami de*, where ?? are two or 3 words I cannot confidently decipher. It may read *il est baume du oncle de* (he is the comfort of the uncle of Mr Pitt). This change was made before the next sentence was written.

(68)-33

Friday April 29th April.

At the hospital for the maintenance and education of exposed and deserted young children in Lambs Conduit Fields. On Friday the 29 day of April 1763 at 12 o'clock, at noon precisely, there will be performed in the chapel of the said hospital a sacred oratorio called Messiah composed by George Frederick Handel Esq. The gentlemen are desired to come without swords and the ladies without hoops.

N. B. there will be no collection. Tickets may be had of the Steward at the hospital at Batson's Coffee House in Cornhill, etc., at half a guinea each.¹⁹²

Mr White sent me an invitation to dinner with Mr Short. I listened to the oratorio from midday until 3:00.

I dined with Mr Watelet who was for a long time Consul of England in Marseilles and who is one of the officers of the Foundling Hospital. The son of Mr ~~Bird~~ Harrison was also there. He showed us a report of the eleven articles that he announced being in a position to fulfil at various times.¹⁹³

69-34

Mr White showed me ten volumes of birds and five of quadrupeds drawn large and painted in natural colours, many of plants, trees, etc, of birds applied to glass with their feathers, by his wife and his children.

Saturday 30th April.

I went with Mr Vaubicour to the synagogue of the Portuguese Jews of the tribe of Judas, Bevis Market and St Marian. We intended to sing in Hebrew; the ... on the head or the shoulders of each; the women in the high rostrums; the books of Moses, rolled and richly covered. We went to the other synagogue of the German Jews.

I dined at the house of Mr Watkins in Charing Cross with Doctor Bevis.

To the opera with Mrs and Miss Dutens, *Orione*. The Duke of Nivernais was opposite us with the beautiful Mrs Pitt.

I am told that Mr Wilkes is in the Tower and Mr Churchill has gone to Newgate for the North Briton of last Saturday, April 23rd, which is against the speech of the King to Parliament.

192 English.

193 *11* is written heavily over another number, perhaps 12.

(70)-34

Sunday 1st May.

It has continued to rain and be cold for four days. I wrote to Mr Makeminet and Madam Boufflers, in Pall Mall at the house of the Countess of Yarmouth, mistress of the late king. I went to see Mr Romgould, etc. and Lord Macclesfield. I dined at Mr Russel's with Mr Short, Mr Bevis and Mr Russel his brother, in Walbrough Street, a court opposite the church. The evening supper with Mr Pringle whence came Mr Murdoch, etc. They were almost all Scots.

Monday 2nd May.

Before 8:00 I was at the house of Mr Ellicott the son, Threadneedle Street. Then to Mr Russel who took me out to Mr Canton, master of the boarding-school or academy in Spital Square. He told me that the average variation of the needle was nineteen degrees thirty-two minutes in the middle of 1762. The observations of Mr Bliss in Greenwich differ by only two minutes.

I saw his rather thick, eight inch needle, having a line in the middle to align it with the divisions, suspended by an agate on a pivot which could be moved by four screws

71-35

to put it exactly at the centre of the two circular arcs, which are of wood, divided every ten minutes. The compass is on a stone whose edge is oriented. There is a magnifying glass to look at it. With it one can estimate within one or two minutes.

He showed me his experiment on the condensation of water. The tube of the phial is marked along its length in divisions of three lignes which are five hundred thousandth of the total volume; having condensed the air of a quantity equal to the weight of the atmosphere, the water went down four divisions, and having covered the tube, the pressure on the bottle went up as much. Whether the water absorbed much air, or it was completely exhausted, the experiment is absolutely the same.

Mr Camus and Mr Berthoud arrived yesterday at 2:00 and are lodged near by in the Copnol, Suffolk Street. I went to see them at Mr Nivernais.

I dined at Lord Macclesfield's with Mr Walmesley and Mr Maty.

(72)-35

Mr Nivernais wrote to present all three to us to Mr Mackensie, who came to say that he could not interfere in the business of Harrison any more because commissioners of Parliament were named for it.

Tuesday 3rd May.

I went to Osborne to buy Gardiner and Dr Parron.

At Mr Nivernais with Camus and Berthoud. We wrote to Lord Charles Cavendish and Lord Morton informing them that we had arrived from France on behalf of the Academy of Science to receive information on the discoveries of Harrison.

I took Mr Berthoud to Westminster and to St Pauls, where they practiced the music which will be played tomorrow for the festival of the children of clergy.

I went with Mr Russel to see the glass house at Whitefriars where glasses are made of flint glass. It takes three days for fusion and three days for manufacture; as much sand as red lead, and saltpetre to aid fusion instead of the soda which is put in crown glass. The workmen

73-36

do not know the master's secret of the amounts.

~~Dinner at 4:00~~ This morning I saw three houses which had collapsed, from a lack of good building regulations¹⁹⁴, there were several people crushed in Whitefriars.

I dined at 4:00 at Mr Pringle's, with Short, Murdoch, Russel and Maty; the servants did not want my money. (It is the same at Lord Morton's and Mr Mallet's, Scottish.¹⁹⁵)

In the evening I took Mr Berthoud to see various places in London; Lincoln's Inn Fields, Cavendish Square, Leicesterfields, Covent Garden.

I carefully examined the lamps in the streets to satisfy the questions of Mr Parcieux and I took note of other machines of which he wants to have information.

I bought a troy pound from Mr Freeman, Leadenhall at the corner of St Mary-Axe exactly equal to his standard which is used at the mint to weigh gold and silver.

In Paris it weighs twelve ounces and 48 grains, according to Mr Tillet in 1766.¹⁹⁶

194 *par le défaut d'une bonne police.*

195 A later addition.

196 Later entry.

(74)-36

Wednesday 4th May.

I walked to Paddington and I returned by Tyburn where Rice, Lewis and Anna Diego were hanged without proof, no disquiet nor weakness, prepared, in rough cloth¹⁹⁷. They said good-bye to their friends, Rice's brother was with them, the minister came to pray, their eyes were banded and the cart left at 11:30. Places were 6d and a crown.

I received a letter from Madam Boufflers. I dined at Mr Nivernais and in the evening I walked to the Monument and the Tower with Mr Berthoud.

I received a letter from Mr Mairan who sent ten louis to me from Mr Guerin.

Mr Camus dined with Mr Vanek, for whom he had a letter of credit.

Constables on horseback with their small batons decorated with silver, constables on foot with large batons with the arms of England, and guards of the King were around the gallows.

75-37

Thursday 5th May.

The day of thanksgiving¹⁹⁸. Sixty-one guns were fired at the Tower, public prayers were printed for the coming of peace and sermons preached on this subject.

I went to see some churches with Mr Berthoud. At Mr Johnson's with Mr Duclos and Mr Berthoud. He spoke to us in Latin; he would have liked us to stay longer, but it was too inconvenient.

In the evening we delivered Mr Berthoud's letters.

We went to the Court, which was very splendid.

Friday 6th May.

I, with Mr Camus and Mr Berthoud, wrote to Lord Morton, Lord Charles Cavendish and Mr Scott. We saw Lord Eglinton who is a Montgomery, and who made us a generous proposal of service.

He has a beautiful painting by Titian, women's bottoms. A race of 4 horses with a carriage, twenty miles in one hour.¹⁹⁹ The first 3 miles were each made in $\frac{3}{2}$ minutes instead of 3. There was a courier in front with a watch.

198 *tanksgiven.*

199 The text, including line breaks, reads:

*Il a un beau tableau du Titien, belles fesses
une course de 4 chevaux avec un
chariot, de 20 milles en une heure*

belles fesses appears to be a later addition.

197 *frise* (archaic), a coarse woollen stuff; but perhaps wigs.

(76)-37

The cause of Mr Wilkes was pleaded in Westminster Hall, Common Pleas. It was full from 7:00. The cause was widened because ~~the~~ ~~of~~ ~~the Secretary of State~~ the nature of the charge was insufficient to hold a member of Parliament, but the charge remained and was returned to Kings Bench.

I received a letter from Count Bruhl by Count Western.

The evening was spent with Mr Duclos and Mr Berthoud at Covent Garden to see *Every Man in His Humour*. Woodward excels in the role of Bobadil. Garrick has the style to play the merchant Kitley. This piece was followed by a farce and we left at 10:30.

Saturday 7th May.

I saw Mr Western²⁰⁰ and dined at the hotel of Nivernais. In the evening I saw Mr Watson, who spoke to me about Mr Bose and electricity, with whom he has more or less agreed for ten years. I took Count Western, who complained a lot that it is very difficult to advance knowledge in Paris.

77-38

Lord Morton came to see us. He complained about the obstinacy of Harrison and persists in wanting Harrison make a second watch that can be tested. However he gave us hope that we would see the piece before our departure.

Much was said about the rider Johnson, who galloped on three horses at the Star and Garter, in Chelsea.

The gardens of Sadler's Wells, close to Kensington, and those of Marylebone have been open for a few days.

Sunday 8th May.

I saw Father Valette who told me his history since 1749. The General and the Rector of Paris were in a faction opposed to those who had authorised his trade and wanted to bankrupt him, and they refused to make a loan to him in France. The Jesuits of London borrowed 800,000 livres. The attorneys of the countries offered to pay all provided that the foreign missions would be shared between the countries, which they did not want.

200 *Werthern* in this paragraph. I have used Western throughout.

(78)-38

I saw Madam Boufflers, Mr Dutens, Mr Campbell and Mr Wyche. I had dinner with Mr Berthoud and in the evening walked to Gray's Inn and Lincoln's Inn where there were many pretty people.

Father Valette borrowed money at par for four years from the date, then for three. That is, he received money in Martinique to be paid net in Paris in four years time.²⁰¹ He always sent the funds in advance ~~since~~ to Lionci, but after 1742 they were 200,000 livres behind, and it was he who raised it and supported them.

When Lionci failed, all the letters of credit that they had accepted became payable. That was what embarrassed the Jesuits, because it was necessary to pay them or get others to accept them. In 1753 Mr Rouillé sent a letter under seal requiring him to return to France, because he had been accused of foreign trade, but he was vindicated and returned. Father la Tour had orders from General Visconti to move for his re-establishment.

(79)-39

In the beginning Father Valette did not pay his debts to the extent of the bills of exchange that he had borrowed, but then he was obliged to send sugar and coffee because the other merchants, who were jealous, borrowed for three years and thereby made more profit than him.

Madam Boufflers claimed that at the Comedy, Macbeth, Richard III and King Lear were Garrick's three most beautiful roles.

Monday 9th May.

We went to see the machine at York building which cost 1,000 *pièces* to build and which supplies 2,500 houses by working only eight hours per day. Mr Watkins, formerly one of the owners, took me there with Camus and Berthoud.

Mr Merlin came to see me, he told me that he was defied by his workman for a long time, but since he had learnt English he had had more co-operation.

Sisson had been in prison several times for failing to pay his workmen,

201 *recevait une pistole à la Martinique pour payer cette pistole net à Paris.*

80-39

he started many things and finished nothing, he took his instruments to a pawnbroker and they were sold for a tenth of their value. He is obliged to push himself hard and then he does nothing that is worthwhile; however nobody has as much genius as him.

Mr Sisson showed me his instrument floating on mercury, with which he can measure heights to the minute according to the certificate of the master of a warship. There is a mirror towards the centre and you put your eye to the circumference. There is a counterweight which is regulated by a screw. Its vibrations last less than four seconds and there is no need to see the horizon.

He showed us the first marine chair which was mounted on a suspension with four pivots and two boots,²⁰² whose pivots rolled on eight bell-metal rollers, the same as the pivots themselves. The second marine chair was an ordinary knee-joint from

(83)-40²⁰³

which a 6 foot pendulum hung, with the weight at the bottom in water. The third was made up of two circles each having two pivots, but whose directions cross. It is eight feet high and four in diameter. There are lead weights to dampen and stop its movement more quickly. There is a table for the telescope which is inclined to eye level and which is in balance.

9 May 1763.²⁰⁴

We went to see Mr Harrison and his three longitude clocks. The seconds clock which he made in 1726 is still used as the regulator; the Ambassador of Spain wanted to give him 2,000 *pièces* for it.

Mr Berthoud found these pieces very beautiful, very clever, very well executed; and though the regularity of the watch was quite difficult for him to believe, he was even more impatient to see it after seeing the three clocks.

202 *boêtes*.

203 The omitted page numbers 81-82 are discussed in my postscript.

204 This date is a later addition in the ms.

84-40

Tuesday 10th May.

I went to see Doctor Bevis late in the morning. We walked to Islington, on the edge of the New River, to the large and small reservoirs; to the place where there is a timber-framed sluice gate lined with lead; to where there is a lock to clarify the water. Then to Sadler's Wells, the gardens of White Conduit, thus named because there is a white reservoir which sends water to Charterhouse. We approached Haynet, and measured the depth (3 1/2 feet) the width (6 1/2 at the top), and the speed on the surface: 1 1/10 feet.

I went to Gresham College at 4:00 to attend Mr Mace's lesson on Civil Law - it lasted only half an hour. He read his notes from the pulpit; there were eight people. A maid near the door of the school gave me the list of the professors and their days.

In the evening I walked to Somerset Hotel with Mr Bird. I read the Public ~~Advertiser~~ Ledger of the 9th.

85-41

Wednesday 11th May.

I saw Mr Scott in the morning, who made me hope that he would be satisfied provided the clock and watch makers declare that they are able to make a watch similar to Harrison's.

At Mr Vaillant's I met Mr Baskerville and Lord Count Egmont.

Mr Short explained to me the method of polishing glasses by shaping pitch to them in two minutes²⁰⁵. He showed to me his report on longitude for Greenwich; I made him erase Don Noel whose observations he quoted.

I lunched with Sir James MacDonald who leaves for Scotland, to the Isle of Skye which belongs to him; he is a nephew of Lord Eglinton.

I dined with Mr Camus. I went to see Chelsea garden, the Physick Garden, while passing through Chelsea College; that is to say the hospital.

I saw Mr Johnson at the Star and Garter, who galloped upright on two horses, a third in the middle. He pretended to be thrown off on the side²⁰⁶. I spent the evening with Mr Condamine who arrived today.

205 *en figurant la poix de deux en deux minutes.*

206 *Il semble renversé sur le côté.*

86-41

Thursday 12th May, Ascension.

To lunch with Mr Condamine at Dr Maty's. From there to Mr Nivernais. I wrote a letter to be given to Mr Rochette who had left.

I dined at the Mitre with Mr Duclos, Condamine, Camus and Berthoud; from there to the Royal Society and then to Mr Olivier in Broadstreet where we had supper. I took Mr Condamine to show him the Monument; it rained. Finally we dropped in on an attorney.

I saw Mr Raper, who wrote against me, at the Royal Society.

Friday 13th May.

I lunched with Lord Morton, who told me how he had been in the Bastille for having been seen with Lorient²⁰⁷ before the invasion of the English under General Saint Clair.

I went to see Mr Short, who is extremely surprised that Harrison's son went to Lincolnshire without confiding in him.

To Mr Brook, dealer in birds.

In the evening I went to Mr Wilson's to see electrical experiments. On breaking a wax rod one end attracts and the other pushes away light bodies. By rubbing a shilling attached flat to the end of a wax rod,

(87)-42

the shilling being handled by the wax rod, it pushes away or attracts.

With a large piece of tourmaline from Ceylon, one side attracts and the other pushes away. When it is heated it becomes electric.

A little air is needed for light. Mr Wilson proved it by a tube where there is only a little air which is concentrated on one side, and the light is stronger there than when the air is dispersed. Two barometers joined by an almost void tube, where there is a bubble B of mercury suspended by a little air, or two or three bubbles. When side A is electrified, one sees the light accumulated at the top of each bubble of mercury, which shows the tendency of it.



207 *l'orient.*

(88)-42

Saturday 14th May.

I had a long discussion with Lord Morton and I left convinced that we will not see the watch. I took Mr Condamine, Camus and Berthoud. We also went to Lord Macclesfield and from there to Mr White at the Foundling Hospital. He told us that at the next Parliament the commissioners would be reprimanded for vexing Harrison and that it was necessary to have six votes to settle it, but he did not promise us, as before, that we would see the watch.

Mr Beaumont offered to present us to the King; Mr Camus, Mr Condamine and me. It will be on Sunday 22nd.

We dined at Mr Mallet's with Mr Camus, Duclos, Scott, Condamine and Maty. A striking comparison was made between Charles II and the Regent, who had corrupted the morals of their nation but who were not prudent in their affairs.

89-42

Sunday 15th May.

I took Mr Condamine to see the library of the Royal Society. I measured the lower half of St Pauls, 118 steps = 260 feet.

I dined at the hotel of Nivernais with Mrs Lafare, who stays near St Pauls.

Mr Dromgold told us of the persecution of catholics in Ireland. They cannot bear weapons, a son can plunder his father, a neighbour can take away a horse which is worth more than six guineas. Their children are removed from them.

To prevent carriages exceeding the stipulated weight, there are turnpikes with weigh-bridges which give way under excess weight.

The evening at Mr Pringle's who advised Mr Condamine to use every night, for his deafness, three drops of a solution of bay salt or French salt made by evaporation by the sun for a month.

This salt is uncommon in England, one cannot be satisfied with fish salt and the weather is not hot enough in England.

90-42

Monday 16th May.

All four of us went to the Tower to see the Weapons Room which is more than 300 feet long. Mr Nivernais, Mr and Mrs Usson (Bonnac), and Madam Boufflers came and left for Deptford in the gilded barques of the admiralty. The princes and Lord Sandwich also went there. We went to Greenwich to see the observatory and dined at the Greyhound²⁰⁸ opposite the gate to the park.

At 4:00 the ship Albion of 74 guns was launched; it slipped on braces, eight on each side carried on a cradle.

I did not go to the party in the Kings-Yard at Deptford and I returned to the observatory with Dr Bevis. We observed pole star, the *épie* of Virgo²⁰⁹, etc. I supped at the Black Lion with Mr Bevis and Mr Green, then the academicians returned to London.

(91)-41

Tuesday 17th May.

In the morning I saw the Greenwich hospital, the gilded church, the beautiful room of paintings, the building where Admiral Byng was jailed.

We observed midday and had lunch at the observatory.

The observatory is not oriented. One sees more of west than of the east from the northern face of the building. Its greater width is approximately 50 feet. There is an inscription in honour of Charles II - 1676.

At midday is Morden College for ten poor merchantmen, the house of Sir Gregory Page, the village of Lee where Halley is buried.

Bradley was a hard, jealous, miserly, melancholic person according to Doctor Bevis.

At Greenwich I saw the Society of Antigallicans whose standard represents England as *a cheval foulant les fleurs de lys, for our Country*.

The houses of Lord Chesterfield and the General Wolf are also at midday from the observatory.

208 *à la Levrette.*

209 *l'épie de la vierge.* The star Spica?

(92)-41

Wednesday 18th May.

I went back to London for 6d, alone in a boat for two men, in one hour in spite of the current and the tide.

On the left of the river I saw four or five dock-yards where ships of 74 guns are built; they are built by merchants for the King.

On the right Lime, Shadwell and Wapping; there are two water towers or fire works on the river bank in Shadwell.

On the left is Redriff.

I went to Guildhall where were the judges of the exchequer Common pleas, King's Bench, Council Chamber; of which the judges are Mr Parker, Mansfield, Liechtfield, Mayor Beckfort, .

The jurors were around the tables.

Close to Guildhall is an old house called Blackwell House, where cloth is unloaded.

The house of Sir Robert Ladbroke at Foots Cray, six miles from Greenwich, is esteemed for its paintings.

93-40

We dined at Lord Morton's with Lord Charles Cavendish and Mr Scott; they continued to assert that Parliament would accuse them if they so dearly paid for a secret without making sure of its success and the sincerity of the author.

In the evening I went to Mrs Majandi, Denmark Street, and to the Miss Dutens.

More than 500 merchants presented their petition for peace to the King; they all kissed the hand of the King.

The sessions which I saw today at Guildhall take place every six weeks to empty the prisons; the violet robes with red hoods are the sergeants-at-law, who are the main lawyers; the others wear black and are only councils. The attorney and the Solicitor General wear robes of grey silk, the judges robes of silk with grey silk facings.

A caricature was produced which is the portrait of Mr Wilkes, smiling and holding the cap of liberty on the end of a baton.

We are to be introduced to the King on Wednesday at his rising.

(94)-40

Thursday 19th May.

I went to see Mr G Neale surgeon, Mark Lane, who has been in Spain, Italy, France and America. He goes to the countryside in Nottinghamshire with the Marquis of Granby, Lord Chesterfield, the Duke of Portland, etc. On Monday he will take me to Lord Tyrel who has a charming estate.

I went to the Old Bailey to see the trial or inquiry of the session. The witnesses were heard, the defendants questioned, the judge explained the matter to the jury. They immediately conferred together and one of the twelve announced to the judge that their opinion was that the defendant was guilty. There is a closed passage which takes them to Newgate. The sentence will not be pronounced until the last day of the session.

I gave 1/- to enter the gallery.

I walked along the Hampstead road reading *An impartial history of the late war* which I bought for 3/6d - 408 pages, twelvemo.

I dressed to go to Vauxhall²¹⁰ which is open today in spite of the rain.

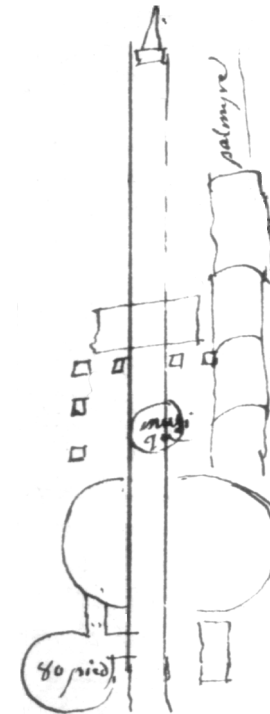
It is a magnificent garden 800 feet in length and from 320 to 550 feet wide. A pyramid, in the countryside beyond the gardens, can be seen when entering.

95-39

On the left is a beautiful salon for the orchestra when it rains, with a very large hall where there are three large paintings: the God of the sea giving the empire to the King of England (after the defeat of Mr Conflans, November 1759); General Hament who welcomed the Canadians; and General Clives who established Jasser Subah in the Indies (of Bengal). On the right and left are two large half-moons furnished with boxes; another elevated, architecturally decorated box for the princes.

In the middle there is a beautiful round tower for music and behind it a large wooden pavilion where there are tables.

Large avenues ending in



210 *Wauxhall* written about 5 times the size of the surrounding text.

(96)-39

views of palm trees etc.

I ate heart cakes for 2d, a cream custard for 4d. A plate of ham or beef costs 1/-, a bottle of wine, 2/-, champagne, 8/-.

I spent eleven and a half hours there. The hackney coach cost a half a crown.

The music finishes at 10:00.

The waterfall has a mill wheel, a house, a landscape; the water falls from the top of a mountain. The lamps are very quickly lit by means of a tuft of lint which ends in a wick.

One gets there in seven minutes from Westminster bridge for 3d and it costs only 1/- to enter. It used to be the same at Ranelagh, but it fell too much into the hands of the rabble.

97-38

Friday 20th May.

I saw the machines of the Society of Arts; saws, water mills and wind mills.

I dined with Admiral Knowles, Sackwell Street, Piccadilly. He talked a lot about his experiments and his research on the design of ships and stowing.

In the evening I went to see Garrick act in Macbeth. His role is formidable. Miss Pritchard also excels in that of Lady Macbeth. We got the theatre to reserve places for Mr Berthoud, Mr Condamine and myself. I saw Mrs Majandi.

Saturday 21st May.

We bade farewell to Mr Nivernais who leaves tomorrow, and to Mr Duclos and Moreau who leave this evening; Mr Duclos had arrived on the 23rd of the other month. ~~I saw Mrs~~

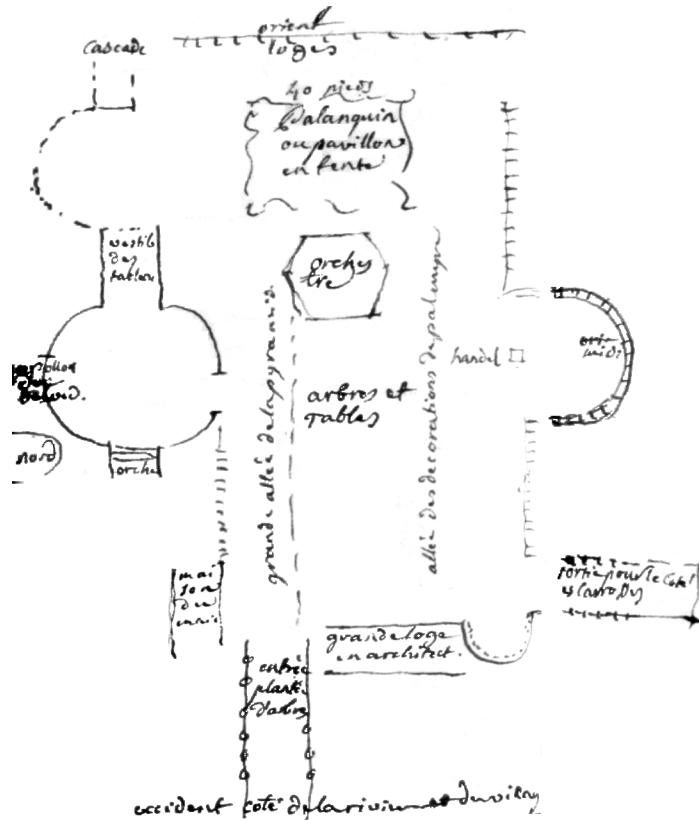
We were taken to see Admiral Knowles, where I saw Mr Robertson head of the Portsmouth school.

We dined at Mr Scott's, Leicesterfields, and from there I went to Vauxhall where time

(98)-38

passed deliciously. The ~~prince~~ Duke of York was there with the Duchess of Buckingham.

There are 57 boxes on the left and 81 on the right.²¹¹



211 The following drawing fills most of page 98 and overlaps onto page 99.

99-37

Sunday 22nd May.

Whit Sunday, and the most beautiful day that there has been for a long time.

I left at 8:00 with Mr Berthoud. We went Paddington, then to Hampstead four miles north of London, then to Highgate, to Islington, to Bagnigge Waters close to the Foundling Hospital where there are some very pretty gardens. We admired the countryside and especially the view of the whole of London from the top terrace of a beautiful house in Highgate (and of the Hampstead cemetery²¹²), the house of Lord Mansfield which was below between the two villages.

The walks are delicious and the houses in these two villages are very pretty.

In the country between them we rested a great number of times, because our circuit was of about twelve miles not counting detours. We admired the plants, the view, the cleanliness, the houses. The countryside is much more beautiful than in Paris.

212 Insertion.

100-37

Monday 23rd May.

After lunch at Mr Pringle's we went to see the organ made for the Princess of Wales at Carlton House, Pall Mall. There are seventeen pipes from eighteen inches to four feet, a weight of 400 pounds for the three bellows, one of 250 for the mechanism, which returns by itself to the start. There are keys to swell and decrease the sound, to change playing and so on, all in the one mechanism. Lincha designed the pipes²¹³. It cost £1,200. Started by Valrot, finished by Mr Merlin, 27/- per week.

I took Mr Condamine to Mr Simon for his business against Mr Hilton.

I went to see the machine of the port of London with Mr Magenis. It is made up of five large wheels and 72 pumps; each one makes 1,000 strokes in five hours during the rising tide, and 3,000 in seven hours during the falling tide. There is a dial which counts them.

It provides water to Temple Bar, White Chapel, High Holbourn, Shoreditch and Southwark.

There is a wheel which is on a mobile frame. By a crank and two gears the wheel can go up four and a half feet.

101-36

After dining at Mr G Neale's in Mark Lane we went to Lord Tilney at Wanstead, a superb castle six miles north-east of London; we passed through Mile End, Bow and Stratford. The house has a facade of 260 feet, made of freestone, an immense park and garden, orangeries, greenhouse, a stone grotto where all conceivable curiosities of natural history are assembled, a menagerie, lakes, cherries and apricots in greenhouses, flowers, antiquities, gilded and splendid apartments, another castle in view, an illuminated court.

There is a fire machine on the road to Bow whose tower was recently built. There are several hospitals on the way; there are many workshops for painted fabrics, many distilleries and a porcelain factory at Bow.

I received £5 for commissions on behalf of Mr Bailly at Mr Fonblanc & Theluss on Tower Street.

213 Insertion.

102-36

Tuesday 24th May.

I lunched at Doctor Pringle's with Bailli de Fleury, etc. We went to see the king's microscope, which cost 3,000 *pièces*, made by Mr Adam. It has all the lenses on a revolving disk and each one has its place; the mounting is of silver. It has a pointer between the oculars which distinguishes movement of 1/10000²¹⁴ of an inch to measure magnification.

The mansion of the Queen has the most beautiful staircase in London; painted there are the meal of Aeneus and Dido, their arrival in Carthage and the queen's zebra; Doctor Knight, who makes sarcastic remarks, inquired 'where are the guards for the ass?'

Then I went to see the machine at Chelsea which gives fourteen piston strokes; each one shifts eighteen gallons.

It burns nine caldrons of coal per week and the reservoir is in Hyde Park.

From there to New River Head. There are three reservoirs, two on the level of the river, one of which supplies the city and the other is an extension of the machine. The third is higher and the machine lifts water to it.

This machine has eight pumps and it lifts 100 barrels of water per hour with 120 gallons each turn, and it goes sixteen hours per day. A house gets 3/4 of an inch of water for 20/-.

From there we went with Mr Henri and Berthoud

214 Obscure; it may be 1/20000.

103-35

to Sadler's Wells, a small theatre where you are given wine into the bargain. You can take hold of women's breasts²¹⁵, throw pennies²¹⁶ onto the stage, howl at the actors, call out 'encore'. There were English ariettas, tumblers, a dancer on the trapeze who balanced a sword on a glass and a plate on the sword while shaking on the rope with a very great movement, beating of drums, boxing, etc.

Pantomimes, dances (coarse and popular, the French are often played), and scenery rather pretty and also practical.

We tasted public house beer at Sadler's Well's Tap House, and with ...

Wednesday 24th May.²¹⁷

Mr Berthoud, Mr Henri and I went Newgate, Charterhouse (where there are great walks), Moorfields, Bethlehem hospital, the Madeleine in Goodman Fields (where there are a hundred refugee girls), Well Cloven Square, Custom House, Doctor's Common, Intelligence House, Bridwell, and to the machine of London bridge which was stopped at the time.

The evening at Marylebone for the first time; the orchestra was very good and there were rather pretty singers. Admittance 1/-.

215 *on y prend les tetons.*

216 *des gros sols.*

217 The dates in the diary to the end of May are incorrect. Lalande used Tuesday 24 and Wednesday 24 instead of Wednesday 25.

104-35

Thursday 25th May.

I made various visits and I began my farewells. I prepared my books for shipping. I talked for a long time with Mr Robertson at the house of Nourse; he showed me his new edition of navigation and the demonstrations of trigonometric formulas, rather well made.

I gave him the program of the academy for stowing and I strongly urged him to make use of it. I dined at Mr Beaumont's, who must present us tomorrow, and in the evening we wrote to Mr Greenville, Halifax and Egremont.

Friday 26th May.

I went to see Mr Wilkes who recounted his history, his detention and the origin of the present war.

We went to St James where Lord Hertford was to present to us to the King, but Mr Condamine was late and we missed the hour.

We dined with Mr Beaumont. I wrote to Mr Montmirail and sent a memoir to him - 17 livres 4 sols.

(105)-34

Saturday 27th May.

We had lunch at Doctor Pringle's with Bailli de Fleury and we went to the house of the Queen. The King and Queen left at 9:30, as they have the habit on Saturday to go to Richmond, but the King gave orders that his pneumatic machine be brought at 10:00 for us to see it. Mr Adams came himself though he had much difficulty moving it. This machine was designed by Mr Smeaton who had come from Yorkshire, having much talent for machines. The two pistons act by way of valves on top which discharge them of the weight of air, and can compress or rarefy at will. It can rarefy two thousand times compared with the ordinary machines, which can only go to three hundred times.

In two large rooms there are many cupboards full of instruments, machines and books. The King is always occupied; in the evening he has concerts or sees his mother, or goes out with his wife, or talks with his ministers, or goes to the comedy or the opera; but he never receives anybody at his home.

Diary of a Trip to England 1763

106-34

The King said to Doctor Pringle that he knew I was to be introduced to him and that he knew my work.

The Duke of Buckingham, who was a Jacobite, had built this house to defy the King. His burial at Westminster was more beautiful than that of the King.

The King goes out in a small coach with only his wife, thirteen guards following him. A sailor threw a petition to him in his coach and the King took it. One does not enter the court when he is out in his coach. The King saw us when leaving his palace. He sent for one of his people and ordered that we be shown the queen's apartment, but he was not obeyed.

In the evening I was with Mr Maty the son in Long Lane Southwark to see the tannery and the preparation of the lime, pigeon dung and barley. In the evening Merlin came to see me as well as Mr — , whom I saw in Berlin and who is under-master in an academy of 80 children near Marylebone. The boarding school costs £30.

107-33

Yesterday in the evening constables were sent to Mr Condamine to compel him to leave the same evening. He gave them 2/- and they went away.

Sunday 28th May, day of the Trinity.

I went to the garden in Chelsea, the Physick Garden

hortus botanicus societatis pharmaceuticae londinensis 1686

Mr Miller has been there for 42 years.

In 1718 Mr Hans Sloane, who owned all Chelsea, granted this site in perpetuity to the apothecaries for £5 rent. Consequently they raised a marble statue to him in 1733 inscribed

qui hortum istum in botanices cultum et augmentum humanita assignavit

The building of the orangery and of Mr Miller is 90 feet long. On one side there are 90 feet of hot-houses and further 100 feet of another hot-house. This garden costs the apothecaries 200 *pièces* for maintenance. They subscribed for the building in 1735; the list of subscribers is in the main room.

Doctor Sibthorp gives lessons for six months; two lessons each

(108)-33

month, one in the countryside and the other in the garden where the medicinal plants are arranged in a square in alphabetical order.

Mr Willimir is the botanist at the garden in Oxford.

Mr Hill was expelled from the garden when he stole plants to sell.

Mr Miller has three or four gardeners. He says that he has 6,000 species. He promised to give me some seeds and dried plants for Mr Duhamel. The garden has a gate to the river. The spring tide of the last equinox flooded part of his garden, he had not seen the like for 42 years.

Mr Sloane's house on the river no longer exists.

Mr Dunn has his academy very close to the garden, towards the hospital. There are 500 invalids in the hospital and they are allowed to take their bread, their bowl and so on outside the hall.

Today was the festival of the restoration of Charles II. At 1:00 forty-one guns fired in the park and sixty-one at the tower, and people shouted 'huzzah'. The royal family was at the window

109-32

of the pavilion of Charleton House.

I saw in garden the *mahogani*, *arbor fraxini folio catesby his. caroli*. *Cedrela linnaei*, *fleur monopétale quinquapar. fructus instar coni, inf. cedrus, unde cedrela*.

I went to the Court at 2:00. I dined in my room and afterwards went to Mrs Majandi, Denmark Street. Then to Lord Hertford's, who wrote to all three of us²¹⁸, he is in Grosvenor Street.

I walked with Mr Bontemps in Green Park where there were many fashionable people. Tea with Mr Camus and the evening at Mr Condamine's, Suffolk Street opposite the envoys of Algiers. Those of the Canadian natives lodge very close by in the same street.

I saw Banqueting House at Whitehall where there is a ceiling by Rubens; it is now a church. The organ is near the window wall.²¹⁹

The two guards on horseback, who are on guard in two stone guard-houses, belong to the Horse Guards. There was a large gate on the other side which was demolished two years ago.

218 *pour nous faire écrire tous trois*

219 *contre les fenêtres murées*

(110)-32

Monday 29th May.

At 9:30 I left for Richmond (with Mr Condamine²²⁰), for 2/- by a coach from the Strand opposite Newchurch; we arrived at midday. On Monday, Tuesday and Saturday Richmond is closed and it was necessary to give a crown to the gardener, who received us with displeasure.

We entered by Richmond Green, a beautiful square of one hundred fathoms in any direction. We saw the lodge of the King, a small unassuming house, without furniture and whose rooms are low and narrow, rather ordinary. The late King slept there sometimes. We saw the knives with which he trimmed trees. There are old portraits from the last century and a small library for the King.

The gardens are a mile and a half long and a quarter broad. The terrace along the river is most beautiful and there is a salon on the edge. The spaces between the avenues are mown and seeded with corn, hay, etc. Of note is the place called the theatre, where comedy is played, the oval and the hermitage. At the end is the house where the queen lived when the King went to Hanover.

The salmon nets were lifted, but there was nothing in them. Lord Mair leases the fishing there. The tide rises there to flood the gardens, although the Thames is

111-31

very narrow.

Each year Caterpillars devour all the leaves.

There were many pheasants and hares, but the King let it decay and even to fall into ruins; the gardener says that he is miserly. It costs 1,000 *pièces*.

On the left is the beautiful house of Lord Northumberland, which was formerly a convent, and further on is Brentford. We did not have time to go to Richmond mountain where there is a very beautiful view.

At the end of Richmond park is the village of Kew (*Kiou*), the houses of the Duke of York, the two princes, Lord Bute and of the princess who is the most important and who grows older each year.

The gardens are a mile long and a quarter broad. There are groves and amphitheatres of foreign flowers and trees, and large birdcages with foreign birds.

The large Chinese tower has ten platforms and 253 steps; it is 172 feet high and is described in the Gentleman's Magazine, May 1763. There are eighty dragons.

There is a Turkish section; ~~called~~ the temple of Maures, very well copied from the ruins, and a Turkish mosque with the dome and

220 Insertion.

112-31

two minarets from where the priest calls the people.

The temple of the victory of the sun, ~~abay~~ designed by the King, Westminster Abbey, a large and beautiful stone orangery beside the house.

Mr Chambers has just published the plans on sixteen sheets, 48 French livres.

We took the post chaise to go to Hampton Court, passing Ham (where there was a fair) and Kingston - 6 miles, three-quarters of an hour on the road.

The castle of Hampton Court is ancient. It was built by Cardinal Wolsey as Whitehall and King William repaired it; it is all brick. Two large courts without counting the entrance buildings, large staircases where are painted the twelve emperors, the gods, etc. There was once a botanical garden under the direction of Plukenet.

The seven drawings of Raphael are in a small gallery, and represent the miracles of Jesus Christ and the acts of the apostles. Charles I liked it and he was imprisoned there. See *Tour Through Great Britain* I-237.

The gardens are extremely beautiful; great avenues, lakes, surrounded by walls.

We returned by Vauxhall,²²¹ twelve miles, in all 18/-. I had supper with Mr Condamine.

221 Faxall.

113-30

Tuesday 30th May.

I went to Hackney and I returned by the Hoxton Road. I saw Hoxton Square, well built and furnished with pretty trees and a lawn. Beyond is Charles Square, planted with trees which are shaped like sugar-loaves²²² at the expense of the inhabitants of square. It has only one entrance. Old Street which is not paved and Sutton Street where all the houses are in ruin, poorer and more unpleasant than in the most miserable villages.

To Doctor Bevis, who showed me two translations from the works of Condamine, one on the obliquity of the eclipse and the other on the voyage to Italy, which have never been published. The first was printed but Mr Halley, seeing that it was contradicted by Godin, did not want it to come out. The second he started to print himself when the book of Mr Thomas appeared, full of errors and ignorance.

In the evening I walked to Queen Anne Square, a small place which gives onto the park, where there is a small statue of Queen Anne. I saw the church of St John which is beyond there,

222 qui sont taillés en pain de sucre

114-30

the prison which is at the entrance to the cloister of Westminster near the gate, and the school of Westminster where forty young people are taught. They all sleep in an immense room where they are like pigs one beside the other. The school, where they are from 7:00 until midday and from 2:00 until 5:00, has only one room for all the teachers.

In their refectory the coal fire is in the middle on stone and the roof is open to let out the smoke. The brother of Sir James McDonald showed all that to me. There is a large new building in the cloister, intended for the side of a new square.

Mr Camus wrote a letter to the commissioners, telling them that he cannot remain here longer.

Mr Bevis came with me to Mr Condamine's.

Mr Berthoud and Henri returned from Oxford, Stow, Windsor and Buckingham, and came to see me in the evening.

115-29

June 1763

Wednesday 1st June.

I was presented to the King by the Count of Coventry, chamberlain of the week and by Mr Beaumont, resident of France; I also presented *La Connaissance des temps de 1763* to the King.

I dined at Dr Pringle's with Mr Camus and Mr Condamine, though I was invited to Mr Olivier's.

I walked with Mr Condamine. I met and talked for a long time with Lord Hertford who will be ambassador to France.

The Quakers presented their petition to the King.

There was, in the Public Ledger of the 30th, the adventure of Mr Condamine with Mrs Strafford, without naming her.

Thursday 2nd June.

I visited Camus and Condamine, Madam Boufflers, etc.

I dined at the Mitre. I went to the Royal Society and to the meeting of the Society of Arts; see page 167.

Mr Camus presented his report to the commissioners on the matter of Harrison to get an answer.

Friday 3rd June.

I went to Hackney to Mr Ellicott, to bid my farewell, and to the museum. I had dinner at the Pine-apple. I wrote to Madam Lepaute²²³, Mr Mairan, Romilli, my mother, Mr Genet, Adamson, Montigni, Fouchi, Arnaud.

223 *mad. lep.* I presume this is Lepaute as Lalande wrote to her earlier.

116-29

I want to leave on Monday. Mr Condamine, to whom I am necessary, showed me a letter from his wife who makes me her attorney so that I have care of him, and she wishes that I could be like a woman as she loves her husband. I promised him not to leave so that I would not be useless to him.²²⁴

Inserted in the Public Advertiser of the 3rd was a denunciation in French, made by Mr Condamine to the English nation, against Mrs Strafford.

In the evening we assembled at Mr Condamine's, including Bevis, Short, Maskelyne and Camus.

I went to see the machine of Northumberland Court, which belongs to the merchants, and which runs by the drain of Charing Cross.

I saw Mr Bird, who showed me the details of the two instruments for President Sarron. Mr Watkins took me there.

Saturday 4th June, the Birthday.

I went to the Court which was extraordinarily full. The Duke of Cumberland and Princess Amelia were there.

I dined at Mrs Dutens where I saw the beautiful clock which was made for the Grand Visir and which cost 300,000 livres of Tours.²²⁵ I saw Doctor Hill. He showed me the fifth volume of his history of plants with sixty illuminated plates, and made at the expense of the King and Lord Bute. He has a garden in Kensington with 2,800 species, it is not as big as Chelsea. He showed me resemblances between the metallic growths of several solutions and various mosses; but Lord Bute does not want him to take advantage of the reasoning.

In the evening I went to the ball at 9:00; the Duke of York opened it with Princess Augusta. Each person dances by a ticket according to his status. Illuminating.²²⁶

224 *je lui promets de ne pas repartir que je ne lui sois inutile.*

225 *qui coûte trois cent mille liv tournois.*

226 *chacun j'ai été* danse par billet selon rang. *illuminni*. The word *illuminni* runs over the page join onto the next page with the last two letters dubious.

117-28

Sunday 5th June.

I saw Mr Smollett who is ill. I went to the Court where we were to be presented to the Queen, but she was sick.

Dinner at Mr Beaumont's with Father Valette.

I saw the garden and the terrace of the Duke of Richmond in Spring Garden where he will have a ball on Monday at 8:00.

Visits of farewell.

Monday 6th June.

I saw Mr Wadington, Simon and Blaquiere at Greenwich with five women. Then I went by foot to Woolwich. I saw in King's Yard five vessels of 74, the forging mill for anchors and several other buildings. There are 500 workmen. At Gun's Warin, or Artillery park, a hundred French guns (of 36 or 42) from St Malo, Cherbourg, Foudroyant. I saw a ship which came from Lisbon discharging, which transported cannon-balls. I saw torn down about 500 spars.²²⁷ I *cried* over our misfortunes. I saw the foundry, the furnace where guns are melted down - it takes twelve hours firing - the moulds, the cores, the machine to drill the guns and the rope manufacture's rope-yard. I returned on foot to Greenwich and then went back to London at 7:00, for 6d.

I saw Mr Morris who gave me hope that the new tables of Mayer and the observations of Bradley would be published in the Philosophical Transactions.

I spent the evening at Mr Short's. Supper with Mr White, Misses White and Mrs Carrel, whose husband is in Caen where the son of president Folkes died. We saw the fireworks of the Duke of Richmond, his illumination, the rockets which were on the water. There were five hundred masks, but one needed clothing costing fifteen to twenty guineas.

227 *J'ai vu tirer de but en blanc a cinq cents yards.* Obscure. I have assumed *yards* is the English word for spars supporting a sail.

118-28

Tuesday 7th June.

I was with Mr Condamine in various places, the machine of London bridge, dinner at Mr Beaumont's with Mr Viri, Count Usson, Mr Bailli de Fleury, Father Valette, Maty and Pringle. We were sixteen that evening. Father Valette gave me his report in the form of a letter to the Father General. We were still to see Irwin's marine chair and to say good-bye to Father Couroyer.

Wednesday 8th June.

I went to Mr Short with Berthoud to see his equatorial telescope of 125 guineas, his large telescope of six feet focus.

To Mr Bird to see the sector intended for Philadelphia.

I had dinner at Mr Fothergill's niece²²⁸ and one of the principal Quakers, he who presented the petition to the King in the name of all. He has a beautiful shelly, the best arranged and the most elegant that I ever saw.

Mr Fothergill had a piece of wood where one can see camphor in the chinks, a chimney all covered with milk-vetches, a thin shell like an onion skin.

Then I took Mr Condamine to the New River, to the widow Roque and I returned to pack my trunk.

Mr Merlin came to see me in the evening and told me about the popular criticisms of which we are the object in London, among the clock and watch makers, especially Mr Berthoud.

Thursday 9th June.

I reserved a place on the coach near Westminster bridge.

I saw Mr Beaumont and from there I went to Cole's.

In Cupp Gardens opposite Sommerset House there is a malt vinegar manufactory. I saw a slate store in Westmoreland; I bought several books close to Whitehall.

I went to Westminster Abbey where I read the epitaph of John, Duke of Buckingham, died in 1721 (see page 154).

I went to see Mr Maty, etc. It was decided after long debates at the Royal Society that the observations of Bradley and Halley will be printed each year at the expense of the Society.

On the 10th of June in the morning I left London. To page 123.

119-27

Marine

Admiral Hawke is the only one of the white flag who is in a position to serve. Mr Knowles is the first of blue; those of the red, are next. He quarrelled with Lord Anson (and Pitt) who wanted Rochefort taken at any price, but for all these injustices the Duke of Cumberland compensated him by his friendship.

Admiral Hawke said that, in the matter of 20th of November 1759, if Mr Conflans had remained or if he had acted on his resolution to withdraw early, he could have done nothing when he approached; but he changed his mind too often. He esteemed Mr Clue, who behaved well in the business on the coast of Spain.

He said that there are no good ships in England, but those of France, Spain and Holland are good.

The naval academy at Portsmouth is made up of twelve masters paid by the state to teach thirty young people, who must be there three years and have a further three years at sea

228 *Diner chés m. fothergill nièce et ... ?*; the letters run into the centre fold and are obscure.

(120)-27

before becoming lieutenants.

Mr Robertson proved that the dock of Mr Bouguer is not practicable.

121-26

Marine Angloise

On the 20th May Admiral Knowles showed me the state of the English navy, which has 159 ships of the line, including those of fifty guns, and 179 frigates. There are only four of 100 guns and thirteen of 90. The vessels of 74 are those which are most built. One of the more esteemed is called the Fame has the following dimensions.²²⁹

Length of the flotation line	165' 6"
Length of keel	135' 8"
Width	46' 7"
Depth	19' 10 1/2"
Weight of the ship in tons	1566
Number of men for service	650

74 guns, Bird the shipbuilder, to the design of W. Bately Sq.

Drago 168', 137' 11", 46' 7", 19' 9", 1614, 650, 74, by Mr Hayes modelled on the French vessel the Invincible (it was taken by Lord Anson in the last war). He pointed out that almost all the French vessels of 74 were made on this model.

Another: 168', 139', 47', 18' 10", 1615, 650, 74, Torbays.

²²⁹ Lalande does not state the units he is using and I have assumed English measurements.

(122)-26

The Magnanime, one of the French vessels which is made much of in England, has following dimensions: 173' 7", 140' 7 1/2", 49' 6", 21' 1/2", 1833, 74. It was taken from the French by the ship Nottingham.

The English ships of one hundred guns are 2,000 tons.

Saunderland and Mungo-Murray are the two best authors on the construction of ships, but Mr Knowles is sure that they are, on the whole, not worth anything.

The 21st. Mr Knowles told us that of all the ships there were not fifty in a state to be used. Lord Bute had not taken enough care to have them repaired; he was obliged to pay too much money, he put the nation in debt, and the least misfortune would be disastrous for him. For this reason he made peace, but he had to hand over the fortifications of Havanne (fort Mooro) and Martinique.²³⁰

123-25

Philosophical Transactions in sheets. (They are 1/6 from the bookseller, 6 sols for stitching, 2/- for binding.)

1753 etc, 9/-, 12/-, 9/-, 10/6, 10/6, 12/-, 12/-

1760, 14/-, 12/-. Davis and Reymen in Holborn.

In the St James chronicle of the 7th is the address of the Quakers, which was given to his majesty.

Friday 10th June.

The 10th. At six o'clock in the morning we left from Westminster Bridge. We went by Greenwich Park and, at eight miles, Shooter's Hill from where all the city can be seen.

At 11:30 we arrived in Chatham which is thirty miles. A ship of 116 is being built there called the Victoire, and four ships of 90. We changed coaches there.

In Ospring, 46 miles at 3:00, we changed horses; Canterbury, 5:00, changed coaches. I went to see the church. I saw the tomb of the black prince, the stone on which T. Becket was assassinated.

Arrived at 8:00 in Dover and I lodged at the King's Head opposite the White Lion: conveyance 20/-, luggage 10/-, tips 1/-, lunch 6d. To lodge at King's Head: bed and supper 5/-, carriers and commissioners 2/-.

Saturday 11th June.

We sailed at 9:25; one and a half hours before the full sea; we arrived at 12:39. See page 152.

The Duke of Bedford left and he was saluted by the gun, ~~and the~~ of the port

230 *mais il aurait du venir sur les fortifications de la Havanne (fort Mooro) et de la Martinique.*

(124)-25

and by the house. I gave 12/- for my passage. It was the ordinary one so someone told me; Mr Minet had misled me by making me pay 15/-; see page 15²³¹. In all it cost me 56 livres up to my arrival in Calais²³².

I spent the evening with Mr Blondeau, hydrographer to the King in Calais, and Mr Genousse, ship builder to the King in Le Havre. I saw the Asfeld lock which closes a branch of the St Omer canal and a discharge canal; there is a revolving gate in the middle, and a stay gate²³³, to prevent the tide from going up the canal.

Mr Genousse told me that the additional bridge on the English ships, under the first battery, contributes much to the binding of their ships; their yards are shorter to catch the wind, their masts thinner and shorter, their stowage is good, they don't have to manoeuvre as much, they don't have pits for cables but they extend them to the middle, they have two pairs of bollards, which puts less load on one extremity of the ship, and their officers are better educated because they have more subordination.

Mr Grogard, Olivier, and Coulon are the most esteemed ship builders. Nevertheless they only have the title of carpenters, Mr Grogard missed making twelve flat-bottomed boats for the King because he did not have enough capacity.

An advertisement was posted for the sale of 110 flat boats with all their fittings at Roüen, for the profit of the King, by order of the controller general.

Mr La Motte in Brest is a young ship builder who is much esteemed.

Spain gave orders to buy all the ships which could be purchased in England and it appears that Mr Genousse has some similar commission from Mr Choiseul, because he made several voyages to England. He was in Plymouth

231 Insertion.

232 Probably 56 livres, but the ms is obscure.

233 une porte busquée.

125-24

but he could not see the basin, for which one needs an order from the admiralty.

The basin of Dunkirk is to be demolished, but it is much feared that it will not be possible to pilot the port.²³⁴

I saw the History and Analysis of the *Jasminium ramo uniflore pleno petalis coriaceis* du cap de b. e., exceed in beauty smell and duration every plant yet known to the botanist of Europe. Flowered in the curious garden of R. Warner, Esq. at Woodford, July 1758, written, designed and engraved by Mr George Dyon, Ehret, fellow of the Royal Society and member of the imperial academy antiquarian curios.²³⁵

Rundeletia arborestem tiaifacia plum. floruit eud. tampon.

I left Calais on Sunday 12th at 6:00, passed over the Pont Sans-Pareil two leagues from Calais (which is on the Calais, St Omer, Ardes and Gravelines Canal). The road passes above in the angle of the two canals; we took a boat to see it. We passed through Ardes, a fortified city. For bed and dinner in Calais 5 livres 16 sols. For the coach which drove us to St Omer, 12 livres 8 sols.

There were four of us and we arrived in five and a quarter hours though we went eight leagues.

In Calais I saw Mr Carpentier, admiralty proctor of the King, friend of Mr Guerin and of Mr Jerard of Paris, doctor at the hospital where there are 700 patients; he almost only sees them die on the high-seas.

The ferry from St Omer to Dunkirk goes every day. That from Calais to St Omer twice per week. The diligence from Lille to Paris every second day, 55 livres. The stage coach from St Omer to Lille twice per week, 9 livres.

234 *mais on craint bien qu'il ne faille piloter le port.*

235 English.

126-24

English and French grammar where each word has its pronunciation in the French manner with its quantity.

Scoundrel, pitiful fellow, base fellow, mean fellow, lean beast, rascal (Johnson).²³⁶

Sunday 12th June.

I lodged with the caretaker at the city hotel on the square of St Omer, I dined quickly at a table with officers of the Piemond regiment number 4 and the Chartres cavalry regiment.

We saw the church and the treasures of the abbey of St Bertin, where there are several very rich reliquaries and vases. We saw the cathedral where there was a carpet of flowers; the hospital makes it every year on the feast day of St Omer, in memory of a miracle.

There are six parishes and 27 other churches in St Omer and its surrounds. The house of the English Jesuits is one of the most beautiful; they are very much liked in St Omer. There is a house two leagues away in the jurisdiction of Douay²³⁷.

There are three gates, Nar, St Michel and Haut Pas, with large avenues of trees to each one.

We saw from the ferry one of the floating islands, 36 feet wide and 4 thick, a quarter of a league from the city, for twenty-four sols for 3. The boat was guided by a pole. We made a tour of the rampart which is extremely pleasant and is planted with trees.

St Omer is represented by a boat, because the sea came up to it in the past.

Monday 13th June.

For 12 sols I went to Watten, the large house of the Jesuits two leagues from St Omer. From the top of their tower can be seen seven fortified cities and the castle of Douvry. There are fifteen English novices, ten brothers, ten fathers and twenty servants. There are three arresting wardens. Since the 14th August they live on the money which they have diverted or which they draw from England; they have more than 20,000 livres income.

I went to see the house of the English Jesuits in St Omer, which is extremely beautiful; they took away the best to Bruges. To page 134.

236 In English.

237 *ressort de Douay*.

127-23

Literary anecdotes

In 1752 Mr Dollond the elder was a weaver, a silk worker in Spitalfields, who Mr Short attracted to the Strand knowing that he had some talent; he even paid his debts.

About 1728 Mr Hall had the idea of making an objective of two materials. Mr Bevis has a glass of this type; Mr Short knew the man who had worked for him.

Lord Macclesfield wanted to give the £10,000 longitude prize to Mr Bliss, and for this reason he opposed Harrison.

Mr Granville is the handsome brother of Mr Pitt and brother of Lord Temple. But that does not prevent Mr Granville from being a party at the Court, and others in the opposition.

For thirty years there have been no gladiators in London, Broughton was the last. His amphitheatre is still in Tottenham Court Road, north of Soho Square.

R—, who had invented the spinning top, perished with the great ship the Victoire and her 1,300 crew, no-one escaping from it. He feared the sea and would only go on a large ship.

128-23

Mr Simmer is in the country but almost on his deathbed.

Mr Smeaton is in Yorkshire superintending a canal which he is building.

Mr Harrison was a carpenter making carriages and carts. Mr Fergusson was a shepherd. Lord Morton said to Lord Bute that it was he who recommended Lord Macclesfield.

In the month of August 1762 the executor of Mr Bradley, in a letter given to the council of the Royal Society, offered to give his papers to the Royal Society. This letter was withdrawn by somebody. There was no mention of it in the registers and Mr Bliss told Mr Short that he could communicate nothing of it until Miss Bradley reaches 21 years and can send his papers to the Royal Society. See page 118.

Mr Bradley did not want to obey the council decisions of the Royal Society. They decided in 1748 that he would submit all the observations each year; formerly he had only given the variation of the needle and the inclination. He never did it.

There are twelve English judges including four on Kings Bench, four in Common Pleas and four on the Exchequer. Their judgements are under the jurisdiction of the House of Lords; some matters are under the jurisdiction of the King's Privy Council, such as those of ambassadors. There are nearly eighty advisers to this council but very little goes there.

129-22

Mr Wilkes, being sent for on Saturday by the ~~Duke of Newcastle~~ Secretary of State Halifax, refused to answer any of his questions and the Lord said that he was obliged to send him to the tower; Wilkes spoke to him about his pictures and admired his paintings. On Sunday everyone went to see him in the tower and Lord Temple wanted to send his coach to take him to Westminster where his business had to be discussed. Mr Churchill went away having been warned by Mr Wilkes.

Mr Ellicott told me that Harrison hated him so much that he had said he would give up the longitude reward rather than make his invention known to Mr Ellicott.

Mr Graham told Mr Pringle that the horology industry had improved much in France and that we would surpass them. He told Mr Short that French watches contained excellent parts and neglected ones.

Mr Jones, dead for a dozen years, printed the explanation of the tables of Gardiner. In May 1763 Mr Vaillant found six specimens in sheets, but they cost him 36/- or 41 livres.

130-22

On the 12th of May Mr Baskerville wrote to Mr Nivernais by sending a specimen of his characters to him and, having lost his only son and wanting to retire, offered the King of France his font, its secrets, etc for £800,000.

The hubs of cart wheels have a flange which covers the axle pin; it has a notch by which one can put in the pin. There is less fear that it will fall out if it comes loose.



Before the tax on brandy and the prohibition on selling small amounts, the people wasted away and woman lost their children.

About 1690, William III signed an order to slaughter the people in a village of Scotland, and no-one knows who gave this order, not even the Secretary of State.

The Royal Society has an income of about £1,000, each English member giving a shilling per week, 52/- per annum. There are 350 members. It is thinking of buying a large building; previously it had met at Gresham College, but it had a dispute with the professors.

The address of City of London to the King only appeared on the 15th of May and was made in the absence of the Lord Mayor, who is strongly opposed to the ministry and the peace.

(131)-21

The Covent Garden theatre employs 200 people who receive from 30/- to 10 guineas per week, but only during the time that it is playing. They are not paid during the four months recess. The production of plays sometimes costs as much as £700 = 6,000 livres of Tours.²³⁸ For some “benefits” they remove the ~~boxes~~ scenery and build tiered seating on the stage.²³⁹

The formulas of royal approval are: ‘the will of the King’ and also ‘thanks his good subjects’; or ‘the advice of the King’ which is a sign of reprobation.

One of the most beautiful signs that I saw is that of Tounshend, alchemist to His Majesty in Hay Market. It is of iron, worked with art and supported by two stone pyramids.

Abbot Le Blanc said in his *Letters* that there is no law against those who buy votes for election; but I have seen in a paper that a man was condemned to prison for one year and fined for similar soliciting.

Mr Knowles told me that it was necessary cut off the head of Lord Anson when with Mr Byng, for the reason that he had to be put to death. Moreover he liked money. He wanted to spare himself to catch prizes and grow rich. For this reason he did not fight.

238 *livre tournois.*

239 *Dans certains benefit ...* I assume Lalande could not translate *benefit* into French; he may not have understood what he had been told.

(132)-21

At the comedy one shouts 'encore' in French.

The bayettes or white flannels of Colchester are whiter than ours; our makers in Beauvais would be extremely curious to know how they are degreased and bleached. Degreasing is done with clay and bleaching by washing with soap several times.

If a great lord spends two days with his neighbour and he gives twelve louis to the servants they will not be satisfied.

Miss Chudleigh, first lady-in-waiting to the Princess of Wales, gave a superb fete with fireworks and so on, on the 18th of May. She is kept by the Duke of Kingston who had Madam La Touche, who someone said Abbot Le Blanc had taken away from him.

The widow of Lord Ferrers has been to the Court since her husband was hung. She will marry a young Lord, a relative of Hamilton.

There is more similarity between the manners of France and Scotland than those of England; they kiss the women of visiting strangers, etc.

The innkeeper of Canterbury who made Mr Nivernais pay forty louis for lunch was given up by the English. He was obliged to come to him to make excuses, saying that he was drunk, and he requested he come there again.

Madam Boufflers has assured me that she went a mile in five minutes on her trip to Bath and Bristol.

133-20

Journals

Morning:

Daily Advertiser.

Public Ledger.

Gazetteer and London Daily Advertiser.

Public Advertiser.

London Chronicle or Universal Evening Post.

The London Gazette, published by authority.

Lloyd's Evening Post and British Chronicle, in 4to.

St James' Chronicle or British Evening Post. Baldwin White Friars Street.

Political Controversy or Weekly Magazine (Monday).

North Briton (Saturday).

Monthly Review, Becket in the Strand.

Notes of the House of Commons.

The whole proceedings on the King's Commission of the Peace (criminals).

At the head is the Gentleman's Magazine.

I saw in 1766, Say's Craftsman, which appears each week.²⁴⁰

240 Later addition.

134-20

The Beauties of Shakespeare by W Dodd, two volumes, 1757 Waller opposite Fetter Lane Street.

Kent's Directory, addresses of all the merchants.

From page 126.

As much as they are liked in peace, the doorkeepers were attacked several times and were in danger for their lives. There are eleven Jesuit houses in the jurisdiction of Douay. The President is in favour of them, but they also have enemies.

I returned from Watten by the ferry to Dunkirk which runs daily. It costs twenty or thirty sols depending on how far you travel. From Dunkirk to St Omer, one leaves at 7:00 and arrives at 5:00. There are two horses which draw the coach.

Tuesday 14th June.

At five o'clock in the morning I left the square of St Omer in a coach with eight places. At 8:00 we passed Aire Sur La Lys, a fortified city; 10:15 at Lillers. Dinner at Béthune, a fortified city whose ramparts are extremely pleasant. Dinner 22 sols. Passed Bassée which is five leagues from Lille and Fournes which is three leagues. Coach, 9 livres; trunk, 2 livres; total 11 livres.

Lille. I lodged at the Petit Bourbon on the grand square, opposite the Stock Exchange. We travelled in a hackney carriage for two hours to go and see the church of St Pierre, Ramponeau, a very pretty tea-garden, the citadel, the arsenal, the esplanade, the riding academy, the state store, the general hospital, the shores of Basse-Deûle, the new bridge, Luik and the Ypres canal. While passing we saw the *Nouvelle Aventure*, a very beautiful tea-garden close to the gate of Dunkirk. I paid to St Omer 6 livres 10 sols. I lost my red frock coat there. In Lille, to see the city and for supper 4 livres 10 sols, for my seat, 55 livres 6 sols; for my trunk 4 sols per stage.

Wednesday 15th June.

I left Lille at 4:00 am. It is fifty leagues from Paris. One travels twenty leagues the first day and thirty the second. We changed horses at Pont à Marcq, three leagues from Lille, at 8:00. We arrived at Douay which is seven leagues from Lille.

To page 152.

135-19

Atalantis, a famous book written about that time by a woman; full of court and party scandal; and in a loose (*lascif*²⁴¹) effeminacy of stile and sentiment, which well suited the debauched taste of the better vulgar. Pope note on verse 165, third canto of *The Rape of the Lock*.²⁴²

A Plan of the English Commerce by Rivington, at the Bible and Crown at St. Paul Church Yard, 1728.

A quadrant by Bird, eight feet diameter. £350 and £10 for packing = 8,270 livres.

Objectives of eighteen feet by Dollond, 1/6 per foot. Achromatic objective of two feet, 1 guinea and the assembled glasses, 2 guineas.

An extremely pretty gilded watch chain 6/-, Henry Nettlehipp, Cheap-side near Honey Lane; an enamelled chain for 18/-.

A three-colour gold chain, 13/- in Moorfields at Mr — who Mr Lescalier addressed to me. Everyone at Mr Beaumont's wanted one when I showed mine.

241 Insertion.

242 English.

136-19

The accommodation of Mr Camus in Suffolk, three *pièces* down and one in addition for the servant, two and a half guineas per week.

The twelve coal bags which make 36 bushels and a caldron are the load of a car with four horses. Bushel: 17p 4li diameter, 7p 9li high. It is measured to the top.

Sets of 52 charts cost 18d.

A table of 3 feet diameter of mahogany which stands ...

Burgundy wine costs 2/6 for cartage and rights according to Mr Lescalier. He sells it for 7/6. It is sold for 10/- in the taverns. He pays £17 import per barrel of 250 bottles (31 sols the bottle²⁴³). That for port²⁴⁴ is approximately £5.

A pint of beer (which costs half a sol, 1 3/4 sols, or 2 sols, depending on the quality) is three and three-quarter inches in diameter, and three and a half high.

The acre of one hundred perches square of eighteen feet made 36,864 English feet.

Those whose perches are twenty-two feet = 55068 and the English acre, 43,560 smaller by a fifth = 1210.

(137)-18

The Gazetteer and London Daily Advertiser is published every day and 4,000 are printed. It is a much esteemed paper. Mr Vaillant is one of the 20 owners. They provide all the funds and advances, and it is sold to their profit. They pay the printer if he is put in Newgate or goes to King's Bench for having written too personally against the ministers.

Mr Vaillant rents a house for £40, he pays 35/- for the windows independent of the owner who pays 1/5 of his income in tax. This tax varies because it depends on the declaration which was made during the settlement of the tax.

All the houses are marked with the number of the fire insurance and that for the furniture.

One pays £25 board to a small private individual like Mr Cole. He provides light, washing &c = 570 livres. £20 near Christ school.

Mr Camus pays 18/- per week for a servant.

Mr Condamine pays £12 per month or £3 per week for a glazed coach.

Mr Condamine with a courier hired a small ship to Calais for 3 louis; which was much faster than the steamer, but he needed a louis for the boat.

243 Insertion.

244 *port*. I assume the English word.

138-18

Treatise on Commerce by Joshua Child.
 Gee on trade, highly esteemed.
 A political Survey of England by Campbell, under press.
 Husbandry, work on the rural economy at Owen's near Temple Bar.
 Court and City register. 2/-. Printed each year, and containing details of the army, the court, the navy, Parliament, the pledges of each person.
 Hudson Flora anglicana 8vo 1762 - drawn from the varii sinopsis, and Linnaeus.
 A Collection of the parliamentary debates from the year 1668 to the present time. Vol. 19 for 1740.
 A new universal etymological English dictionary, Bailey, Scott, (by Osborn 1755).
 The parliamentary or Constitutional history of England. 8vo. 24 volumes 2nd edition 1762. Millar.
 A Compleat Guide &c. the addresses of all the merchants, and departures of all the stage Coaches.

(139)-17

If guineas are equated to louis the par of exchange is 31 1/2. The exchange is usually below par and it was 29 1/2 during the war. It is currently 32 1/4 because the funds in France have taken some credit and the English send a lot of cash; exchange costs 2.5% and transport of money to Paris costs only 1%, so there is an advantage in sending cash. Portuguese coins are sent, because guineas are contraband and a felony.²⁴⁵

fifty collectors of excise at £250 year	12,500
50 supervisors at £100	15,000
4 000 excise men at £50	200,000
	<hr/>
	227,500

which at £3 percent is a sum sufficient to discharge the interest on £7,400,000.²⁴⁶

Supplies for 1763, £10,000,000 = 230,000,000; London Chronicle 30 April 1763.

²⁴⁵ The exchange rate is explained by Lalande in a note on page 153.

²⁴⁶ English.

140-17

Of the measures of Scotland compared with those of England by James Gray p.200. Essays and observations Edinburgh 1754. 8vo vol 1.

The Scotch foot is 12 1/15 English inches.

	troy
grains	
the troy ounce being equal to	480
the scotch ounce is equal to	476
the avoirdupois ounce is	437 1/2

By an accurate comparison of standard weights made at London the avoirdupois pound was found equal to 7,000 troy grains (phil. trans. No. 470)²⁴⁷

The English foot is to the French foot :: 15:16.

The English cubic inch is to ours :: 3375:4096.²⁴⁸

It is necessary to remove 1/(5.5) from English solid inches to convert them into French solid inches.

Thus a gallon of wine (of 231 inches²⁴⁹) contains $190 \frac{1385}{4096} = 3 \frac{23}{24}$ pints of Paris.

The bushel contains 1794.1 French inches.

The troy pound is to the avoirdupois pound :: 9:11 :: 5760 grains is to 7000 and to the French pound :: 5760:7560.

The troy pound is divided into 12 ounces, the avoirdupois 16 ounces.

175 ounces troy make 192 ounces avoirdupois. But

175 pounds troy make 144 pounds avoirdupois because

$$175^{12}/12 : 144^{16}/16 :: 175 : 192 :: 175 : 4/3 \cdot 144$$

According to Invi guineas weigh 157.7g and louis 153 1/2. difference 4.2g = 13s 1d 2/4; checked and exact.

But in 1785 Mr. Bourgeois found 17s 7d 3/4. The guineas are

247 The above in English.

248 From the 15:16 ratio. The ms reads 409... .

249 Insertion.

141-16

of a finer standard, of Portuguese gold, the one ... according to Mr. Bourgeois.²⁵⁰

Louth, a short introduction to english grammar, Millar in the Strand, Dodsley in Pall Mall 1762, he promises a new edition.

Hume's history of England 6 vol. 4to. from Julius Caesar to William 3.

New experiments and observations, Franklin, the third ed. 1760. 4to (Henry and Thomas Cave at St John's gate. 2/6. He refutes Abbot Nollet).

The great charter, and charter of the forest, with other authentic instruments and introduction, by W Blackstone esq. Oxford at the Clarendon Press. 1759. 4to.

Locke works. 3 vol. fol. 1759.

Francis Bacon works 1753. 3 vol. fol. by Mr Mallet.

A treatise of algebra, Maclaurin, 8vo 2nd. ed. 1756. Nourse.

An introduction to natural philosophy Keith 5th ed. 8vo 1758.

The method of fluxions, with the demonstration of Mr Cotes' forms of fluents in folio²⁵¹ part of his trigonometria, by Nicholas Saunderson London 1756: 8vo Millar in the Strand.

250 This later marginal note (at the foot of page 140 and continued at the top of 141) is very difficult to read. My best guess is: *mais en 1785 m. Bourgeois trouver 17s7d et trois quarts. Les guinées sont d'un titre plus fin, d'un or de portugal, l'on y chatonille moins la ??? de suivant m. Bourgeois.*

251 in 2.

Diary of a Trip to England 1763

142-16²⁵²

Tables of antient coins, weights, and measures, by John Arbuthnot. 1754, 4to (Browne without Temple Bar, Millar in the Strand), 2nd edition. (Molini edition of 1747 large 4to 18/-²⁵³)

At the end of this work there is a table of modern measurements.

The following weights are from *asensch*[?] given in troy grains

Strasbourg ounce	454 3/4
Strasbourg pound of 16 ounces	7276
Nuremberg ounce	491 7/8
Nuremberg pound of 16 ounce	7870
Paris medicinal pound of 12 ounces	5670
The medicinal ounce in Germany	460 2/3
The carat for weighing diamonds	151 3/10

Table of the gold and silver weights of Several Countries from *Greaves* given in English troy grains.

Roman ounce	438
Roman pound of 12 ounces	5256
Spanish ounce	443 1/2
Spanish pound of 16 ounces	7090
Venetian ounce	460 2/3
Venetian pounds of 12 ounces	5528
Neapolitan ounce	412 1/2

143-15²⁵⁴

	grains
Neapolitan pound of 12 ounces	4950
ounce at Florence Pisa and Leghorn	440 1/2
their pound of 12 ounces	5286
Genoan ounce	405 1/2
Dutch ounce	570

& c

9216 grains of French weight = pound = (see the preceding page)

1lb. 3oz 15 pwt 0 gr reduced to troy weights

There are 20 pwt in the ounce and 24 grains in the pwt.²⁵⁵

thus the avoirdupois pound = 14 oz 6 gr 1 scr 13 1/3 g
= 8533 1/3 grains

troy = 12 oz 1 gr 1 scr 13.8 g

= 7021.68 grains

Paris bottle of wine = 1 pint

pint = 2 pints

setier = 2 gallons

muid = 1 1/7 hogshead, wine, beer, cider

Paris bushel = 785.34 solid inches = 1 4/9 peck nearly, (corn flour).²⁵⁶

The arpeute or French acre = 55206 square English feet = 1 1/4 English acres.

In freighting of ships by a tun is meant 2,000 weight, there being reckoned 112 pound to the hundred (avoirdupois).

In the same book there is a table of the moneys of all Europe.²⁵⁷

252 Except where noted this page is in English.

253 Inserted note, French.

254 Except where noted this page is in English.

255 This and the following 4 lines are an insertion in French overlapping with the following entry.

256 78534 in the ms.

257 French.

Diary of a Trip to England 1763

(144)-15

English square measures

inches					
144	feet				
1296	9	yards			
3600	25	2 7/9	paces		
39204	272 1/4	30 1/4	10.82	poles	
1568160	10890	1210	435.6	40	Rood
6272640	43560	4840	1743.6	160	4

English measures of capacity

Wine measure

solid inches			<i>little used</i>		<i>little used</i>				
28 7/8	pint								
231	8	gallon		used					
4158	144	18	rundlet						
7276 1/2	252	31 1/2	1 3/4	barrel	used				
9702	336	42	2 1/3	1 1/3	third	used			
14553	504	63	3 1/2	2	1 1/2	hogs head	used		
19279	672	84	4 2/3	2 2/3	2	1 1/3	punchion	used	
29106	1008	126	7	4	3	2	1 1/2	butt	
58212	2016	252	14	8	3	4	3	2	tun

English corn measures are raised from a winchester 272 1/4 solid inches

inches						
34 1/32	pints					
272 1/4	8	gallon	peck			
544 1/2	16	2	peck			
2178	64	8	4	bushel		
17424	512	64	32	8	quarter	= 21 1/2 bushels of Paris

17203 in my copy.²⁵⁸

258 The last line of the table is written in the margin. It probably reads 17203 dans mon imprimé. See also page 148.

145-14

On the trade of England

The penny loaf or two half penny loaves to weigh	wheaten, white	0 lb.	12 oz.	1 dr.
	household, economy	1	0	6
The two penny loaf	wheaten	1	8	3
	household	2	0	11
The three penny loaf,	wheaten	2	4	4
	household	3	1	1
The peck loaf to weigh 17lb 6oz 0dr		1s	11d	0f
		1	5	0
The half peck loaf to weigh 8lb 11oz 0dr		0	11	2
		0	8	2
The quarter loaf to weigh 4lb 5oz 8dr		0	5	3
		0	4	1

Sixteen drams make an ounce, and sixteen ounces a pound.

The price of salt, set by order of the court of lord mayor and aldermen dated the 21st of October 1735 is two shillings a bushel, 56 lb. to the bushel.²⁵⁹

Every Tuesday there is printed a paper which gives, from the parish clerks, the number of (births and) deaths in each parish, and diseases and causalities, the deaths of each disease, abortive, aged, apoplexy, etc.

259 All the above in English.

Diary of a Trip to England 1763

(146)-14

The London Chronicle or Universal Evening Post from Tuesday 22nd to Thursday 24th March 1763.

	Price of corn	
wheat red	30 to 32	shillings
ditto, white	30 to 32	the quarter
Rye	26 to 27	
Barley	22 to 25	
Oats	16 to 21	

Price of bread, the quartern loaf wheaten 5 1/2d, household 4d.

Christened males 170, females 133 in all 303. Buried males 277 females 275 in all 552.

A quarter according to Mr Lescalier contains 2 bags. The bag 4 bushels, the bushel 4 pecks.

~~The peck weighs 8 pounds, the bushel 32, the sack 128, the quarter 256.~~

In the Negotiator's Magazine p.359 it says that 19 setiers make 10 1/4 quarters in London and thus they are 76:41. Thus the setier weighing 246 lb, the quarter weighing 456, a bag 228, a bushel 60, a peck 15 pounds. Thus it costs 1 1/2 d the pound ~~avoirdupois~~ of France

4 inches high,
 3 inches top diameter, Pint of milk, 1 penny
 1 3/4 bottom diameter.
 2p. 3li. 1/2 bottom diameter,
 4. 8 high Another pint
 3. 0 top diameter.

147-13

112lb weight in England makes 104 in France.

A caldrion cart for pit coal holding 836 bushels costs 40/- in winter, 36/- in summer; a small bushel lasts 2 or 3 days. See pages 151, 136.

London uses 700,000 caldrions per annum.²⁶⁰

A room in the city of first quality costs 7/- per week, but one also finds some at 1 sols per day, as one can find dinner for 3 sols. Bread and beer cost less than in Paris. In the places where one can eat for 3 sols the costs are attached to the table and they go down one by one in a scale for paying exactly.²⁶¹

The English yard is 3 English feet, the English foot is 15/16 of that of Paris.

11 inches 3 lignes 162.²⁶²

20²⁶³ perches make 16 Parisian ells.

100 ounces of Portuguese gold weighed in London makes 101 1/2 of them in Paris according to Mr Mavit.

Portuguese gold in species, gold coin, is worth £4-0-9d the ounce in March 1763.

Silver in standard bars, fine silver 5 shillings 6 3/4 d. In January it was 5 shillings 5 3/4 d.

260 Insertion (transferred from the cover?).

261 *le Couteau est attaché à la table*

262 *11 p. 3 li 162*; an added note (from the cover?).

263 Probably 20.

Diary of a Trip to England 1763

148-13

Course of the exchange on the March 18, 1763 1 day's date - 32 1/8, according to a small ticket which is printed the day after.

The 3% bank are sold at 96. They went down during the war to 61 1/2 from 103 where they were before the war.

A gallon of wine or beer contains 4 Paris pints, a barrel of 36 gallons of strong beer costs 27 to 28 shillings, small beer 10 to 12.

A quarter of corn is worth 30/-. It contains 8 bushels, or 17,203 English cubic inches.

A stone of meat is approximately 14 lb and costs at least 20d which amounts to ... French livre. Calf costs about 5 to 6 pence a lb and there is also meat for the poor at 1 1/2 pence.

Rum or eau de vie de sucre is worth 9/- to 12/- the gallon, the puncheon (of wine) contains ~~103 or 104 gallons~~ 84 gallons of 231 English inches each.

Brandy or eau de vie de France 10/- to 12/-.

Arack or palm tree spirit of the Indies 12/- to 16/-.

Gin 7/- to 8/-.

(149)-12

There are in England, in March 1763, 28 thousand French prisoners, perhaps about 25 thousand died; colds were especially disastrous to them.

Buck ashes of hay contain 36 trusses of 50 lb. each and are worth 50/- to 3 livres.

Straw 23 to 24 shillings.

Cloth is worth 17/- to 18/- the yard and 4 1/2 yards make a complete costume. The black of England is not worth anything, but the blue is very good.

Shoes 8/- or 6/6 depending on their shape.

Silk stockings 13 to 14.

Wool stockings 5 to 6.

A hired horse from 3 to 5 shillings per day.

A glazed coach 10/- or 13/-.

A pound of candles 7 pence.

Mocha coffee 5 to 6 shillings.

Contraband Jamaican coffee 2/- to 3/-.

Good tea from 5 to 15 shillings. Green tea from 8 to 21.

Chocolate from 4 to 6 shillings a pound.

A pound of sugar 8 to 9 pence.

150-12

Mr Nivernais has 50 servants not counting secretaries, costing 20,000 livres per month for board and wages. His house costs 20,000 livres rent fully furnished.

Mrs Steele, Bell Alley Colman Street asks 18/- per week for a room and meals.

The british merchant computes the value of labour to that of the land in England to be as 7:2. He supposes the people in England to be 7 millions, and each man on average to expend £7, which makes the whole annual consumption of England 49 millions, 45 millions of which he supposes to be our own product, 4 millions foreign commodities; and the rents of the lands he makes 14 millions.²⁶⁴

Mr Bielfeld institutions political 1760 p.508 estimates the United Kingdom at 8 million, Portugal and Spain 10, Italy 8, Switzerland, Germany and the Netherlands 30, Denmark, Sweden and Norway 6, Russia 18, Turkey approximately 50. (undoubtedly 20 in France.²⁶⁵) The total for Europe is 150. Asia 500, the Africas 150, the Americas 150. Total 950. See Riccioli, Specht, Susmilch.

264 English.

265 Insertion.

151-11

62 shillings are cut out of a pound troy of silver (an essay upon money p.54).

44 1/2 guineas are cut out of a pound troy.

62 pence or 5/2d is said to be the mint price of silver. £3-17-10 1/2 the ounce is the mint price of gold.

The silver to be 11 oz 2 dwts fine.

The gold 11 oz or 22 carats fine.²⁶⁶

Repeater watch made by Ellicott, 70 louis, to Mr Nivernais.

A bushel of coal 1/- and 1d to deliver; see page 147.

60 are burnt in an ordinary chimney.

Some time ago it cost double because it is regulated in this respect.

Bricks cost 2/- the hundred. They are 8 or 8 1/2 inches long 2 1/4 or 2 8/11 thick and 3 2/3 wide. They are made on the Hampstead Road. It follows that a cubic foot is worth 9 sols and 894/1000 nearly ten sols.²⁶⁷

My bag cost me 16/- on the 24th May.

Green oysters 144 for 3/6.

Each visit to Dr Pringle and the most skilful doctors such as Mead²⁶⁸ are 24/-. I believe that Mr Pringle earns £5,000 each year.

266 All the above English.

267 2 8/11 ... de la il suit que le pied cube vaut 9 sols et 894 milliemes a peu près dix sols.

268 mead, dubious.

152-11

A cup of coffee, small, 3 pence = 6 sous in London.

One cannot have a servant at home for less than 14/- or 16 livres per month. Mr Frisquett who never wished for less gives 8/- per week to his boy.

In some places I encountered pumps on main roads, with cups hanging from them²⁶⁹.

Bridge Street, a new street, is 50 feet broad including the foot paths.

The passage from Dover to Calais is generally faster than that from Calais to Dover because of the tides; the former is sometimes done in two and a half hours.

From page 134

At 11:00 we arrived at Cambrai, twelve leagues from Lille and 38 from Paris. We dined there. I went to see the very old-fashioned archiepiscopal palace and the metropolis, where there are many marble-mason's yards.

We departed at 1:00 and arrived at 6:00 at the hotel of the women of Peronne, eight leagues from Cambrai and thirty leagues from Paris. There are five parishes and seven convents, approximately five thousand souls. It was never taken. We left there at midnight.

Thursday 16th June.

Arrived in Airoi at 4:30, in Goum at 7:30. It is 18 leagues from Paris. We lunched there. Pont sur Oyse 10:30, twelve leagues from Paris; we dined there. We set out again at midnight and arrived in Paris at 7:00. The 16th.

Hackney carriage, tips, four livres. The total expenditure for my return by St Omer and Lille was 173 livres.

269 *avec des tasses pendues.*

153-10

1000 grounds²⁷⁰ are worth 6.8 French livres.

The crurade is 400 grounds.

6/9d = 7 livres 14 sols, 1200 grounds.

Double crurade 1100?

The Portuguese piece 36/-, 6400.

9/- ?

30 sol coins to 3 crowns and 3 fleurs de lys weight in St Omer; guineas, old louis, the pieces of 35 livres 10 sols etc. There is an almanac in Lille in which is printed all the old moneys of France.

When the exchange is at 29 it indicates that one gives 29 pence Stirling for 3 livres.

On my return I owe 334 livres which, with the 843 that I took with me, makes 1,177 livres the total expenditure of my voyage to England from March 4th until June 17th, 1763.

Total 1177 livres.

270 *Rèz.*

154-10

6.9 ~~4 1/2~~ The piece of 4 sh 1/2 is the 1000 Rez or 5 livre 3s.²⁷¹

Epitaph of the Duke of Buckingham in the chapel of Henry VII on the left:

Dubius sed non impius vixi
incertus morior non perturbatus
humanum est nescire et errare.
Deo confido
omnipotenti benevolentissimo
ensentium miserere mei.

see page 118

This Duke was miserly and little esteemed. He built Queen House. He had a natural son by a lady who passed for his daughter. He had put in this epitaph: *Pro rege saepe, pro patria semper, et ensuite, Christum ad- veneror, Solidum confido.*

Art of poetry, Bishe, 8vo. It is a collection of the most beautiful passages of the English poets.

(155)-9

There are Portuguese gold coins worth 4 1/2 sh, 6sh 9, 13sh 6d, 9sh, 18sh, 1 liv 7sh, 1liv 16sh, 3liv 12sh.

Hay Market is 80 feet broad, including the foot paths. Bridge Street 50 including 12 for the foot paths.

There is still development around Marylebone, Berkley Square, Oxford Road. During the last 6 years 20 streets were constructed around Cavendish Square.

One can eat extremely well and have what one wants at the Pine-apple near to Ponce coffee house, for 1/-. Mr Condamine ate there the day of the Trinity.

It costs 3/- per week to put a horse to pasture.

The maps of Mrs Roque cost no more in Paris than in London because she exchanges with Julien, the red. 5 shillings a piece for plans, which are on the same scale, of the surroundings of London and Paris, 2 1/2 for those of the cities of London, Paris and Rome.

Flint glass 2/6 a pound.

St John Street near Smithfield is lined by wooden houses, houses in ruin. Old street is not paved.

Westminster bridge has only 1,000 feet of railing, the remainder is the abutment.

In Bridge Street Westminster all the signs are put against the walls.

The weather cocks carry 4 arms to direct the on-lookers.

271 See also page 153.

Diary of a Trip to England 1763

156-9

English yards	French feet			French ells	French feet		
	feet	inches	lignes		feet	inches	Lignes
1	2	9	9	1	3	7	10
2	5	7	6	2	7	3	8
3	8	5	3	3	10	11	6
4	11	2	0	4	14	7	4
5	13	11	9	5	18	3	2
6	16	9	6	6	21	11	0
7	19	7	3	7	25	6	10
8	22	5	0	8	29	2	8
9	25	2	9	9	32	10	6
10	27	11	6	10	36	6	4
11	30	9	3	11	40	2	2
12	33	7	0	12	43	10	0
13	36	5	9	13	47	5	10
14	39	2	6	14	51	1	8
15	41	11	3	15	54	9	6
16	44	9	0	16	58	5	4
17	47	7	9	1/2	1	6	11
18	50	5	6	1/3	1	2	7
19	53	2	3	2/3	2	5	2
20	55	11	0	1/4	0	9	5
3/4	2	1	2 1/2	1/5	0	8	
1/2	1	4	9 1/2	1/8	0	4	8
2/3	1	10	6	3/8	1	2	1
1/3	0	11	3	1/6	0	7	3
3/8	1	0	7	1/16	0	2	4
1/4	0	8	5	3/4	2	4	4
1/5	0	6	9	5/8	1	11	6
1/6	0	5	8				
1/8	0	4	2				

(157)-8

half crown 2 liv 17sols 1 5/7 den

				livres	sols	den			
1 penny					1	10 1/2			
2d					3	9			
3d					5	8 1/2			
4d					7	6			
5d					9	4 1/2			
6d					11	5 1/7			
Shillings	livres	sols	den	Pounds	livres	sols	den		
1	1	2	10 2/7	1	22	17	1 5/7		
2	2	5	8 12/21	2	45	14	3 3/7		
3	3	4	6 12/21	3	68	11	5 1/7		
4	4	11	5 4/7	4	91	8	6 5/7		
5	5	14	3 3/7	5	114	5	8 4/7		
6	6	17	1 5/7	6	137	2	10 2/7		
7	8	0	0	7	160	0	0		
8	9	2	10 2/7	8	182	17	1 5/7		
9	10	5	8 4/7	9	205	14	3 3/7		
10	11	8	6 6/7	10	228	11	5 2/7		
11	12	11	5 1/7	11	251	8	6 6/7		
12	13	14	3 3/7	12	274	5	8 4/7		
13	14	17	1 5/7	24	548	11	5 1/7		
14	16	0	0	25	571	8	5 6/7		
15	17	2	10 2/7	30	685	14	3 3/7		
16	18	5	8 4/7	40	914	5	8 4/7		
17	19	8	6 6/7	50	1142	17	1 5/7		
18	20	11	5 1/7	60	1371	8	6 5/7		
19	21	14	3 3/7	70	1600	0	0		
20	22	17	1 5/7	80	1828	11	5 1/7		
21	24	0	0	90	2057	2	10 3/7		
100	114	5	8 4/7	100	2285	14	3 3/7		
120									

158-8

The ordinary embassy of 150,000 livres, there are accessories of 50. Thus it costs 200,000 livres. Mr. de Guerini still contributes to his, because he does not have a month that his house does not cost him 1700 *pièces*, is what Mr. Lescalier told me on March 9, 1765. Mr Beaumont's son is a sub-delegate and is elected. With enthusiasm he worked at Mr de Sauvigny's. He was known there by Mr Michel who was then tutor to the son of Mr de Sauvigny, was soon known by Count Douglas and sent to Russia in 1756. He threatened Beaumont, Douglas had a sword fight with the grand duke and Beaumont made it known to the ministers; he was charged with bringing the treaty.²⁷²

feet	feet	inches	lignes	£sterling	livres	sols	din
1	0	11	3.17	100	2285	14	3 3/4
2	1	10	6.34	200	4571	8	7 1/2
3	2	9	9.51	300			
4	3	9	0.68	400	9142	17	3
5	4	8	3.85	500	11428	11	6 3/4
6	5	7	7.02	600			
7	6	6	10.19	700			
8	7	6	1.36	800	18285	14	6
9	8	5	4.53	900			
10	9	4	7.70	1000			
20	18	9	3.40	1200	17428	11	9
30	28	1	11.10				
40	37	6	6.8				
50	46	11	2.5				
60	56	3	10.2				
70	63	8	5.9				
80	75	1	1.6				
90	84	5	9.3				
100	93	10	5.0				
200	187	8	10.0				
300	281	7	3				
400	375	5	8				
500	469	4	1				
600	563	2	6				
700	657	0	11				
800	750	11	4				
900	844	9	9				
1000	938	8	2				

²⁷² These two paragraphs were probably written at the same time. Although the ms appears to read *de guerchy* I think Lalande is referring to Guerini. The ms reads: *m. deon fils d'un subdelegué et élu, tonnerre travailla chez m. de Sauvigny, il y fut conu de m. michel qui alors precepteur du fils de m. de Sauvigny, fut conu bientôt pour comte de douglas et envoye en russie en 1756. il mena deon, celui-cy espadronoit avec le grand duc, et cela le fit conoitre des ministres, on le chargea d'app... le traité*

159-7

Lord *Macclesfield* St James Square near Mr Pitt.

Mr *Birch*, Norfolk Street the last house, his house is adjoined with that of Mr Short.

Rothmells coffee house in Henrietta Street Covent Garden, it is where one goes with other men of letters.

Maskelyne, New Bond Street near Brook Street, the sign of the housemaid.

Doctor *Hill*, on behalf of Mr Kirwan, in St James Street.

C. *Gouya* trader, in Bennet St James on behalf of Mr Sayd.

Mr *Pringle*, physician to Her Majesty Pall Mall Court, Alex. Murray.

George Lewis *Scott* esq. Leicesterfields.

Tutor of the Prince of Wales; the tutor of many English men of letters whom I saw in Paris.²⁷³

William *Watson*, in Lincoln's Inn Fields No. 15.

Cole in Whit Street, facing the back door of St Clement coffee house near the Strand, Mr *Diemar* is at his house.

²⁷³ Later insertion.

(160)-7

Paul *Lefevre*, jeweller in Grafton Street near Soho, he is a relative of Mr Le Roy.

Mr *Wilson*, painter, Great Queen Street who deals in Lincoln's Inn Fields. On behalf of Mr Leroy, the academician.

Dr *Shebbeare*, Dean Street, Soho. He was put in the pillory for his writings at the time against Newcastle, Fox, and Hardwick, informing the people.²⁷⁴ On behalf of Mr Rich. Kirwan.

James *Macdonald*, Cavendish Street.

The right honourable (brother of a lord constable of Scotland).²⁷⁵

Charles *Boyd* to be left at Blunt coffee house, Charing Cross. It is necessary to go there between midday and 1:00. His father was decapitated.

J. P. *Blaquiere* and sons, bankers, in Austin Fryars, Trogmorton Street. On behalf of Mr Levier, friend of Madam Conti.

Mr *Mavit* and *Casenove*, traders in Bury Court, St Mary Axe, the last house on the right hand. On behalf of Mr Sayd.

Mr *Wyche* esq. FRS Great Ormond near Bedford House.

(161)-6 ²⁷⁶

Mr *Metayer* French boarding school. Charter House Square, at the French academy.

Mr *Vouler* at Mr Duval, jeweller.

George *Hubbard*, Kings Head, at Dover. The only house where places are taken in the original machine from London.

Prebbet at the Red Lion, Canterbury. The only house where places can be taken from London to Dover.

I lodged in Dover at the Ship, close to the customs house.

Mr Peter *Simond* in Bishop Gate Street within opposite the pump. Where Mr Cousin is addressed. One of his daughters married Lord St John who is a Bolinbroke.

Vindeat stay maker in Long Acre near Covent Garden.

Baikie stay maker at Golden Head in Orange Street, near Leicester-fields.

Pierre and François *Duval*, Genevan traders Trogmorton Street, near Bishopsgate. On behalf of Mr Sayd.

Mr *Brisbane*, physician to the Middlesex Hospital, at Mrs Fullarlons St Margarets Street, Cavendish Square, near a chapel. On behalf of Mr Murray. The morning.

274 *le peuple instruit.*

275 Insertion. It is not clear if this refers to Macdonald or Boyd.

276 Except for the insertions, it appears that pages 159-160 and perhaps the first entry on this page were written in Paris before Lalande departed. I suspect Vouler is Foulet, whom Lalande mentions on page 14 of the diary and he probably got the address while in Dunkirk.

162-6

Dr *Templeman*, in the Strand opposite Beaufort Buildings, close to Covent Garden.

Peter *Molini* at the Smyrna Coffee house, in Pall Mall.

Mr *Harrison* watchmaker ~~in~~ near Red Lion Square. Orange Street.²⁷⁷

Mr *Symmer* in Mount Street, Grosvenor, Soho. He is sick in the country, weakened by a hectic fever and diarrhoea.

Newton lodged in the south-west of Leicesterfields. ~~Slaughter coffee house~~. In St Martin Street at the corner of Long's Court; there is a type of observatory in this house.

Mr *Colinson*, Grace Church Street near the Monument; he has a house in the country some miles above Islington.

Wadington, Three Tun Court Miles Lane near the Monument.

Mr *Watkins*, optician, in Charing Cross. On behalf of Mr Sayd.

Mr George *Neale* a celebrated surgeon Mark Lane Fenchurch Street. He has another place in Old Jewry Cheapside.

Mr *Loten*, member of the Royal Society. Formerly counsellor of the Indies and governor of the island of Ceylon. I have his address care of Bearens bankers in the city. ~~22~~²²⁷⁸ Bond Street, near Clifford Street.

277 *Orange Street* is an addition.

278 Words I cannot read.

163-5

Mr *Hawkins*, a surgeon of the royal family in ~~St James~~ St Pall Mall near St James Square.

Mr Peter *Colinson*, mercer, at the Red Lyon Grace Church Street between the Monument. and Grace church, the other side (tea at 5:00).

Mr Gaël *Morris* in Dyers Court, Alderman Bury, he is a broker for public funds. He is found at Batson's Coffee house opposite the stock exchange. Aldermanbury is the 3rd street on the left after St Paul, in Cheapside.

Mr *Nadal* at Mr Regnier, in Compton Street, Soho. He will take me to see his yacht at Deptford.

Mr *Dutens* in Leicesterfields, the first gate on the right when coming from Coventry St.

Mr Louis *Dutens*, in Leicesterfields.²⁷⁹

Mr *Parsons* in Red Lion Square.

Mr ~~Audley~~ *Avuarre*, South Audley Street near the house of Lord Chesterfield and the Ambassador of Portugal.

Ambassador of Naples, Stanhope Street near South Audley Street.

The Chapel of Bavaria Warwick Street Golden Square.

Mr de la *Rochette*, West Street, the last door when coming from St Martin's Lane.

279 Insertion.

(164)-5

Mr *la Peyre*, surgeon. Church Street St Anne, Soho at the green door.
 Lord *Morton*, Brook Street on the left when going by Bond Street.
 Mr *Mallet*, ~~King~~ George Street ~~Golden~~ Hanover Square opposite the
 Church St George, morning coffee²⁸⁰.

Inoculation House, preparing house to Islington, small pox hospital,
 Cool Bath Fields, near Foundling Hospital. Each subscription of 5 guin-
 eas per annum can have continual use of them. An imprimatur is given.
 There have been 3,500 of them over the last 10 years.

Princess *Amelia* and Mr *Fox*, Cavendish Square. The Princess is in one
 of the wings of the house of the Duke of Chandos, who was made bank-
 rupt. The Duke of Cumberland Grosvenor Square.²⁸¹

Mr *Lespinass*, Greek Street near Queen Street, to the left when going to
 Soho Square.

George *Neale* surgeon, Mark Lane Fenchurch Street, near London
 bridge. He translated the memoirs of the Academy of Surgeons.

Mr *Russel*, Salters Hall close to Cannon Street. His brother lives in Wal-
 brough Street. He is a director of the East India Company.²⁸²

Mr *Johnson*, ~~middle~~ inner Temple Lane, the 2nd near Temple Bar to the
 right, there ~~is a~~ are two booksellers when entering ~~who showed me the~~
~~place~~. It is the next door.

Madam *Majandi*, Denmark Street near St Giles Holles Street Cavendish
 Square.

280 *mart coffee.*

281 *La princesse Amélie, et M. Fox Cavendish squ. la princesse est dans une
 des ailes du duc de Chandos, qui fit banqueroute. Le duc de Cumb. gros-
 venor square.*

282 *il est directeur de la comp[agnie] du levant.*

165-4

Mr *Witchel*, in Holborn, Union Court. No 6. opposite St Andrews. Must
 get him to engrave a chart of the eclipse of 1764.

The Duke of *Newcastle* in Lincoln Inn Fields.

Lord *Halifax* in Great George Street.

Mr *Mountaine* owner of the school in Southwark. (about the magnet).

Lord *Eglinton* Queen Street May Fair.

Lord Charles *Cavendish*. Great Marlborough Street Hanover Square.

Misses *Tomassé* have boarders to learn French, Great Marlborough
 Street ~~London~~ Hanover Square.

Madam *Massé* beautiful sister of Mr Massé painter of Paris, and beau-
 tiful mother of Mr Olivier, associate of Mr Vanek, Broad Street near
 Bedlam Hospital.

Merlin at Mr Sutton goldsmith at the Acorn (*gland*²⁸³) in New Street
 near Covent Garden.

Ambassador of France at ... formerly lived at Lord Winchelsea's in
 Soho.²⁸⁴

Magenis, Seating Lane, near Tower Street.

Andrew *Dury* at the Indian Queen in Duke's Court, St Martin's Lane.
 He is French and sells geographical prints, which is in relation to Ju-
 lien and Danville²⁸⁵.

283 The French word for acorn.

284 Lalande has altered the entry by adding *habitait cy devant*, but did not
 put in the new address.

285 Uncertain.

166-4

Mr *Roestner* in Gottingen.

The Count of *Western* in Leipzig.

Mr *Canton*, Spital Square Bishop Gate Street.

Mr *Russel* Walbrough Street - and his brother Salters Hall, Cannon Street.

Mr *Smollett* ~~by~~ opposite St James Church. He goes to Bordeaux. He earned 10,000 louis from his works and spent them all.

Mr *Sisson*, Strand at the corner of Beaufort Building.

Mr *Fothergill*; White Hart Court, Grace Church Street.

In Lincoln Inn Fields, the Duke of *Newcastle*, counsellor *Morton*, Lord *Talbot*, the Ambassador of Sardinia, whose arcade opens into Duke Street where he built his chapel. At the end of it is an immense Shakespeare sign.

In Paris

Mr *Valette* at Mr le Blanc's *Rue S. T du Louvre*, correspondent of Mrs *Dutens* in London. At Mr Mackenzie's, Hill St Berkeley Square.

Bernard made me ask for news of Mr Henn and of Joseph Guinand in little St Hellens.

Mr J. H. de *Magalhaens*, friend of Doctor Sanchez, in Cornhill, at a mathematical instrument maker.

Dr *Bevis*, ~~Clerkenwell Close by Smithfield, St. John Street~~ Brick Court No 1. Inner Temple, address to Mr Ravenhill at the post office.

Mr *Witchell* at the front house White Fryars Gate Fleet Street.

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Mr *Richardson* printer stays in Salisbury Court Fleet Street.

Mr Hauksbée, who died in 1762, was librarian of the Royal Society before Mr da Costa. He was old and took no care of the books.

Mr Conduit married Miss Barton niece of Newton, died in 1739. They had a girl who also died.

The Grand Master of Malta²⁸⁶ has approximately 500,000 livres revenue; there is a basin²⁸⁷ for 4 ships and 4 galleys. The island is 20 leagues round. The Grand Master is sovereign.

On the 2nd of June I saw the committee of the Society of Arts examine a machine which can notify the master of a fire in an unspecified room.

Mr Peronnau, a painter, told me that to go to Rotterdam by Brussels and Anvers will cost me 6 louis.

Mr *Lescahier* painter Rue St Martin, opposite the St Martin prison, at the *Moulin Traiteu* in Paris.

Mr Louis *Dutens* at Mr Mackenzie's, Hill Street, Berkeley Square, London.

J. H. de *Magalhaens* at No 98 Wood Street, Cheapside, London. Fleet Street No 188.²⁸⁸

A new edition of *Recherches sur l'origine des decouvertes attribuées aux modernes* was printed in 1772 .

286 *le grand me. de malte*. I have chosen *messer*, master.

287 *fond. ...* .

288 This entry is the last address in the ms. It looks different and may perhaps have been written by Magalhaens or at a later date.

Diary of a Trip to England 1763

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Theatrical records or an account of english dramatic authors, in 12mo, at Dodsley.

History of the english stage of his age by Colley Cibber.

Put in the same catalogue.²⁸⁹

Catalogues of books printed from 1700 to 1763 with prices. Molini.

In 1786 it was written that 27,000 new houses have been built over 14 years. Traduction du Plutarque Anglois volume 8, May 8 1786, at the office of the English Theatre, rue St Appoline No 5.

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New table			1786			1788			1788				
shillings			pounds			shillings		pounds		pennies			
	liv	sh	den	liv	sh	den	liv	sh	liv	sh	sh	den	
1	1	3	6.9	23	11	5.1	1	5	25	5	2	1	1
2	2	7	1.7	47	2	10.3	2	11	50	10	4	2	2
3	3	10	5.6	70	14	3.4	3	16	75	15	6	4	3
4	4	14	3.4	94	5	8.6	5	1	101	0	8	5	4
5	5	17	10.3	117	17	1.7	6	0	126	5	10	6	5
6	7	1	5.2	141	8	6.8	7	12	151	10	12	7	6
7	8	8	0.0	164	19	12.0	8	17	176	15	14	8	7
8	9	8	6.9	188	11	5.1	10	1	202	0	16	9	8
9	10	12	1.7	212	2	10.2	11	7	227	5	18	11	9
10	11	15	8.6	235	14	3.4	12	13	252	10	21	0	10
11	12	19	3.5				13	18			23	1	11
12	14	2	10.3				15	3			25	2	12
13	15	6	5.2				16	8			27	4	
14	16	10	0.0				17	14			29	5	
15	17	13	6.9				18	19			31	6	
16	18	17	1.8				20	4			33	7	
17	20	0	8.5				21	9			35	8	
18	21	4	3.4				22	15			37	9	
19	22	7	10.3				24	0			39	11	
20	23	11	5.2				25	5			42	0	
21	24	15	0				26	10					

To the exchange of 28 1788. I paid to Mr Tourton 25 livres 14 sols for a pound sterling. One can pay 25 livres 4 sols with letters of exchange in London. The average is 25 livres 9 sols.²⁹⁰

289 It is not clear whether this refers to the preceding or following entry.

290 *au change de 28 ?88. J'ai payé chez m. Tourton ...* . I presume 1788 (when Lalande returned to London).

Diary of a Trip to England 1763

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The annual number of parish deaths over 40 years was 19,040 in Paris; and 25,778 in London (Messance page 309). If there are 576,000 inhabitants in Paris, then there are 779,839 in London.

The variation of the magnet in the middle of 1762 was 19° 32'. p.20. see W. Cosiard history of Astronomy about the variation.

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dresses 118	Courses 75	flux et refl. 120, 108	guerre 39	journaux 133
man 170	Deon 158	gardiner 125	impe	mahogani 109
rivée 17	depense 1177	gassettes 133	impots de 1763 p. 139	habitans 150, 170
bbev. 4	livre page153	dollond 127		hampton court 112
mbassade 158	duclos 53	greenwich 91		hamstead 99
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gallican 91	enseigne 131			hospitaux 35
gent fin 147	Epitaphe 154			hollande 167
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ge 153				
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er 39				

²⁹¹ This is the original table in French. Only partial information is available for a few entries and doubtful information is in italics.
An annotated and interpreted table of contents is provided separately.

Diary of a Trip to England 1763

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cover (back inside)

Mallet	new river 84	parson 23	Soc. royale 23	Temps 41
marine 121, 119	opera 20	portraits 19	Rafaël 112	theatre 10..., 1...
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milles 3			Shebbeare 22	wilson 8..., 4...
machine 100			Simmer 48	wilkes 65, 76
monoyes 151, 142, 153, 33			Sisson 80	
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Diary of a Trip to England 1763

Annotated table of contents

This table of contents gives the entry, Lalande's page numbers and my explanatory notes. It is in the order given in the diary. Only partial information is available for a few entries and in these cases the entry and/or page number have been deduced with doubtful information in italics.

Note that the alphabetical ordering enables the first letter of an entry to be deduced; For example, the second entry must be *a...man*. Examination of the pages usually reveals an obvious interpretation (in this case *aimant*, magnet). Where the page number is not known or uncertain, possible pages have been checked.

Entry	Page numbers	Notes
addresses	118	petition to the King
aimant	170	magnets
arrivée	17	arrival in London
Abbeville	4	
ambassade	158	embassy
antiquaires	23	Society of Antiquities
aimant	59	magnets
antigallican	91	
argent fin	147	fine silver
Baskerville	130	Baskerville
Bauvais	3	
Bird	27	Bird is the only likely <i>b...rd</i> .
botanique	107, 125, 116	botany (botanique)
Bute	35	Bute is the only likely <i>b...te</i> .
Camus	71, 64	Camus is the only likely <i>b...us</i> or <i>c...us</i> .
cauldron	136	
chapeau	22	pocket knives
change	153	exchange
comédie	62	comedy
Condamine	85, 115	Condamine is the only likely <i>c...n</i>
commerce	145	
coquillier	118	shelly
Courayer	39	Courayer is likely
courses	75	races
Deon	158	Beaumont anecdote
depense 1177 livre	153	expenses
dollond	127	anecdote
duclos	53	walk, dinner
electricité	86	electricity experiments
ellicot	29, 129	dinner, anecdote
enseigne	131	words of the King

Entry	Page numbers	Notes
Epitaphe	154	Duke of Buckingham
Fabriquars francois	57	silk makers
flux et reflux	120, 108	tides
gardiner	125	garden of Warner
gasettes	133	newspapers
graham	129	George Graham
greenwich	91	observatory
guerre	39	war, causes of the last war (crossed out)
impo		
impots de 1763	139	taxes (excise)
journaux	133	journals
mahogani	109	
habitans	150, 170	world and London population
hampton court	112	
hamstead	99	walk with Berthoud
m. harris	33	Mr Harris (the mint)
harrisson	83	John Harrison ²⁹²
hopitaux	35	Foundling hospital
hollande	167	Rotterdam
jardin de chelséa	107	Chelsea Gardens
journaux	133	journals
juges	128	number of judges
Knight	59	magnets
livres	168, 138	book list
machines	100, 105	water pump, vacuum pump
mahogoni	109	
Mallet	44	no page number; probably 44 or 88 ²⁹³
marine	121, 119	
mesures	144, 136, 140, 148	English square, capacity, corn
Morton		no page number ²⁹⁴
merlin	118	no page number ²⁹⁵

292 The page which should be assigned the number 83, following page 80.

293 Lalande met Mallet several times and he is mentioned on pages 44, 45, 73, 88 and 164 (his address).

294 There are two people, Lord Morton and Dr Morton, and I presume this is the reason for two entries in the table. Lalande met Lord Morton on ten occasions (pages 24, 42, 44, 49, 72, 73, 77, 86, 88 and 93) and I don't know which or how many of these to include.

295 Merlin is mentioned on pages 79, 100, 106, 118 and 165 (address); 79 or 118 are most likely.

Diary of a Trip to England 1763

Entry	Page numbers	Notes
doc morton	19	no page number ²⁹⁶
malte	167	Malta
marine	121, 117	marine anglais, ship yards
milles	3	
machine	100	water pump
monoyes	151, 142, 153, 33	coin minting, gold and silver weights, exchange, travel costs
morris	22	Mr Morris
museum	57	
new river	84	
opera	20	crossed out (oratorio)
nord briton	27	North Briton
or fin	147	fine gold
opera	20, 42	oratorio, Opera of Paris
oxfort	30	Oxford
P. lavalette	63, 77	Valette
pendus.	74	hanging
parson	23	Mr Parsons
portraits	19	Royal Society
population	150	of the world, England
poids, mes.	143, 73	weights and measures
pres au R	115, 106	presented to the King
pompes	92, 101, 102	pumps, water or fire works
soc. Royale	23	Royal Society
Rafaël	112	Raphael
Renelagh	43	Ranelagh
Retour	152	return to Paris
Rice pendu	75	Rice hung (actually p 74)
Richmond	110	
Rues	152	Bridge St., Haymarket
Roi	105	the King
Shebbear	22	Shebbeare
Simmer	48	
Sisson	80	
Soci. roy.	130, 23	Royal Society
Spectacles	25, 168, 62, 97, 20	Drury Lane, books, Covent Garden, Macbeth, Oratorio

Entry	Page numbers	Notes
Temps	41	the first good day in London
theatre	103, 131	Saddler's Wells, Covent Garden ²⁹⁷
Tilney	101	Lord Tilney ²⁹⁸
Tour	37	Tower of London
vaiseaux	39	Greenland Dock
la valette	118	no page number ²⁹⁹
vauxhall	95	no page number ³⁰⁰
westmins.	114	no page number ³⁰¹
wilson	86, 47	electrical experiments ³⁰²
wilkes	67, 76	court case ³⁰³

297 The word theatre appears on pages 31, 62, 97, 103, 110 and 131. The only likely pages are 103 (Saddler's Wells description) and 131 (details of Covent Garden).

298 He is only mentioned twice and this is the only credible page number.

299 The main references are listed under *P. lavalette*. The only other significant entry is page 118 given here.

300 Lalande mentions Vauxhall on pages 51, 94-95, 97-98 and 112 ; 94-95 or 97-98 are most likely

301 There are many references to Westminster Abbey, Bridge and Hall. The chosen page seems marginally more likely.

302 There is only one other entry for Wilson (page 41) which is not significant.

303 The only possibilities for the first page number are 65 or 69. I have chosen the page following page 64 which should be assigned the number 67 and not 65 (see the postscript).

296 There are only 2 meetings, pages 19 and 59.

Postscript

An astronomer-philosopher, Jérôme Lalande

by H. Monod-Cassidy³⁰⁴

The name of Jerome François de Lalande is well-known in the history of astronomy. His interests and his contacts with the philosophers and thinkers of the century are less well-known. We propose here to place Lalande in his active and varied milieu and to evaluate his contributions to the history of ideas and the social history of the end of the eighteenth century.

Jérôme François was born in Bourg-en-Bresse in 1732. He was raised by the Jesuits among whom he was a brilliant and precocious pupil. As a child, his biographer Delambre tells us^{M1}, he wrote mystical novels and when about ten years old, dressed as a Jesuit, he preached in an edifying way. At the time of the passage of comet of 1744, the young boy discovered astronomy; the eclipse of the sun of 1748, that he observed at the college of Lyon with his professor of mathematics, 'one of most remarkable of the century' (p. 584), determined his vocation. He thought of becoming a Jesuit so that he could study astronomy 'without distractions'. But his rhetoric was 'impassioned with eloquence' (p. 584) and his parents sent him to Paris to study law. His guiding star - in this case literally - led him to lodge with a prosecutor at the Hôtel de Cluny where the famous astronomer Joseph Delisle had an observatory. Delisle, after many voyages and a stay of twenty-two years in Russia, taught at the College of France. Lalande, continuing his studies of law through filial obedience, started to work with Delisle of whom he was almost the only pupil and to whom he became a friend. He also followed a course in physical-mathematics at the Royal College given by the rival of his master, Lemonnier^{M2, 305}. Lalande never gave up the

study of literature (he knew several languages), or that of the natural sciences. We see him in 1753 successively attending courses in chemistry, botany, anatomy and natural history^{M3}.

The extraordinary capacities of the young man, joined to a not very common capacity for work, drew to him the attention of Lemonnier. When in 1750, this scientist withdrew from the project which he had formed to observe the parallax of the moon in Berlin (because this observatory is on the same meridian line as that of the Cape where the Abbot Ruail prepared to make a series of observations) he chose Lalande to replace him. The arrival of this small 19 year old young man, provided with the instruments which the observatory of Paris lent to Berlin justifiably astonished Frederic II and Maupertuis, director of the Academy. They granted to him, however, the respect due to the envoy of King of France and they quickly recognised the capacities of the young astronomer. He became member of the Academy of Berlin - better, he belonged to the circle shining of scientists and liberal thinkers that Frederic II had attracted to his court.

It was with the geometrician Euler that he spent his mornings, but if the nights were reserved for astronomical observations, the evenings were passed in conversations and discussions: Maupertuis, Argens, Mettrie, Voltaire, Algarotti, Frederic II, such were Lalande's masters of philosophy. During his rare moments of leisure, he danced awkwardly with the ladies of the court. 'This was', says Lalande, 'the most delicious year of my life'^{M4}. His religious convictions did not resist these delights. He was to write much later:

the spectacle of the sky appears to everyone a proof of the existence of God. I believed it for 19 years: today I see there only matter and movement^{M5}.

304 Translated from *Un astronome-philosophe, Jérôme Lalande*, Studies on Voltaire and the Eighteenth Century No 56, The Voltaire Foundation, 1967 (with permission of The Voltaire Foundation). The footnotes prefixed *M* are by Helene Monod-Cassidy. Notes suffixed by letters have been moved from the body of the text.

M1 M. Delambre, *Histoire de l'astronomie au dix-huitième siècle* (Paris 1827), p.602.

M2 Lemonnier was, says Delambre (p.179.) 'always was a little behind of his century'. He was of 'the school of Greenwich', knew the English astronomers and clock makers and often 'made observations' in England and Scotland. Louis XV was interested in his work - in 1753 Lemonnier observed the passage of Mercury in the presence of Louis XV. He was of assistance to Lalande. The favour of the king enabled him to acquire for

cont'd

the royal observatory instruments comparable in quality and power to those of Greenwich.

305 See also note 42 of the diary. Lalande reports a scathing criticism of Lemonnier on Friday 1st April.

Lemonnier was responsible for testing a chronometer made by Pierre Leroy in 1764. He is also reputed to have accidentally damaged a chronometer made by Romilly.

M3 Countess C de Salm, 'Eloge historique de M. de Lalande', *Magasin encyclopédique* (1810), ii.282-325.

M4 Delambre, 'Eloge historique de Lalande', *Memoires of the Royal Institute of Sciences* (Paris 1807).

M5 Second supplement for the *Dictionnaire des Athées*, ed. J Lalande [Paris 1805], p.26.

However, although he modified his beliefs his conduct didn't change ^{M5a} and he continued to go to church with his mother, to attend her pious friends (one of whom was Euler) and to generally act with much circumspection.

He was in Berlin at the time of the Koenig affair which so deeply divided Maupertuis and Voltaire. He seems to have taken the side of Maupertuis, but with enough discretion to keep the regard of Voltaire ^{M6}. One can thus date the intellectual maturity of this young man rather exactly: 'at the school of King of Prussia and the philosophers who surrounded him, I learned how to raise myself above prejudices' ^{M7}. It is not that mathematics ceased to impassion him, it is rather that he reasoned on the utility of his work and extended its borders almost indefinitely.

He studied astronomy to be useful to the men of his generation, to contribute directly to the progress of the society in which he lived. For him, as for Beaumelle, Formey and Maupertuis, his friends and colleagues in the Academy of Berlin, and then at the Academy of Science, pure science appeared shocking, almost frivolous. The duty of man, later one would say readily of the citizen, is to give a useful end to his research. We are, as can be seen, very close to the utility theories and ethics of Diderot and Marmontel. In a beautiful passage in the third edition of his *Astronomie*, published in 1772, he adds, in conclusion to an historical examination of astronomical discoveries:

Following these first observations we see appearing the work of Copernicus, Tycho, Kepler, Cassini, Newton; new instruments, bold systems, fortuitous discoveries, delicate observations. Two centuries of enlightenment open up the most astonishing spectacle which the spirit can enjoy: but if we take care to place each disclosure after that which gave it birth, if we transport the reader to the position of him who made some beautiful discovery, the chain will reappear: and the spirit, relieved of the burden that too much admiration imposes on a proper love, will enjoy almost the pleasure which the author must have had. Thus the design of this work is intended to show the progress of the spirit: not of the science no matter it is more admirable and more satisfying (p.iv).

M5a Delambre, p.579.

M6 Pierre Brunet, *Maupertuis* (Paris 1929), pp.138-145. 'Lalande gives the origin of their rupture as the refusal by Maupertuis to oppose the admission of Abbot Raynal to the Academy of Berlin at the request of Voltaire (p. 144).

M7 Philippe Dameron, *Mémoires pour servir à l'histoire de la philosophie au dix-huitième siècle* (Paris 1858), ii-467.

Science, to which he devoted his early years, is thus only one of the many means man must use to probe the mysteries of nature:

One regards with reason the study of ethics as most necessary and worthy for man: 'The proper study of mankind is man', as Pope knew: but one would be mistaken in believing that one can be truly philosophical without the study of natural science. For to be wise not by weakness but by principles, it is necessary to understand, to vigorously reflect and think; it is necessary, with force of study, to have freed oneself from the prejudices which mislead judgement, which are opposed to the development reason and spirit ... Ethics would be not very certain and not very attractive for us if it were founded on ignorance or error (p.x).

And to succeed in this research, it is neither reason nor memory, prerogatives according to the *Discours préliminaire* of the philosophers and the scholars, that Lalande recommends to us, but imagination, this mistress of error that Alembert associated with the 'beautiful spirits':

the most significant council that one can give to those who study mathematics, is to exert their imagination much more than their memory, to read little and think much, to seek the evidence for themselves, by which they will be able at least to test their strength: thus one acquires the spirit of mathematics, the taste for research, the facility to discover and invent.

The conclusion of the foreword reiterates the ideas expressed at the beginning: the major aims of the scientist worthy of his name will be utility and ethics:

Study in general is one of the needs for humanity: when once one experiences this active and devouring curiosity which induces us to penetrate the wonders of nature, one does not ask any more what use is the study, because the use is our happiness.

Study is besides a protection against the disorder of passions; and it seems to me that it is especially necessary to distinguish the kind of study which elevates the spirit, which strengthens it, and consequently gives surer weapons against the dangers about which I speak. It is not enough to know good, said Seneca, to know what one owes to one's country, family, friends, oneself, if there is not the strength to do it; it is not enough to establish precepts, it is necessary to draw aside the obstacles: Ut ad praecepta quae damus possit animus ire, solvendus est (Epist.95). I do not know anything which succeeds better in this respect than application to the mathematical sciences, and especially astronomy. The wonders that one discovers there captivate the soul, and occupy it in a noble way, delicious and free from dangers: they elevate the imagination, they improve the

spirit; they fill and satisfy the heart; they remove dangerous and frivolous desires; they produce unceasingly new pleasures(p.ix).

To me these quotations admirably summarise the scientific ideal and progress of the age of enlightenment. The *Lettres philosophiques* of Voltaire, the *Discours préliminaire* of Alembert, the foreword to the *Histoire naturelle* of Buffon, it is with such works that these pages are related.

In Paris in 1753, on his return from Germany, Lalande had the demeanour of a young brilliant philosopher. He was elected to the Academy of Science. He corrected without civility the errors of his master Lemonnier, and tells us that Lemonnier kept his resentment of it to himself 'during a whole revolution of the nodes of the moon'^{M7a}, i.e. for eighteen years. Lalande disputed readily and with spirit: his mathematical and brittle spirit, in love with precision, did not allow him to ignore the least inaccuracy. As he had feelings and regretted to see his friendships broken, he composed a speech on gentleness 'which he read every year to re-affirm the rules of conduct'^{M7b}. Though certainly this taste for dispute was a character trait, he maintained his profound conviction that the duty of the scientist is to make known the truth without being too much concerned with personal susceptibilities^{M8}. He readily accepted criticisms, more eager apparently to be spoken about than to be praised. It is told that he said of himself 'I am oil-cloth for insults and a sponge for praise'^{M8a}. Let us add that he attended to his friends like himself, frequently publishing articles or 'éloges' about them, was generous with respect to his pupils and was indifferent to ridicule and government censure.

During the revolution, he housed and hid two scientists, Abbot Garnier and Dupont de Nemours. The latter lodged at the observatory of the four nations and would have died of hunger if Lalande had not regularly brought food to him for several months^{M9}. We are far from the cowardice of the Suard household with respect to Condorcet!

M7a Delambre, p. 550.

M7b Delambre, p. 566.

M8 Let us cite, for example, his arguments with Maskelyne, the English astronomer for whom he had a true friendship, and his irritated attack of on the absurd theory of tides of B. de Saint-Pierre. Saint-Pierre reports a fictitious dialogue (?) between Lalande and him: '[I say to him]... attack my theory publicly and I will answer you. He replied that he had no intention of doing so, that he had come to me to explain.

M8a Delambre, p.567.

M9 Salm, p.315. Also Joseph Buche, 'Jerome Lalande', *Annales de la Société d'émulation et d'agriculture de l'Ain*, 1904, xxxvii.5-34.

He was rather austere in his tastes, but liked company. He says to us:

I scorn worldly pleasures, I put up with plays, festivals, dinners. I do not go to spectacles: study in the company of people of spirit, especially of educated women, is my only recreation. Such for me were, in turn, the society of Mesdames Geoffrin, Bocage, Défant, Bourdie, Beauharnais, Salm, etc.^{M10}.

To this list of celebrities, add that he attended the salons of Madames de Condorcet, Necker and de Staël. He also met Helvétius and Holbach. He followed closely work of Buffon, Daubenton, Duhamel du Monceau. He knew Diderot personally, but I am not well informed on their relationship. In his *Memoires* he lists 'the famous men who were my friends: Montesquieu and Fontenelle, Jean-Jacques Rousseau, D'Alembert, Clairaut, Maupertuis, Condamine, Voltaire, Réaumur, Euler, Barthélémi, Raynal, Macquer'^{M10a}.

It was inevitable that Lalande became interested in the work on the *Encyclopédie*. He does not seem to have contributed. Alembert had been responsible for the mathematical part, and when he left the *Encyclopédie*, Lalande joined against the associated booksellers and signed the demand of Luneau Bois-Jermain asking for the refund of part of his subscription. He continued 'to intervené' and we find his name in the papers of the long lawsuit which Luneau^{M11} brought against the editors. But, as in the quarrel between Maupertuis and Voltaire, Lalande remained on good terms with Diderot. Later: 'he provided several curious articles for the supplements of the 'Encyclopédie' ... in 1789, he redesigned for the 'Encyclopédie methodique' all the astronomical articles of the old 'Encyclopédie', done negligently by Alembert'^{M11a}. Lastly, he contributed to the *Description des arts et métiers*. This work, started by Réaumur who had accumulated an enormous collection of engraved plates, is also entangled with the debates with Diderot, editor of the volumes of plates of the *Encyclopédie*. This time Lalande remained faithful to the academic body.

M10 Salm, p.320 (quoting the *Mémoires* of Lalande which we could not consult).

M10a Salm, p.322.

M11 J Lough, 'Luneau de Bois-Jermain versus the publishers of the Encyclopédie', *Studies on Voltaire*, xxii.115-177.

M11a Delambre, p. 561.

Lalande wrote eight of the entries which comprise these volumes - specialising in the arts of paper manufacture and leather treatment.³⁰⁶ They are excellent handbooks of applied science, well designed and easy to read. In the forewords, the author does not lose the occasion to express his philosophical convictions which are often interesting. In 1762 (*Art de faire le papier*) for example, he wrote:

I ask which is more preferable for a nation, to share with all scientists the weak lights that the practice of our workmen acquire for us and to improve them, or to remain eternally in a state of mediocrity and routine from which they cannot draw us? The arts rely on the sciences, entirely depend on them, and without them can take only slow and staggering steps (p.i).

And his conclusion is that of a citizen of the world:

thus let us benefit our enemies by the same care that we take to enrich our nation rather than to lose the advantage by a sorry reticence (p.ii).

As can be seen, the interests and knowledge of Lalande were varied. Was it not a time of royal censure which made him become acquainted with Jean-Jacques Rousseau with regard to his writings on music! He was reproached for this eclecticism - however so characteristic of the time:

He continuously shifted interests and this prevented him from closely examining anything. But by skimming over all, unceasingly drawing the attention of astronomers and geometers to the problems with which he was occupied ... he took an active part in all that was done of significance during his long career in astronomy.^{M11a}

We know that Lalande remained attached to his native province, often returning there; he directed the draining of the Bresse marsh and oversaw various improvements. He walked from village to village and found the old sundials, made necessary calculations and informed the villagers of the more or less exactitude of their solar watch! On return-

ing to Paris, he praised Bresse in such a way 'that they doubled the contributions of this land', a scandalmonger of time tells us^{M12}.

Discoveries in astronomy especially interested navigators, and we see Lalande devoting years of study and several works to the problems of navigation. As always, he was filled with enthusiasm^{M13} and exceeded the logical limits of the problem. He visited all the ports of France to study their organisation. He discussed methods of constructing boats, how scientific instruments could be installed on them in a stable way, and the nature of these instruments. He published a *Mémoire sur le flux et le reflux* and a treatise on the *Canaux de navigation*. From there he went on to roads, their construction and the methods of carriage (by land and water) of passengers and goods, and the variable costs of the latter. There is little of the elements of working life which he did not study.

Lastly, his literary and artistic tastes were expressed in a thousand ways: a speech on the spirit of justice, rewarded by the academy of Marseilles; an *éloge* for the marshal of Saxony, delivered in Lyon; many pieces of poetry, of which one finds traces in the reviews and correspondence of time.^{M14} Natural science, geology, zoology, botany always attracted him by what they offered to satisfy a methodical spirit in love with classification. Lalande also seems to have been interested in the small aspects of these sciences. In London, he collected seeds for Duhamel^{M15}. He returned a visit to Rousseau when in Montmorency and was, later, one of the few people allowed to visit 'Mr. Renou', where he admired the herbaria^{M16}.

Finally Lalande travelled. He did not have time to undertake ocean voyages, but he facilitated placements for his pupils. Vernon went with Bougainville, Paute d'Agelet with Peyrouze, some others went to America, Baghdad, etc. He also refused to venture into Russia, but he went to Germany, Switzerland, Holland, Italy, and twice to England (in 1763 and 1788).

306 The Royal Society Library lists 9 booklets by Lalande; see the bibliography. Three deal with paper, parchment and pasteboard. Five cover various types of leather; chamois dresser, tanner, Hungarian tanner, white leather dresser and morocco). one is on the blacksmith.

L'Art de faire le papier (Paris 1761) was translated into English and published as *The Art of Making Paper* in the Universal Magazine of Knowledge and Pleasure, 1762/63.

M11a Delambre, pp.605-606.

M12 *Paris, Versailles et les provinces au 18th siècle*(Paris 1817), ii.232.

M13 'He had engraved on his seal a ship, the moon which was used to lead it and a devise - "Science led by Virtue" because [he says] the ship is the thing which requires the most science, and virtue leads the philosopher through the floods and storms of life' (Salm p.299).

M14 'Vers à m. de Voltaire', *Le Mercure de France* (July 1770); Voltaire thanked Lalande for it (Best.15395). Lalande went to Geneva in 1770 and seems to have stopped in Ferney; Voltaire noted this (Best.15650).

M15 *Voyage en Angleterre*(Library of the Institute, ms.4345).

M16 *Correspondance générale*, ed. Th Dufour, xix.159.

During his voyages, Lalande kept a journal in which he noted his impressions and observations with the probable intention of producing from these notes one or more volumes. The only trip published by him is the voyage to Italy in eight volumes with an atlas. It is a compendium, a little weighty, of everything that can be found in Italy: works of art and architectural monuments; visits to various academies; enumeration of the products of the country; discussion of distances, the state of the roads, the price of goods; in short, a conscientious guide composed like other handbooks of the same kind and in which we find only a few personal opinions. It is however tempting to imagine Lalande being received by Pope Clement XIII and pleading with him 'to strike out of the *Index the names of Copernicus and Galileo*'^{M16a}. Grimm says to us in connection with this work:

What pleased me is that he speaks about everything: natural history, arts, manners, government, policy, geography, all were studied by M. de Lalande in four months. It is only to a Frenchman that God grants such favours.^{M17}

There are two hand-written journals reporting respectively the trip that Lalande made to Holland in 1774 and that when he went to England in 1763. The diary of the voyage to Holland is very short and interests us only because of the mention of a visit to Diderot in Delft on May 27, 1774 (Institute, ms.2195). However I did not find any allusion to this stay with Diderot in 1774. The *Inventaire du fonds Vandeul* published by professor Dieckmann does not mention Delft. One can hope that one day complementary indications will be found, perhaps in the correspondence of Lalande.^{M18}

The voyage to England (published partially and in translation by Professor Frederick Green in *The History teacher's miscellany* of August and September 1926) deserves to hold us for a while, because it throws an interesting light on Franco-English relations at this date. Leaving Paris on March 4, 1763, Lalande details visits to the ports of Boulogne, Calais and Dunkirk before embarking from Calais on March 14. Dover and then Canterbury cathedral interest him. He notes the prices of meals everywhere, those of stage coaches, the value of tips. The ostensi-

^{M16a} (Salm, p.467)

^{M17} *Correspondance littéraire*, February. 1769, p.272. However Chateaubriand said in *Mémoires d'outre-tombe* (ed. Pléiade) 'the voyage of Lalande to Italy in 1765 and 1766 is still the best there is and very precise on the arts of Rome and ancient Rome' (ii.249).

^{M18} One finds (at the back of the notebook): 'In Delft M. Van der Wall, lect. in mathemat. who M. Allamou accused. Where is Diderot?' and p.43 'Friday May 27, 1774. I went to see M. Gosse, the abbot Desnoyers, M. Diderot, M. [illegible]'.

ble goal of his trip was to examine and if possible to bring back with him to France a model of the marine chronometer comprising a pendulum with compensation invented by John Harrison a few years before.³⁰⁷ The precision of the instrument had been tested during several long voyages at sea and Harrison, having improved and reduced his first models, had gained the prize of £10,000 offered by the government for the most precise chronometer^{M19}. It is certain that by undertaking this voyage Lalande knew that his role would not be limited to that of purchaser of scientific instruments. His fame had preceded him to London and he was welcomed by the erudite world of the English capital. He had with him 'more than 40 letters to deliver': letters of introduction to members of the French colony and to English men of science.

The time of his stay was well chosen: the seven year war had ended and the preliminaries of the Treaty of Paris brought to London a whole bevy of young noble people following the Duke of Nivernais, the official envoy of the King³⁰⁸. For a long time England had been closed to the inquisitiveness of Parisians and their fashions, and the English welcomed their many visitors with delight. Lalande met Messrs d'Eon, Duclos and Baillif de Fleury. He supped with the Duke of Nivernais and Madame de Boufflers. Several times he visited the abbot Courayer^{M20} and Father Valette^{M21}. Lalande 'who admired the Jesuits'^{M22} was interested in the mishap of Father Valette and gave us a complete account.

³⁰⁷ Incorrect ; see my assessment.

^{M19} There was lawsuit about the prize and Harrison only got the sum promised in 1773. Lalande referred to this in his journal.

³⁰⁸ Louis Charles Barbon Mazarini (1716-1798).

^{M20} Pierre François Couroyer (1681-1776). He went to England in 1727 following the judgement of his writings on the validity of Anglican ordinations. There he remained a Catholic, 'but he said the dogma of the transubstantiation is stupid' (Voyage, p.39).

^{M21} He is the Jesuit who contracted commercial debts in the name of the order which refused to recognise them, and that served as the pretext for the expulsion of the Jesuits from France in 1762. In his journal Lalande gives us interesting details of the lawsuit and the life, very poorly known, of Valette in London. He hid there under the name of Duclos (pp.38, 50), lived with Mr. Deshaies, the deputy of the Guadeloupe and cleared a way for many French people to take 'refuge' in London. Lalande visited him accompanied by Louis Dutens 'a Protestant refugee in London' who made a brilliant diplomatic career in the service of England. In 1763, Dutens belonged to the corps of English diplomats who worked on the Treaty of Paris. (Mr. Green, in his edition of the Journal, confused Charles Duclos and Duclos - La Valette and twice misread the text).

^{M22} Damiron, p.467, quoting *Le Voyage en Italie*.

Valette gave to him his *'memoire in form of letter to the Father General'*.

He saw, of course, the craftsmen, clock and watch makers and goldsmiths, who formed a group not very distinct from the group of scientists. Some of them had been elected members of the Royal Society, and there Lalande found an example of democracy in science - abstract sciences and applied sciences - of which he dreamed for France. He was elected a Fellow of the Royal Society, visited the building, admired the portrait of Newton - whose tomb he later saw in Westminster Abbey - and accepted with simplicity the honours which were due to him. He was also elected to the Society of Arts, dined at the society of the Mitre *'founded formerly by Halley'*, visited the Society of Antiquaries, Greenwich Observatory, etc. Because he does not mention difficulties with the language, he spoke English with facility; indeed, he made fun of Lemonnier who could not pronounce the word 'strength'. In one sense, with Macclesfield, Maskelyne, Bevis and Pringle, he did nothing but extend the discussions of the Academy of Science. That an afternoon passed with Dr. Short, Bird, Ellicott or Sisson, the opticians and clock and watch makers whom he had come to see, does not surprise us. One can, however, admire the point that scientific exchanges of information were easy and universal. Each one at the same time seemed eager to look further into his knowledge and to correct the errors of his neighbour. Lalande sometimes appears happier in this freer atmosphere than that which reigned in Paris. His rich if varied curiosity found satisfaction. Perhaps when writing his journal he thought of the *Lettres philosophiques* or even of the *Lettres d'un Français* by the abbot Le Blanc (he refuted it) and he sought to accumulate precise information on various aspects of English life to write about at leisure later. He mentioned different English religious sects, spoke about the Quakers, the Jews, the moraves (with abbot Couroyer), of the persecution of the Catholics in Ireland.

His studies in law prepared him for understanding the English legal system, he visited the Old Bailey, attended meetings of Parliament, was interested in promulgated edicts. Several times he considered the parliamentary difficulties of Lord Bute and discussed the announcement of his resignation and the methods of attacking the newspapers of the opposition. He saw Shebbeare *'who works on the history of England'* and noted that *'when Mr. Shebbeare was put at the pillory, the sheriff made conversation with him and his servant held an umbrella'* over him (p.65). He chronicled the highs and lows of the lawsuit of Wilkes, copied one of his letters and visited him in prison. Not only was he acquainted with all the coffee houses (such as the Mitre, the Devil's Inn, *'where Ben Johnson'* used to go, the Stag, Dog and Duck, etc) but he went to balls, the opera, concerts and the theatre. He was at the first

presentation of the Messiah by Handel and copied the text of the entry ticket: *'The gentlemen are desired to come without swords and the ladies without hoops'*. At the theatre, he saw *Venice preserved* (for 2 shillings and 6 pence), *'The Busy Body, a comedy written by Mrs Susanna Centlivre'*. He gave the names of the actors and short appreciations of their play.

Madame de Boufflers, the first great lady who crossed the English Channel as a tourist, *'claimed that at the Comedy, Macbeth, Richard III and King Lear were Garrick's three most beautiful roles'*. He appreciated Garrick in Macbeth particularly: *'his role is formidable'*. He gave us an amusing description of Saddlers Wells:

a small theatre where you are given wine into the bargain. You can take hold of women's breasts, throw pennies onto the stage, howl at the actors, call out "encore" ... Pantomimes, coarse dances, the French are often played.

He noted that in *'Covent Garden the production of plays sometimes costs as much as £700 = 6,000 livres of Tours'* etc.

Art and painters interested him. He mentions Deshaies, Boucher, Bardas, Rubens, Raphaël, Titien. He spent one evening examining prints of Don Quixote with his friend Louis Dutens. He knew English literature, quoting Bolingbroke on Pope. He read *'the campaigns of General Wolf by Smollett'*; a few weeks later, he visited Smollett. His observations on Dr. Johnson are prickly: he wrote on April 26:

Johnson is a corpulent countryman who drinks tea night and day, who is not frugal, who works for the booksellers. He built up Osborne. He has a pension of £200 from the King. .. He is extremely friendly with Garrick!

And Thursday May 5: *'at Mr. Johnson's with Mr. Duclos and Mr. Berthoud. He spoke to us in Latin. He would have liked us to stay longer, but that was too inconvenient.'*

Medicine and doctors attracted him particularly. He tackled the question of inoculation for small pox, visited the hospitals of Saint-Thomas and Chelsea, discussed the incomes of the hospitals and the way in which patients were treated. He met Dr. Hill, examined his history of plants, and visited the botanical gardens at Chelsea and Kensington. The arrangements of the gardens interested him and his journal contains several detailed descriptions of them.

On Whit Sunday (May 22) *'the most beautiful day for a long time'*, he walked with a friend in Hampstead:

[we admired] the house of Milord Mansfield ... the walks are delicious and the houses very pretty ... our circuit was of approximately twelve miles, not counting detours. We admired the greenery, the

sights, cleanliness, the houses, the countryside which is much more beautiful than in Paris! (p.99).

His constant interest in all this was with the navy, although it would be more correct to say with water, involved as it was in many aspects of everyday life in London. He dined with Admiral Knowles and questioned him in connection with his research '*on the shape of ships and their trimming*' (p.97). He saw and described in detail the '*machine of the port of London*', which supplied water to most of the city. He mentioned the tides in the Thames and visited the system of locks set up on the river. He went to the shipyard of Mr Randall at Greenland Dock and noted the technical details: '*the wood appeared to me of a smaller size, better cut, better assembled. There are hardly any nails in the timbers*'. Salmon was still fished at Richmond, and caterpillars devoured the leaves in the gardens each year! The journal is a mine small details which are clear and complete. We see the academician, the author of articles on arts and trades: he studied the fire pumps and the operation of fire insurance; he visited the mint, paper and vinegar factories; he noted a method to polish glass; he discussed the trade of corn, construction of water towers and street lighting (to talk later to Mr Deparcieux about it). A silk workshop set up by French Protestants interested him. But it is regrettable that the notes of the diary are often so dry: memoranda intended to be developed later.

Finally Lalande was also the traditional tourist. He explored historical and picturesque London with care. He described in detail the rooms of the Tower of London and he indicated the good restaurants and cafes which he liked. Thanks to him, we see an active city, alive, commercial, a middle-class and cultivated society which goes to the theatre, walks in carefully arranged and maintained gardens, travels by boat to accommodate the Venetian ambassadors or to admire some recently built castle, and stands in the crowd to welcome the King or decry his ministers. We often sense an implicit comparison with Paris, but his notes are brief.

Twice during his stay, Lalande tasted the sharp pleasure of accommodating a French friend in London and showing him around. We have already mentioned Charles Duclos with whom he met and dined regularly. On May 11th Condamine, a colleague and friend, arrived in London. He did not speak English and, after returning from a scientific voyage to Peru, was deaf and had trouble getting about. Lalande made a pleasure of showing him the city. Walpole said in this connection:

Condamine ... who is a philosopher. He walks about the streets with his trumpet and a map, his spectacles on, and hat under his arm.

The two small Frenchmen - Lalande was only 4 feet and a half, weighed 106 pounds and had bad sight - were a strange couple in the streets of London. Lalande introduced his colleague to his English friends: they visited Lord Morton and the Royal Society. Dr Pringle suggested a remedy for Condamine's deafness and Lalande preserved the formulation. They went by boat to Richmond. The Count of Coventry and the knight d'Eon presented them to the King.

Condamine disputed with his landlord who tried to make him leave. The adventure is related at length in the *Public ledger* and the *Public advertiser*. Walpole, in his correspondence, gloated over it. Condamine knew about '*horology*'³⁰⁹; Lalande and he made a series of visits to clock and watch makers, because the time for Lalande's departure approached and he wanted to take home with him the instruments ordered in March. Many of these craftsmen were either refugees, or sons of French refugees - Lalande almost always noted it. He noted also anti-French demonstrations - as for example the standard of the anti-gallican society of Oxford: England as a horse standing on lily flowers. He counted the French boats which filled Kings Yard and wrote '*I cried over our misfortune*' but this patriotism remained discrete and subordinate to the scientific interests. Small precise details are not omitted: we learn the price of a room, of a meal with or without wine. What it costs for a hair-cut, to buy maps, a watch. He noted (I think in contrast with Paris) '*the morning... one does not visit... one cannot walk on the river*'. Two o'clock was the time to go to the court and the meetings of the Royal Society took place at five o'clock.

He travelled easily by ferry; from Whitehall stairs to Three Cranes stairs, which costs 3 pence. It took him '*approximately fifty minutes to go from Clerkenwell Close to Panton Square*'. From London to Oxford it was necessary to allow eight to ten hours. '*We made one mile in eight minutes; the coach changes take ten minutes*'. The trip cost him thirty livres. In Oxford, the wages of the professors interested him, as also their timetable and the organisation of the colleges. He bought books, bade farewell, and left London on June 10. On return to France, as at the beginning, he visited the coastal cities and even saw the house of the English Jesuits at Saint-Omer. He arrived in Paris on June 16³¹⁰ and noted that his journey cost him in all 1177 livres.

The voyage to England of 1763 was not just a short adventure in the long life of Lalande (he died in 1807): the results of his research and scientific discoveries continued to appear, being accepted more or less

309 I have no idea why Monod-Cassidy asserts this. I have never come across Condamine's name in a horological context.

310 Actually 7 am on the 17th.

well by his colleagues and rivals. But what interests us is not his prediction of a passage of Venus or of the disappearance of Saturn's ring, but the demonstration of '*philosophical audacity*' with a sparkle in its eye^{M22a}.

He liked - we know it - to talk about himself. And in his effort to popularise science and to put it in the range of all, he printed in newspapers the text of his communications to the Academy of Science, and took care that these were of a general interest. Having read again the *Eléments de la philosophie de Newton* by Voltaire, he saw that Newton, while speaking about a theoretically possible and terrible collision between a comet and the Earth, said '*that Providence has disposed all to render this collision impossible*'. Lalande re-did the calculations and submitted to the Academy a report on this subject: *Réflexions sur les comètes qui peuvent approcher de la terre*. He did not have time to read his paper and a rumour was spread that the celebrated astronomer had predicted a collision between a comet and the Earth and that the reading of his report had been prohibited as too dangerous. We find echoes of amusement, shock and scepticism in the correspondence of the time. To quote only Grimm:

Here thus, as at the time of the millennia, women are dubious if it were still necessary to have children with their husbands; others, wiser, hasten to finish a novel; poets disgusted to write a comedy or a tragedy for a race which, not having one moment left, was hardly worth the sorrow; politics interrupted; finally enemies of the philosophy which was written^{M23}.

Conscious of the general alarm, the lieutenant of police wanted to see the report and sequestered the publication, but finding it did not contain anything alarming and quoted mathematical probabilities of about 1 to 64,000 for the collision, he decided that the terrifying prediction had been exaggerated, though it took several months for the terror which had penetrated the provinces to calm down completely (ladies in Evreux had miscarriages, Bachaumont tells us) (xiv.144). Voltaire had much fun with the episode and sent to the *Journal encyclopédique* (June 1773) a letter about the alleged comet in which he treated the question as a mathematician and then as a philosopher. The panic which this report had caused made Lalande a popular hero, a species

of magus. From 1773 to 1798, 'the terror of the comets' was renewed several times and Lalande had to insert several reassuring articles in newspapers^{M24}.

Was it in London that Lalande met freemasons for the first time? We do not know. But the aspirations of this society corresponded well to his own and to the evolution of his thought - towards a liberalism, a humanism one could say, completely detached from the beliefs of the Catholic religion. He had been close to Helvétius and actively formed part of the group of philosophers which met at his place. '*I lived with the most famous atheists, Buffon, Diderot, Holbach, Alembert, Condorcet, Helvétius; they were persuaded that it is necessary to be an imbecile to believe in God*'^{M25}. When the Grand Orient of France was founded, Lalande played a significant part and made the inaugural speech. But Helvétius and Lalande dreamed of organising a lodge on somewhat different principles. A lodge that would accommodate, as did some of the English lodges, craftsmen, artists and thinkers. Certain difficulties prevented Helvétius from carrying out the project before his death (1771) but Lalande and Madame Helvétius continued the plans to establish it and the Lodge of the Nine Sisters was constituted in 1776.

One read in its '*regulations*':

the lodge of the Nine Sisters, by making Masonic virtues the base and the support of its institution, believes it necessary to join to it the culture of the sciences, of letters and of the arts. ... any person who ... is proposed will have to be endowed with a talent, either in fact for the arts, or in fact for the sciences, and to have already given a public and sufficient proof of this talent^{M26}.

Lalande, the principal organiser, became the Grand Master. The lodge was immediately famous and desirable, and in the first year it went from 9 to 141 members. It played a significant role in Franco-American relations at the end of the century and in the evolution of political and

M22a Salm, p. 317

M23 *Correspondance littéraire* (April 1738). See also the *Mémoires secrets* (which reviewed the subject on several occasions in May 1773 and even later) and Delambre, pp.558-559.

M24 Lalande *Bibliographie astronomique* (Paris [1803]), p.537.

M25 Letter of Lalande to Raederer quoted by Damiron, *Mémoire sur Naigeon* (Paris 1827), p.101.

M26 L Amiable, *Une loge maçonnique avant 1789* (Paris 1897), p.32. In the beginning the lodge was composed of members of the Helvétius salon and their friends. These included: Greuze and Horace Vernet, Houdon, who made the bust of Lalande, Moreau the younger, Chénier (one does not know which), Parny and Boucher, Cailhava, Elie de Beaumont, the lawyer for Sirven and Callas, the Caravoglio brothers, Piccinni; the revolutionists Brissot, Bailli, Desmoulins and Danton; the scientists Lacépède and Lalande; the philosophers Condorcet, Cabanis; etc.

social ideas in France. Lalande had a taste for receptions and festivals, he liked the fair sex, and the meetings of the lodge of the Nine Sisters were extremely brilliant with pieces of music, poems, speeches.

It is known that Voltaire was initiated with great pomp into the lodge a few days after the triumph of *Irene*. He inherited the apron of Helvétius and was initiated by Benjamin Franklin. Royal authority which feared the popularity of Voltaire, the 'saviour of Calas', saw with a rather evil eye the splendid festival that Lalande organised for the old poet. After the death of Voltaire, it prohibited any public ceremony. However the French Academy celebrated him at a public meeting on August 25, 1778. The Masonic apotheosis of Voltaire was made on November 28, 1778. It was intended to initiate Alembert, Diderot and Condorcet into the lodge that day, but they abstained - perhaps not to irritate the authorities unnecessarily. But Greuze and other significant characters were affiliated and the ceremony proceeded with impressive pomp. Madame Denis and the marchioness Villette (the good and the beautiful) were present. Franklin inherited the apron of Voltaire. The Masonic apotheosis of Voltaire, which had constituted a challenge to the authorities, compromised the existence of the lodge. Following another episode which shocked the more conservative Masons, Lalande had to defend the rights and freedoms of his lodge. He did it with the ardour that one expects of him. The lodge was condemned, but then the sentence pronounced by the Grand Orient was retracted and the lodge continued to meet, although more modestly. The final judgement, not pronounced until 1780, was in favour of the lodge which had given a beautiful example of courage and firmness^{M27}. In 1779 Lalande passed his charge of leadership to Franklin. The leadership of Franklin was to be calmer. Lalande continued to be interested in Freemason activities, but diminishingly so. Madame Helvétius died in 1800 and the majority of the philosophers, friends of the young Lalande, had died too.

In 1784, 'a sublime innovation came to honour the century of Louis XVI', to quote Restif de La Bretonne^{M28}. It was the flying machine that the brothers Montgolfier, after some experiments in the country, brought to Paris and Versailles. All Paris was filled with enthusiasm for flying machines; 'what an observatory for Hershel, Cassini or Lalande! Lalande was initially interested in the manufacture of balloons because they were made of oil-paper and raised certain practical and technical questions (the Montgolfier brothers had a paper factory). He then criticised his colleagues Pilâtre de Rozier and Blanchard about

the results which they believed he had obtained. Blanchard challenged him to go up in a balloon - and we see with astonishment that the small old man did so in spite of them. He was enchanted by the idea of approaching the stars which he had often observed. He thought that he would be able to direct a balloon by using the various draughts. On July 25, 1799, he rose into the air in one:

I hoped that my air voyage ... would teach me something about the scintillation of stars, the whiteness of the Milky Way, the blackness and composition of the air; I was misled by my confidence, and for which I had to face public opinion. I could not go up sufficiently high.^{M28a}

Lalande formed the bold - and charming - project to go by balloon to the Gotha observatory, the only one in Europe which he had not visited; but the Duke of Gotha feared that Lalande might make observations of military importance from the height of his balloon. He paid the guide and after a beautiful public departure from a garden in Paris (carefully announced in the newspapers) the balloon landed in Saint-Cloud. Lalande had calculated that it was necessary to allow 24 hours to go from Paris to Gotha 'which was the aim of my desires and my hopes'^{M29}. He went to Gotha overland and if he were indignant he does not seem to have deeply felt the humiliation of his failed voyage.

He had started to work with Sylvain Maréchal on the *Dictionnaire des athées* (1800). He wrote the foreword in which he defends the right to be an atheist and maintains, like Bayle a century before, that a society of atheists could and should be virtuous. 'The wise soul' he says 'has the right to be an atheist' (p.15). And he wrote: 'I do not want it said of me one day: Jérôme Lalande, who was one of the foremost astronomers of his age, was not one of the first atheist philosophers' (p.15).

At that time he signed his letters: 'Lalande doyen of the atheists' and entrusted a curious thing to us: 'Cousin believes that my atheism saved me in 1794'^{M29a}. He published two supplements to Maréchal's *Dictionnaire* in which he added to the already considerable and unexpected list compiled by Maréchal; he included the names of almost all those that he admired from Socrates to Rousseau and Napoleon Bonaparte. Napoleon, having learned of this distinction, wrote from Schoenbrunn to François de Neufchateau, director of the Institute, to enjoin Lalande

M27 Amiable, *passim*, and B Faÿ, *La Franc-maçonnerie* (Free-masonry) (Paris 1961) whose deductions and conclusions do not seem to me always convincing.

M28 *Les Nuits de Paris*, ed. Marc Chadbourne (Paris 1960), p.178.

M28a *Bibliographie*, p.817.

M29 *Bibliographie*, p.817; see also Bachaumont, *passim*, who is interested in the misadventures of Lalande.

M29a p.15; Damiron, p.47.

not to publish anything more: he speaks *'about a member of the Institute famous for his knowledge, but fallen today into childhood ... who professes atheism'*. Lalande did not obey the emperor and continued to fire his articles at the reviews of the time. Fortunately Napoleon had the good taste to laugh; one year he even accepted Lalande who wanted to present him with his *Histoire de l'astronomie* and said to him: *'Here is what is advisable to print, you do not mix with metaphysics'*^{M30}.

The notorious and vociferous atheism of the astronomer and his glorious contacts with the freemasons produced violent attacks in the newspapers at the time, especially as, under Napoleon, France began to renew and again become a Christian nation. Barruel mentions Lalande on several occasions amongst Condorcet, Siéyès, Mirabeau ... known at the same time as important followers of Masonry and heroes of impiety and the revolutionary rebellion^{M31}. These men were *'atheists, deists, encyclopedists ... they are all on the list of the jacobins'* p.338. Charles Joseph Colnet^{M32}, the author of *Memoires secrets* published in 1800, attacked Lalande's atheism and other publications (weather almanacs, predictions, etc) with a wearying coarseness. He published several poems tending to ridicule the astronomer: all this is only used to prove the extraordinary reputation of our author and the importance which the public attached to his opinion.

Lalande had written: *'nothing is known. One believes in miracles, wizards, ghosts; one is afraid of thunder, spiders, mice; and in stronger reason one believes in God'*^{M32a} In the last years of his life Lalande seems to have wanted to show that the wise person not only is not afraid of mice, caterpillars and spiders, but they can nourish:

In company, he affected to have in his pocket a box full of spiders, to delicately take them in his fingers, to suck them and to swallow them, while asserting that there was no meat finer or more delicious'^{M32b}

We would hesitate to believe the author about this disgusting trick if the anecdote were not mentioned several times. Chateaubriand speaks

to us *'about an astronomer eater of spiders'*^{M32c} and Ersch, in the article in *France littéraire* that he devotes to Madam de Condorcet, places the episode in her salon.

Lalande had an end worthy of his convictions. Feeling he would soon die, he made ready his journals and then sent for his nephew and his wife with these words: *'I do not need to do anything more'*^{M32d}. He died a little later. A few months before he had written in his memoirs this appreciation of himself which I would like to quote in conclusion:

Not only am I content with my physical condition; but I am content with my moral condition, my philosophy, my pleasure to be useful, my sensitivity, my indifference to pleasures and material goods, my courage to criticise faults, though it made me enemies: I thus enjoyed all the happiness that it is possible for humanity to taste and to feel; I am the happiest man on earth, and I say, like Bayard: I feel my soul depart satisfied with myself.'^{M32e}

M30 Library of the Institute, Fonds Joseph Bertrand, no.2041, p.97. The letter of the emperor was published in a little different terms.

M31 Barruel, *Histoire du jacobinisme*, p.189.

M32 Joseph Colnet, *Les Etrennes de l'Institut national*, connected with the *Mémoires secrets de la république des lettres*(Paris year VIII).

M32a (Damiron, p.103)

M32b *Paris, Versailles*, pp.231-232.

M32c ii.249; Merchant, *loc. cit.*

M32d Delambre, p.268; Salm, p.314.

M32e Salm, pp.324-325.

Lalande

I found the foregoing assessment of Lalande confusing and contradictory. Monod-Cassidy portrays him as a wise philosopher, equating him with Voltaire and Buffon; but, at the same time, she quotes without comment opinions that suggest he was not much more than a dabbler in technology. She describes his diary as detailed and full of insight; but then remarks that it is dry and brief, merely memoranda. She is impartial when presenting evidence but I feel she is biased when expressing her opinion, an opinion that seems more based on desire than reality and presenting an idealisation rather than an actual human being.

The following is my attempt to sift from the diary and Monod-Cassidy's paper an alternative, more coherent picture of the man and his work. Lalande had a "*profound conviction that the duty of the scientist is to make known the truth without being too much concerned with personal susceptibilities*". So he should not mind if I paint him as a less illustrious and more human person.

Lalande was about 31 years old when he went to England in 1763. He was educated, an astronomer with some mathematical training, and had a reasonable command of English and probably German. He never married.³¹¹

According to Monod-Cassidy, he was stunted, 4 feet 6 inches and weighing 106lb; about the size of an 8 years old boy. He had poor eyesight. When walking on the 22nd of May "*we rested a great number of times, because our circuit was of about twelve miles*"; indicating this young man (or Berthoud, his 36 year old companion) was not particularly fit. Furthermore, he lists two stay-makers in his "address book". I think it is extremely unlikely that he went to them on behalf of his mother or friends and I presume they were for his own benefit. So he probably had a hernia or back problems.³¹² Not only do his height and weight

311 There exists a letter from Delambre to Lalande's niece which discusses arrangements for reprinting Delambre's eulogy of Lalande; Mme. Lalande and Delambre had been approached by two different publishers.

312 Someone suggested to me that it was "fashionable" for men to wear stays. I am more inclined to think there was, in most cases, an underlying practical reason in an age when there was no surgery to correct problems like hernia or deformity. I cannot refrain from quoting Campbell *The London Tradesman* (London, 1747) at this point:

"The delicate easy shape we so much admire in *Miranda* is entirely the workmanship of the stay-maker; to him she reveals all her natural deformity, which she industriously conceals from her fond Lord, who was

cont'd

suggest he had some physical limitations, if not actual dwarfism, but his own words near the end of his life support this view: "*Not only am I content with my physical condition ...*".³¹³



More interesting is that Lalande said "*I scorn worldly pleasures, I put up with plays, festivals, dinners. I do not go to spectacles ...*".³¹⁴ In stark contrast, when Lalande visited England he was delighted by plays and spectacles!

caught by her slender waist. Her shape she owes to steel and whalebone ... and her natural self, when deposited in the bridal bed, is a mere lump of animated deformity, fitter far for the undertaker than to be initiated in the mysteries of connubial joy."

313 This enables us to make more sense of the astonishment of Frederick II in Berlin, and dancing "*awkwardly with ladies of the court*".

314 Monod-Cassidy quoting Salm. Unfortunately we are not told when Lalande said this.

On March 18th, after settling in, he apparently went to an oratorio and it clearly bored him. The next day he went to the opera *Orione* and eleven days later to a play at Drury Lane. From the slight increase in details we can suspect he found these more to his liking. But on the 21st of April he went to a ball where “one can play cards and drink tea, ... it cost me 8/6 from 5 pm to 1 am.”³¹⁵ And then on the 27th he went to Covent Garden, giving us a thumbnail sketch of audience behaviour. It can't be said that he was simply an impartial observer. Not only did he see *Orione* again on the 30th April, but he went back to Covent Garden on the 6th May, *Macbeth* on the 20th, Sadler's Wells on the 24th (to howl at the actors and shout *encore*), an orchestra and some “rather pretty singers” on the 25th, and a ball on the 4th of June. For someone who scorns plays and spectacles this must have been a punishing atonement of sins!

Lalande's visits to Ranelagh and Vauxhall (the 18th century's equivalent of Disneyland) are the most notable examples of a dispassionate scientist stoically putting up with worldly pleasures. He went to Ranelagh on the 15th of April and then to Vauxhall on the 21st of April but gives no details. Then, on the 19th May “I spent eleven and a half hours there”, eating and drinking and taking in the entertainment. Not satisfied, two days later “I went to Vauxhall where time passed deliciously”. And these two entries in the diary are amongst the most detailed (another is the rather voyeuristic description of a hanging).³¹⁶ Later in life he organised glittering soirées at his Masonic lodge. In 1788 Lalande returned to England and the following description of him was written by Madame d'Arblay:³¹⁷

M. de Lalande advanced to meet me — I will not be quite positive it was on tiptoe, but certainly with a jerk and strut that could not be quite flat-footed. He kissed his hand with the air of a petit-maitre, and then broke forth into such a harangue of éloges, so Solomon with regard to its own weight and importance ... that I could not help thinking it lucky for the planets, stars and sun, they werenot bound to hear his comments, though obliged to undergo his calcula-

315 Undoubtedly cards for gambling rather than a purely social activity. The cost was about £130 in today's money.

316 On 15th April he wrote *Renelagh* in letters about 5 mm high, at least twice the size of anything else on the page (or anywhere else). Then on 19th of May he similarly wrote *Vauxhall* overlarge. It is also worth noting that of the 7 illustrations in the diary two are the half-page and full-page plans of Vauxhall. In contrast, although Monod-Cassidy says Lalande was interested in botanical gardens he did not sketch them.

317 Quoted from Sir Archibald Geikie, *Annals of the Royal Society Club* (London, 1917).

tions. His figure corresponds no better with his discourse than his scientific profession, for he is an ugly, wrinkled old man, with a fine showy waistcoat, rich lace ruffles and the grimaces of a dentist. I believe he chose to display that a French man of science could be also a man of gallantry.

I can only say that Lalande's death-bed summary of his life (quoted by Monod-Cassidy) appears to me to be pious clap-trap.³¹⁸

This well-documented dichotomy is not the only indication of an apparent contradiction between the polite biographies and the real man. When an old man with poor eyesight goes up in a balloon we must question whether it is actually to observe stars. And, knowing that Lalande liked “to talk about himself”, did he frequently publish in newspapers “to popularise science and to put it in the range of all” or to popularise himself? The latter seems quite credible, especially viewed in the context of eating spiders at parties, and it is not unrealistic to suggest that perhaps Lalande started the rumour of terrestrial disaster himself to promote his paper on comets.

If so, what sort of astronomer-philosopher was Lalande?

Monod-Cassidy notes that Lalande studied mathematics and says that he:

disputed readily and with spirit: his mathematical and brittle spirit, in love with precision, did not allow him to ignore the least inaccuracy.

The diary has many entries related to technology, science and navigation. Lalande mentions the structure of ports, locks, general principles of boat design and methods of stowage. He describes experiments in friction, electricity and magnetism. He gives specific dimensions of ships and information about the London water supply. He describes three marine chairs. But if we examine the technical entries we see that they have two common characteristics. Firstly, they are reports of

318 We might suspect that it was difficult for him to come to terms with his physical condition and emotional needs, and he tried to hide behind an artificial, austere intellectualism.

Just before he left London Lalande wrote “Mr Merlin came to see me in the evening and told me about the popular criticisms of which we are the object in London, among the clock and watch makers, especially Mr Berthoud.” Sadly Lalande doesn't detail these snide remarks or indicate what prompted them. Although he specifically points at Berthoud, I would be very surprised if he himself was not the subject of crude jokes. Merlin's comment suggests that the Frenchmen were not welcome, but whether it was because of their appearance, behaviour or general English attitudes to the French immediately after a long war is not clear.

the statements of other people and there are almost no entries where Lalande expresses his own views. And secondly, they are often rather vague and superficial. The remarks on experiments in fluid friction, electricity and magnetism are fairly obscure, and appear to be the notes of an informed observer and not the analytical writings of a scientist.³¹⁹

Further, there are arithmetical notes at the end of the diary which are sometimes vague and occasionally inaccurate. What struck me most as I translated them was the number of times that Lalande's "*brittle spirit, in love with precision*" let him down. Indeed, there is nothing there to suggest he had anything more than basic mathematical skills.³²⁰

At that time, as we know, the main focus of astronomy was the problem of determining longitude and hence practical navigation. It is not surprising that Monod-Cassidy says:

we see Lalande devoting years of study and several works to the problems of navigation. As always, he was filled with enthusiasm and exceeded the logical limits of the problem. He visited all the ports of France to study their organisation. He discussed methods of constructing boats, how scientific instruments could be installed on them in a stable way, and the nature of these instruments.

I think her comment that he "*discussed methods ...*" is the critical point. He may well have been "*filled with enthusiasm and exceeded the logical limits of the problem*" (whatever that means), but this enthusiasm appears to have been directed towards description rather than research.

In his diary Lalande provides detailed information about various marine chairs. The marine chair was created to determine longitude by observing the eclipses of Jupiter's moons, a method which required powerful telescopes and which was of great utility on land. To a sailor

319 Compare the entries on paper making and tanning with those in Campbell *The London Tradesman*; and the notes on magnetism with the article in Rees, *The cyclopaedia or universal dictionary of arts, sciences and literature*. Other examples of vagueness are his description of the solution for Condamine's ears and of white flannels. Little in the diary would be of later use to Lalande unless he carried many details in his head. Certainly the entries are of marginal use for us today.

320 There is some evidence to indicate that Lalande got other people to do mathematical calculations for him, including Nicole-Reine Lepaute, the wife of the horologist J.A. Lepaute. See Alan Cook, *Ladies in the scientific revolution*, Notes and records of the Royal Society, vol 51, pp 1-12 (1997). Also, it has been noted that at least some of the mathematical tables published under Lalande's name are simply copies of other people's work.

or navigator standing on a ship's rocking deck, the marine chair was nonsense, because it could not stabilise a telescope sufficiently to get the necessary sightings. The intellectually satisfying and theoretically correct method of determining longitude by the eclipses of Jupiter's moons was a delight to the scientist who viewed the Earth as a perfect sphere partly covered with smooth, steady and equally spherical fluid. But it is a navigator's nightmare. Thus, if Lalande had any real understanding of the behaviour of ships and the practical problems of navigation at sea I doubt if he would have spent so much time reporting on this futile fantasy. So there is nothing to show he spent any time at sea and everything points to the views of a land-bound observer. Indeed, Monod-Cassidy says he "did not have time to undertake ocean voyages" although it would be more realistic to say he was physically incapable of them. His longest sea trip was across the English Channel and we can see that Lalande was an academic philosopher, an arm-chair navigator.

We might tentatively add horology, one of the mainstays of astronomy, to Lalande's interests. In 1755 J.A. Lepaute, the husband of Nicole-Reine Lepaute, published his *Traite d'horlogerie* and this book contains two chapters written by le François de Lalande, *Traite des engrenages* and *Remarques sur la maniere de trouver facilement des nombres pour les roües*.³²¹ I say "tentatively" because these do not indicate any real involvement with horology. The two chapters in Lepaute are abstract mechanics and, in many ways, simply a re-iteration of the work of Philippe de La Hire, his fellow traveller Camus³²² and others.

But details about clocks and watches are totally absent from his diary. Other than noting that Berthoud thought the clocks marvellous, there are no details at all of Harrison's timepieces; and the only other horological remarks are something about a clock³²³ and that Mr Nivernais bought a watch.

321 These articles may be what Monod-Cassidy is referring to in her note M28 to the diary. The first of them appears in translation as *A treatise on pitchings* in HL Nelthropp *A treatise on watch-work, past and present* (London, 1873).

322 Camus was undoubtedly a mathematician and mechanic of outstanding ability, and he published a major work on gearing well before Lalande. Perhaps the most accessible version is CEL Camus and JIA Hawkins *A treatise on the teeth of wheels* (London, 3 editions in 1806, 1837 and 1868), which is a translation of 2 chapters from his *Cours de mathematique*.

323 Wednesday 6th April.

Also, there is almost no mention of horologists. He did meet Harrison and Ellicott³²⁴, but other significant people are not mentioned; Cumming, Dutton, Emery, Kendall, Mudge and others who placed England at the forefront of horology. The people he did meet were the academics and astronomers. Despite Monod-Cassidy's suggestion, he paid scant attention to craftsmen. The few he mentions were primarily makers of astronomical tools (opticians and mathematical instrument makers) and, except for Bird, probably contacted for reasons other than their craftsmanship.

Consequently, it is my belief that Lalande knew little about horology and probably wasn't interested in it or Harrison's work.

The above is largely a re-iteration of Delambre's suggestion that Lalande "*continuously shifted interests and this prevented him from closely examining anything*", and through it we can come to understand Lalande's relationship with science and technology. We can presume that Lalande's physique and intellectual curiosity led him into an academic as opposed to practical education, and he then became an astronomical observer. We may also suspect that he lacked the higher level of knowledge needed to be a theoretical astronomer. When still quite young he probably had to give up astronomical observation because of deteriorating eyesight, and his physique would have prevented him from participating in any practical studies. So, being intelligent and multi-lingual, having more in common with Derham than Hooke, he turned his skills to technical journalism.³²⁵ He wrote on astronomy, on navigation and:

he wrote eight small volumes ... he specialised in the arts and wrote on the manufacture of paper and the treatment of leather.

Later he wrote a travel guide to Italy, on atheism and about Africa (which it seems he never visited). Of the 20 or so books credited to him only 6 relate to astronomy.

324 Geikie (Sir Archibald Geikie, *Annals of the Royal Society Club*, London, 1917) indicates that John Ellicott regularly attended dinners at the Mitre tavern and Lalande's association with him was probably much more social than work. Lalande may have wanted Ellicott to propose him for membership of the Royal Society.

325 William Derham (1657-1735), F.R.S. He wrote several books on science, including one on clockwork and one on the discoveries of Robert Hooke and his contemporaries. These are compilations, summaries of the work of scientists, and contain little original to the author. They are surveys showing Derham to be primarily a writer and not a creator.

Describing Lalande as a journalist might sound derogatory but that is not intended. The ability to write well about technology is a rare and valuable skill. Perhaps a better description is a commentator on science.

In assessing the diary I agree with Monod-Cassidy that it is a mine of small details. But small details are only valuable if they provide us with insight which we might not otherwise possess. For example, some of the entries which simply list the places Lalande passed through and which just tell us he visited someone provide little that is interesting or useful.

Monod-Cassidy says Lalande was:

... the traditional tourist. He explored historical and picturesque London with care. He described in detail the rooms of the Tower of London Thanks to him, we see an active city, alive, commercial, a middle-class and cultivated society.

I have to presume she confused Lalande with images from other experiences, as I found that the diary gave me no idea of what London (or France) was like. I have the dubious advantage of having not been to Europe or England, nor have I read much history. Consequently, I had few images of the 18th century before reading this diary. What concerns me is that I had exactly the same images after reading it. Lalande added nothing, whereas looking at Hogarth's prints and thumbing through an "A to Z" enlighten me a little.³²⁶

Most of Lalande's writing has no *feeling*, no *smell* about it. What did people look like? What did buildings look like? What were the streets like? How did the city sound, was it quiet or noisy? His description of the Tower is a brief list of facts. His walk with Berthoud (Sunday 22nd May) gives me no images of appearance of this area. Nowhere does he *describe* the people he met. He simply lists names and places (which is partly why Monod-Cassidy had to add so many notes).

Of course it is clear that the diary just contains personal jottings and was never meant to be published. And so the lack of sensitivity may simply reflect this; some details might have been remembered by Lalande without the need to write them down. But it is important to note that we can be fairly sure he only wrote about what *interested* him and what was new or unusual; electricity, magnetism, naval vessels, entertainment, etc. Which is why the diary is largely a compilation of brief, dry facts with very little interpretation or personal opinion; throughout Lalande observes and listens, objectively writing about what he saw and the statements made by others, and we rarely find him expressing how he felt or thought.³²⁷

326 Campbell *The London Tradesman* (London, 1747) provides a vastly better insight into 18th century London.

327 Apparently Lalande's book on Italy is "*a little weighty, ... a conscientious guide composed like other handbooks of the same kind and in which we find only a few personal opinions*"; a view which is entirely consistent.

Seen in this light, the diary is also important for what it does *not* describe. I have already used this to argue that Lalande was not interested in horology and another example is the official French delegation. Berthoud and Camus were sent to London as an official delegation from the French Academy of Science with the objective of examining John Harrison's timepieces; this is stated in a certificate Berthoud submitted to the Royal Society for election as a fellow:³²⁸

... the Academy of Science ..., by the choice of him by the same society to accompany Mr Camus, one of its members, deputed to assist in the explanation and examination of the elder Harrison's marine chronometer.

Was Lalande a member of this delegation? Monod-Cassidy feebly argues that he was (in her note M51 to the diary). At least one entry in the diary seems to support this view:

We wrote to Lord Charles Cavendish and Lord Morton informing them that we had arrived from France on behalf of the Academy of Science to receive information on the discoveries of Harrison. (Tuesday 3rd May)

In addition to the certificate, which doesn't mention Lalande, there are several facts which contradict this view. Most importantly, he paid his own way and had to *borrow* some of the money, whereas Berthoud and Camus had their trip financed. Not only was Lalande's trip not financed but the official party had about ten times the money that he spent himself.³²⁹ Further, we should remember that he travelled by himself and that he heard of the arrival in London of Camus and Berthoud indirectly.

328 Royal Society Certificate EC/1764/12 dated May 19, 1763.

329 I find it useful to have some idea of costs expressed in present day values, so let me make a very crude comparison. From several explicit statements in the diary we know that the annual wage of an ordinary person was about £50; for example, the servant employed by Camus received 18/- per week. Consequently a very crude, but for my purposes adequate, comparison is to set inflation since that time at about 200:1.

For example, Lalande's trip cost the equivalent of about one year's wages for a worker, perhaps £10,000 (not much more than it would cost me to visit England today). Between them, Berthoud and Camus had 12,000 livres or about £100,000, the equivalent to roughly ten year's wages for a worker. I presume all of this was not meant for living expenses and some was to purchase information.

The quadrant purchased by Lalande cost a year's wages and the longitude prize was worth about £4,000,000, which goes a long way to explaining the attitude of Harrison and others towards the Board of Longitude. More interesting is that oysters were about £3.00 a dozen!

It is noteworthy that Lalande had a letter of introduction to James Short and visited him as soon as he arrived in London. Short was an astronomer and made optical instruments, and hence he and the astronomer Lalande had common interests. Short was also one of Harrison's supporters, but he did not take Lalande to meet Harrison until the *seventh* time Lalande and Short met (on Friday 22nd April, 9 days before the official party of Berthoud and Camus arrived in London). If he was a member of the delegation, surely Lalande would have tried to meet Harrison sooner? But in fact it is not necessary to suppose this meeting to be anything more than Short introducing two of his friends to each other.

Further, I have no doubt that Lalande knew Camus, because of his writings on gearing, and Berthoud, because of his relationship with Lepaute and his wife (not to mention that all three would have moved in the same circles in Paris). Consequently Lalande would have been very useful to the official delegation because he spoke English, he knew his way around London and he had already met most of the key people³³⁰. It is far more likely that Lalande "tagged along" with two acquaintances on an exciting quest, acting as guide and interpreter. Several passages (such as May 14) can be viewed in this light.

If Lalande did not belong to the delegation, why did he go to England? In her note M51 to the diary Monod-Cassidy suggests Lalande went to England for a specific purpose:

The goal of his voyage was certainly to examine and if possible to buy scientific instruments which France lacked, amongst others, a quadrant built by Bird.

Although this is a more sensible assertion than that in her article *An astronomer-philosopher, Jérôme Lalande* (at my note 307), it is not credible. Lalande did buy a quadrant for Mr Sarron (president of the Academy of Science), but there is no reason to suggest anything more than convenience with regard to it; Sarron presumably took the opportunity provided by a friend going to England to buy something for himself or the Academy. Nothing in the diary suggests Lalande was the slightest bit interested in buying any other instruments. He simply could not have bought a model or copy of one of Harrison's timepieces and he would not have bought a marine chair; their principle is simple and it would be far easier to make one in France.

330 The Board of Longitude included Knowles (Admiral of the Blue squadron), Macclesfield (the President of the Royal Society) and Bliss (the Astronomer Royal). Lalande also met Lord Morton (President of the Royal Society from 1764), Maskelyne (Astronomer Royal from 1765) and Short (who was a candidate for the position of Astronomer Royal in 1764).

Indeed, everything in the diary indicates Lalande went on a private holiday and this is entirely consistent with what we know of him. As Monod-Cassidy notes:

Lalande travelled. He went to Germany, Switzerland, Holland, Italy, and twice to England (in 1763 and 1788).

Because of his interests such a holiday would necessarily centre around matters philosophical and his meetings with other astronomers and scientists are natural; no official delegation is needed to explain them.

However, we can postulate a definite reason for the trip - to become a Fellow of the Royal Society. The certificate for his election lists 8 proposers and his diary states that he met six of them, for whom he probably had letters of introduction, within a few days of his arrival.³³¹ And it is likely that he met all of them about the same time.³³²

Two of these were James Short and Lord Morton, and consequently we can be reasonably confident that Lalande's initial meetings with them had nothing to do with the delegation or John Harrison.

Monod-Cassidy views Lalande as intelligent, an able philosopher and a thoughtful writer; a man who contributed to the age of enlightenment. But I am more inclined to say that Lalande was a dilettante who, despite his published attitudes, was more interested in self aggrandisement than advancing science.

Both views are probably correct, but each only reflects one aspect of his complex personality.

331 Royal Society Certificate EC/1763/13, 1763. The proposers were [Lord] Morton (March 24), J Parsons (March 24), James Burrow (not mentioned), James Short (March 16), Gowin Knight (April 14), Thomas Birch (March 17), Charles Morton (March 17) and M Maty (March 16); where the dates in parentheses are when, according to his diary, Lalande first met the person. The certificate was posted on April 14 and Lalande was elected on November 24, 1763.

332 Geikie (Sir Archibald Geikie, *Annals of the Royal Society Club*, London, 1917) notes that James Burrow chaired the Royal Society Club annual meetings and was, presumably a regular at the weekly dinners. Godwin Knight also attended regularly. From this it is likely that Lalande met both men at the Mitre tavern (where he dined at least 7 times) as early as March 17.

Structure of the diary

As noted in my preface, the physical structure of the diary as well as its contents is of some interest. The following examines the diary in detail and draws conclusions about how it was written and if any pages were removed by Lalande. I have not examined the original and this analysis is based on the examination a microfilm copy and information provided by the Bibliothèque Mazarine.

Physical structure

The diary consists of 42 *sheets* of paper bound in a cover. The sheets are 14 x 11.2 cm, folded in half and joined in the middle by a single, wide stitch. Thus the 42 sheets form 84 *leaves* which are 7 x 11.2 cm. The "front" of a leaf is the *recto* page and the "back" is the *verso* page. There is no obvious lack of leaves and, consequently, if any have been removed the entire sheet has been pulled out (otherwise a leaf would be loose or attached to the stitch by the stub of the removed leaf).

The diary has been repaired, indicated by the loss of text on the last page where it appears the cover has been re-attached. The string holding the pages together may or may not have been replaced at some time.

If a book of this structure has S sheets and its pages are identified by the numbers 1 to $4S$, then the *identifying numbers* of the pages on sheet n are

$$P_1 = 2n-1, P_2 = 2n, P_3 = 4S-2n+1, P_4 = 4S-2n+2$$

where the first two, P_1 and P_2 , are before the centre and the last two, P_3 and P_4 , after the centre of the book. These identifying numbers will only correspond to numbers written on pages if the written numbers are in sequence from 1 to $4S$.

In the case of Lalande's diary, there are 168 recto and verso pages and sheet n contains pages $2n-1$, $2n$, $169-2n$ and $170-2n$. For example, sheet 33 has the pages identified 65-66 and 103-104. Likewise, sheet 41 has the pages identified 81-82 and 87-88. It is important to note that pages identified 1 to 84 occur before the centre stitching and have corresponding pages (on the same sheet of paper) in the second half identified 85 to 168. It is also necessary to note that each recto page has an odd identifying number and its verso page the next even identifying number.

Lalande did not number every page; in fact 73 of the 168 pages are not numbered. But all pages either have numbers hand-written on them or are surrounded by numbered pages in such a way that their numbers can be assigned unambiguously; except in one case which will be discussed later.

Lalande's hand-written numbers run from (1) to 172, where parentheses indicate there is no written number but the number is unambiguously deduced from surrounding pages; in this case it is the first page and is followed by a blank page and then page 3.

The pages in the manuscript are definitely numbered:

(1) to 64, (67)-(68), 69 to 80, (83), and 84 to 172

The choice of the pair (67)-(68) is derived from the following analysis.

These numbers do not agree with the identifying numbers because 4 numbers have been omitted; 65, 66, 81 and 82. In order to avoid confusion the identifying numbers will be shown in italics and Lalande's numbers in roman characters. The relationship between these two numbering systems is:

(1) to 64	(67) to 80	(83) to 172
<i>1</i> to 64	<i>65</i> to 78	<i>79</i> to 168

The omitted page numbers occur in the first half of the diary. Consequently the first half has pages numbered 1 to (88) and the second half 89 to 172 (identifying numbers *1* to 84 and *85* to 168).

Diary entries

Page 1 is a title page and page 2 is blank. Pages 3 to 118 (*3* to *114*) contain chronological entries for March 4 to June 9. The remaining entries, for June 10 to June 17, appear on pages 123, 124, 125, 126, 134, 152 and 153, interleaved with notes.

As we would expect, there is some evidence to show that in most cases the entry for a day was written up that evening, or even one or two days later. For example, there are a few errors where Lalande has started writing something and then crossed it out, and these strongly suggest he was incorrectly remembering events and confusing two or more days.

In two instances entries were deliberately written "out of sequence". In the first case the visit to Dunkirk is written separately on pages 11 to 14 with half of page 14 left blank. In the second case the entries *marine* and *marine anglaise* were written quite separately on pages 119-120 and 121-122.

Notes

The arrangement of the parts of the diary following the chronological entries is:

- 119-122: Marine.
- 123-126: Three notes (otherwise used for diary entries).
- 127-132: Anecdotes.
- 133-135: Journals, books.

- (e) 136-158: Miscellaneous notes, books, tables.
- (f) 159-167: Addresses.
- (g) 168: Books
- (h) 169: Table added in 1788.
- (i) 170: Two notes, otherwise blank.
- (j) 171-172: Table of contents.

Both the anecdotes and addresses occupy blocks of pages with the anecdotes having a heading on page 127. These entries were written forwards (starting at page 127 and 159) and blocks of pages must have been reserved for them very early on³³³. The intervening pages 133-158 are a jumble and there is no clear evidence to indicate when any page was written.

From this information we may assume that Lalande divided the book into three parts (diary entries, anecdotes & books, and addresses) with, as we shall see, the contents added later.

Hand-writing

The diary entries up to page 115 (June 3) and most of the notes are generally in a clear hand. Lalande's writing is regular and neat, with the lines of characters as straight and evenly spaced as could be expected. Although it varies in size, the writing is normally quite small. The largest lower case letters like "a" are a little over 1 mm high and a "t" about 2 mm. In places where space was a premium Lalande reduced the size of "a" to less than 0.75 mm and some letters are only 0.5 mm. There are two obvious exceptions. On April 15th Lalande wrote *Rene-lagh* in letters about 5 mm high and then on May 19th he similarly wrote *Vauxhall* overlarge.

On June 3 Lalande mentions that he intended leaving London on June 6. At that point there would have been 3 blank pages (116 to 118) in which to enter 3 days and his return to Paris, probably sufficient space. But he remained in London until June 10 and the consequences are quite clear. In order to cope with more entries, Lalande reduced the size of his writing and squeezed six and a half days onto 3 pages. This got him to the end of June 9 with just enough space to add "*Le 10 juin au matin parti de Londres, v 123*". The remaining diary entries are fitted in amongst previously written notes, mainly on pages 123 to 126 which were nearly empty. Throughout these final entries his writing is small and cramped, most noticeably on the pages having notes on them which were written earlier.

333 It is likely that the first two pages of addresses were written before Lalande left Paris.

Illustrations

There are 7 illustrations in the diary, of which 6 are reproduced by Monod-Cassidy. Four are small, in-text drawings and one is a third-page plan of Dunkirk. The other two are half-page and full-page plans of Vauxhall:

Page	Illustration
(12)	Plan of Dunkirk (not reproduced by Monod-Cassidy)
59	Bar magnet
(60)	Magnetising a bar
(87)	Light experiment
95	Plan of Vauxhall
(98)-99	Plan of Vauxhall
130	Wheel flange

Later entries

There are a few later entries, clearly indicated by referring to events after 1763. The most significant is the full-page table of currency conversions for 1786 and 1788. Other late additions are just brief notes. The table strongly suggests that Lalande took the diary back to England on his second trip in 1788, 25 years later, and some or all of the other later entries probably date from this second trip. Although uncertain, it is likely that these include a few books and at least one address.

Page numbering

As noted earlier, Lalande did not number every page. Up to page 99 most of the rectos are numbered and most of the versos unnumbered. In the remainder most pages are numbered. The distribution of numbered and un-numbered pages is not uniform and there are a few blocks of unnumbered pages. For example, in pages 49 to 56 only 53 is numbered. Similarly between pages 6 and 16 only page 13 is numbered.

The style, size and position of page numbers varies throughout. On the majority of pages the entries begin at the top margin of the page and no allowance was made for page numbers before they were written. Consequently page numbers are inserted in whatever space was available. In contrast, on at least two pages, 107 and 116, it appears that the page numbers were written before the entries. Other pages where this may have happened are 64, 117, 118, 125 and 167, but there is no clear evidence.

The entry for June 9 on page 118 contains the text "(v. p. 154)". Because it is written in the middle of a line, this text indicates that page 154 was numbered on or before the date that this entry was written.

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Ink blots

The diary was written throughout using liquid ink. A few pages have partial mirror-images of writing on the opposite page, caused by the diary being closed or a page being turned before the ink had dried completely. Such *blots* give an indication of the order in which the page was written. These blots are:

Page	Blot
(14)	Words in middle of page 15. Lalande wrote the first part on board ship and the following entry after he had landed in Dover.
(24)	Page number of page 25.
(32)	Page number of page 33.
(40)	Page number of page 41.
(68)	Page number of page 69.
(96)	Words at bottom of page 97; the page was turned over to continue the entry.
119	Dates changed at top and bottom of page 118. Both changes must have been made after the page had been written.
(122)	Dates changed at middle and bottom of page 123. Both changes must have been made after the page had been written.
(131)	Scribble on page 130.
136	Words on page (137). This shows that the entries on page (137) were written at different times.
(146)	Part of <i>Chaldron</i> on page 147. Late addition of a heading.
(164)	Page number of page 165.

There are a few other blots which are dubious.

Table of contents and cross-references

The final two pages of the diary are a table of contents with 138 entries in it. The first diary page referenced is 3 and the last is 170. Many entries are difficult to interpret because part or all of the key word or page number is obscured on the microfilm (and probably in the original). Having carefully examined it I found that several entries could be confidently interpreted, but 6 entries either have no page number or the number cannot be interpreted.

In a number of instances the order of writing entries is clear because there are several page numbers for the one key word. For example, Lalande wrote *Camus 71* before he added the page number *64*.

In addition to the pages listed in the table of contents, there are 20 cross-references to pages (15), 118, 123, (124), 126, 134, 136, 140, (146), 147, 151, 152, 154 and 167:

Page	Pages referenced
cover	(146), Paris bushels; 140, guineas compared with louis
3	152, return to Paris
(15)	123, Dover; (124), cost of passage; 152, return to Paris
115	167, fire alarm
118	123, diary entry link; 154, epitaph
123	152, time of Dover-Calais passage
124	15, cost of Dover-Calais passage
126	134, diary entry link
128	118 publication of Bradley's papers
134	126, diary entry link; 152, diary entry link
147	136, coal measure; 151, coal cost
151	147, bushels of coal
152	134, diary entry link
154	118, epitaph

Except for rough notes, the first 2 pages of the diary are not used and 3 pages at the end are the contents and the table added in 1788. Of the remaining 163 pages, 92 are numbered and 71 are not numbered. The table of contents and the cross-references refer to 96 pages of which:

- 73 are numbered by Lalande, and
- 22 are not numbered but are adjacent to a numbered page; in no case does a page have to be turned over to see the referenced page.
- 1 is not numbered and is not adjacent to a numbered page; this is page 15.

Of the 92 numbered pages in the diary 80 (87%) are referenced directly, or indirectly by the adjacent page.³³⁴

Of the 71 un-numbered pages 23 (32%) are referenced but, as noted, *all bar one* are adjacent to numbered pages.

The 12 unused numbered pages are 13, 69, 89, 113, 135, 141, 156, 159, 162, 163, 165 and 166; 5 are adjacent to a numbered page that is used.

In the two blocks of un-numbered pages mentioned above only page 53 is numbered in pages 49 to 56 and that is the only one referenced in the

³³⁴ The discrepancy in the figures is because in some cases Lalande references a numbered page both directly and indirectly.

contents table; similarly between pages 6 and 16 only page 13 is numbered, but no reference to it has been found, although it is next to the referenced page (15).

Underlining

Many words are underlined throughout the diary. The correlation between these words and the table of contents is not strong and many of them cannot be related to the table. However, the correlation is good enough to suggest that Lalande underlined words with the intention of including them (or related words) in the table of contents.

Conclusions

The following general conclusions are based on the above facts:

G1 A page was numbered if and only if Lalande intended to or did include a table of contents entry referring to that page, or he cross-referenced that page.

This is self evident from the above analysis.

G2 At least some pages were numbered and hence the table of contents at least partially created before Lalande returned to Paris.

Without doubt page 154 was numbered before or while Lalande wrote on page 118. It is not credible to suppose that Lalande only numbered this page, counting un-numbered pages from 1 to 154 to do so. Further, the page numbers 107 and 116 appear to have been written on or before the entries on those pages; May 29 and June 4.

G3 The majority of pages were numbered after entries had been written on those pages.

Because a page was numbered to create the table of contents, Lalande would have to have written something on that page before he knew that a table of contents entry might be needed. In some instances he may have been able to predict the need, but it is far more likely that at least part of the page was written before the decision was made.

The page number blots support this view because they indicate that the number alone was written and then the page pressed against the previous page.

G4 Pages 127-167 were at least partly used from the start of Lalande's journey and entries were made throughout his trip.

The anecdotes, newspapers, books, miscellaneous notes and addresses would have been written when needed.

The missing page numbers

Which page numbers are missing?

As noted above, four page numbers are missing from the diary and these occur in two places. In order to be precise the existing pages in the diary are numbered:

..., 64, (), (), 69, ...

..., 80, (), 84, ...

where the un-numbered pages cannot be assigned a unique number.

Monod-Cassidy noted that there are four page numbers missing, writing:

pp 66-67 missing in the manuscript; probably an error in pagination

pp 82-83 missing; probably an error in pagination

Now, it has already been noted that in a book of S sheets the *identifying numbers* of the pages on sheet n are

$$P_1 = 2n-1, P_2 = 2n, P_3 = 4S-2n+1, P_4 = 4S-2n+2$$

where P_1 and P_2 are before the centre and P_3 and P_4 are after the centre of the book. The first two numbers are independent of S and consequently

$$n = (P_1+1)\mathcal{Z} \quad \text{and} \quad n = P_2\mathcal{Z}$$

no matter how many sheets are or were in the diary. For example page 66 must be the second (verso) page on sheet 33 and page 67 must be the first (recto) page on sheet 34.

If Monod-Cassidy is correct, the page numbering in the first case must be 64, (65), (**m**), (**m**), (68), 69, where (**m**) denotes a missing page. But page 65 is the first page on sheet 33 and it is impossible to leave it in the diary and remove its other side. Likewise page 68 is on sheet 34 and page 67 cannot be removed. The same argument applies to the second set of page numbers.

So Monod-Cassidy's choice of numbers can only occur, as she suggests, if pages were mis-numbered with page 68 on the back of page 65. However, there is no justification for this choice of numbers. Two acceptable pairs of numbers in the first case are 65-66 (sheet 33) or 67-68 (sheet 34). In the second case only one pair is possible, 81-82 (sheet 41).

With this correction, two alternative explanations become possible: either Lalande mis-numbered the pages, omitting two numbers in each case, or he removed two leaves producing gaps in the numbering.

The possibility that pages have been removed from the diary has been used by two authors.³³⁵ They suggest that Lalande may have written information which was removed from the diary and given to another person (Ferdinand Berthoud). It is thus necessary to examine the alternative explanations and see if either or both are feasible.

Errors in pagination

For simplicity I will assume both cases are errors in pagination. Then the diary has always had 42 sheets and 168 pages.

For Lalande to make such an error he must have counted pages from some previously numbered page and then *thought* he had turned over one more leaf than he actually had. Thus the error must be the result of incorrect counting.³³⁶

In the first case, page 64 has the correct number and page 69, the next numbered page, is wrong. An error in counting is unlikely unless a reasonably large number of pages must be counted, and so we may assume that many pages before 69 (especially 64) had no numbers at that time. Consequently, because pages were numbered for the table of contents, very few if any contents entries for earlier pages can have been generated when the entry for page 69 was created.

The same argument applies to the second wrong number, 84. But in this case, in order to get an error of 4 pages, we must assume Lalande had already numbered page 69. Therefore he must have miscounted the pages from 69 to 84, a mere 13 pages on 7 leaves. (Lalande might have numbered 84 first, making *two* counting errors, and then numbered 69 making *one* counting error, but this is not credible.)

In addition we know that the pages were not counted backwards to produce an error. This would require a later number to be correct and no such correct number exists.

We can conclude that, for these discrepancies to be errors:

- E1** When page 69 was numbered no pages after it had previously been numbered.

If a page after 69 had been numbered then it would *not* have an incorrect number, unless Lalande made errors repeatedly (an untenable suggestion).

335 Andrewes and Randall, both in Andrewes (editor) *The Quest for Longitude* (USA, 1996).

336 Although irrelevant, consider the reverse case where a page number is too low; for example 64, (65), (66), (67), 66. This can occur if two leaves are turned over together and treated as one leaf and may happen if leaves stick together. It could also occur with an error in counting. In contrast, the case being considered can *only* occur by a counting error.

- E2** When page 69 was numbered very few if any pages before it had been numbered.

- E3** When page 84 was numbered no pages after it had previously been numbered.

If a page after 84 had been numbered then it would not have an incorrect number or it would be incorrect by 2 (because of the discrepancy at page 69) and not 4.

- E4** When page 84 was numbered, no pages between 69 and 84 were numbered and Lalande miscounted the pages between them.

- E5** Lalande numbered many pages after 84 *in order* from 84 to 172. Assuming two mis-numberings implies Lalande was prone to making such errors. For the remaining pages to be error free he cannot have numbered a page unless a nearby, preceding page was numbered.

- E6** At least some contents entries were generated in order of page number. This was the only reason to number pages and the above points indicate that many pages were numbered sequentially.

Under these circumstances it is *extremely unlikely* that the missing page numbers were the result of errors in pagination.

Page removal

If pages were removed then the entire sheets with those pages were removed, because there is no evidence of page removal and no half sheets corresponding to the other leaves of the sheets. Consequently the diary originally had 44 sheets and 176 pages.

The effect of removing pages depends on the *order* in which page removal and page numbering took place. To simplify the argument I will consider the removal of *15-16* and *81-82*, where numbers in italics are the identifying numbers for the original 44 sheet book.

There are three possibilities:

No pages numbered. In this case the original identifying numbers are:

1 ... 11 ... *14 15 16 17* ... 68 69 ... 80 *81 82 83* ... 94 95 96 97 ... 160 161 162 163 ... 166 ... 176

After the sheets have been removed four gaps are created in these identifying numbers:

1 ... 11 ... *14* 17 ... 68 69 ... 80 83 ... 94 97 ... 160 163 ... 166 ... 176

If we then number the remaining pages sequentially we have:

1 ... 11 ... *14* 15 ... 66 67 ... 78 79 ... 90 91 ... 154 155 ... 158 ... 168

where there are no breaks in numbering, the centre pages are numbered 84-85 and the last page is numbered 168. This is impossible be-

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cause the centre and last pages in Lalande's diary are numbered 88-89 and 172.

All pages numbered. If all pages are numbered before removal the resulting sequence must be the same as the identifying numbers:

1 ... 11 ... 14 17 ... 68 69 ... 80 83 ... 94 97 ... 160 163 ... 166 ... 176

where there are four breaks in numbering, the centre pages are numbered 88-89 and the last page is numbered 176. Again this is impossible.

Some pages numbered. Assume only pages 11 and 69 are numbered:

1 ... **11** ... 14 15 16 17 ... 68 **69** ... 80 81 82 83 ... 94 95 96 97 ... 160 161 162 163 ... 166 ... 176

As before, removing sheets creates four gaps in the identifying numbers:

1 ... **11** ... 14 17 ... 68 **69** ... 80 83 ... 94 97 ... 160 163 ... 166 ... 176

If we then number the remaining pages sequentially the numbered page 69 forces higher values on the following numbers:

1 ... **11** ... 14 15 ... 66 **69** ... 80 81 ... 92 93 ... 156 157 ... 160 ... 170

Indeed, the removal of *any* sheet with identifying numbers between 12 and 68 will produce this sequence. This shows that the number discrepancy becomes visible *immediately before the first numbered page subsequent to the discrepancy irrespective of which sheet is removed*. If no pages are numbered the discrepancy propagates to the end of the book (as in the first case) and if all pages are numbered the discrepancy is locked in its position (as in the second case).

Note that if a sheet before the page numbered 11 is removed then the discrepancy propagates only as far as that page.

The above does not agree with Lalande's diary and two locking numbers are required, 69 and 83 (actually the numbered page is the verso 84):

1 ... 11 ... 14 15 16 17 ... 68 **69** ... 80 81 82 **83** ... 94 95 96 97 ... 160 161 162 163 ... 166 ... 176

After removing 15-16 and 81-82 there are four gaps in the identifying numbers:

1 ... 11 ... 14 17 ... 68 **69** ... 80 **83** ... 94 97 ... 160 163 ... 166 ... 176

Now number the pages:

1 ... 11 ... 14 15 ... 66 **69** ... 80 **83** ... 94 95 ... 158 159 ... 162 ... 172

This is the correct numbering.

Which sheets could be removed and when they were removed is constrained by what would have been written on their pages. Diary entries fill all pages to 118 (122) and these sheets would eventually have had entries on their other leaves. But there are no gaps in the entries and there is no evidence that pages have been re-written. Further, because pages 127 onwards contain anecdotes and notes that were probably

written very early in Lalande's trip, we can tentatively conclude that it is unlikely any of sheets 1-23 could have been removed and consequently only a page after (46) (in the first half) could be removed. This page has part of the entry for April 17 on it. Although we can work out latest dates for removal of any sheet, all that is really relevant is that they *must have been removed while Lalande was in London*.

We can immediately draw six conclusions:

- R1** Page 69 was numbered *before* one of the sheets between pages 46 and 67 was removed.
- R2** Page 83 was numbered *before* one of the sheets between pages 69 and 83 was removed.
- R3** Pages 95-172 (97-176) were numbered *after* both sheets had been removed.
- R4** The table of contents entries for pages 95-172 were not created until after the sheets had been removed.
- R5** At least some table of contents entries were created sequentially in order of page number; certainly some entries for pages 3-(94) were created before any entries after page (94).
- R6** Pages 67-68 were not removed.

From R1, the blot of the number 69 on the preceding page occurred before page removal and so the immediately preceding page was not removed.

Although not particularly useful, the table of contents has two interesting entries:

harrison 81

wilkes 65

The pages that these entries refer to are un-numbered but next to the numbered pages 80 and 64. Consequently assigning the numbers 81 and 65 is natural, as normally the next page should have the next page number. However, this does show that the entry for Harrison was not made until after a page had been removed; otherwise it would have been correctly numbered 83. Likewise we can suspect that the entry for Wilkes occurred after removal of a preceding page.

This confirms the suggestion that not all table of contents entries were created in page number order.

It is more important that a date has been inserted immediately preceding the visit to Harrison on May 9. Assuming this date was inserted in 1763, it would make some sense if there had been two extra pages between this page and the start of the entry on page (79). This might support the view that pages 80-81 were removed.

Other possible page removals

There is nothing to prevent Lalande having removed pages from the centre of the diary before May 15; before this date any additional sheets would be completely blank.

However, it would appear from the microfilm that the stitch holding the pages together is reasonably firm. If this string is original only one or two pages could have been removed.

As there is no evidence to support such removals the suggestion must be ignored.

Conclusions

The arguments presented above show that page mis-numbering is very unlikely and consequently it is almost certain that pages were removed.

Reasons for page removal

To justify the above argument it is necessary to propose a sensible reason for Lalande to remove pages from his diary.

Because the pages were removed in London we can conclude that he did not want to keep them; otherwise he would have left them in the diary at least until he returned to Paris.

There is no evidence to suggest the pages were used for rough notes that were later transcribed. The only places where calculations might be relevant are entries from page 140 onwards and it is irrational to suppose Lalande used a remote sheet for rough work. Some rough notes appear on the front cover and page 153 and these are either cross-referenced to their transcribed entries or not mentioned elsewhere.

Consequently, Lalande *removed the pages to give them to someone else*

Further, it is sensible to presume that *no other paper was readily available* when he wrote on the removed sheets. Whether he was making calculations or writing something for another person, we can expect him to have used other paper if it had been available.

Finally, unless we decide Lalande behaved irrationally what he wrote should relate to a nearby (probably adjacent) page; otherwise he would have removed the centre or some other page. As there appears to be nothing written anywhere near the second halves of the sheets that would justify Lalande writing on and removing the sheets we may conclude that *what was written on them related to corresponding diary entries*.

I have shown that we cannot definitely state which pages were removed, so we need to find entries in pages 47-66 and 69-80 where Lalande was out-and-about and might have noted something to give to another person.

In the first case the most likely entries are April 22nd (pages 53-54, to describe the clocks when he visited to Harrison) and April 26th (pages 57-58, to write a letter to Fouchi).

In the second case there are also two most likely possibilities: May 3rd (pages 73-74, to make notes on street lighting for Parcieux) and May 9th (pages 81-82, Harrison's timepieces again). In this latter case May 9th is more likely because of the apparently pointless insertion of a date on page (83).

In both cases other possibilities exist. I will not discuss the implications of different choices here.³³⁷

337 See Richard Watkins, *Berthoud, Harrison and Lalande: a near myth!* (to be published).

Bibliography

The following is a fairly complete list of books written by Lalande or published under his name.

Abrégé d'astronomie

1774 (xxxvi, 507 pp, 16 folding plates, Paris: Veauve Desaint), 1775, 1795 (xxx, 417 pp, 16 pl, Paris: Didot)

Astronomisches handbuch

1775 (744 pp, 16 plates, Leipzig: Flittner & Müller)

Art de faire le maroquin

1765, listed in the Royal Soc Library

Art de faire le papier

1761 (14 plates), 1975 (ii, 150 pp, 14 plates, Scolar Press); see also *Description des arts et metiers*.

Art of making paper

1763 (London: Universal Magazine of Knowledge and Pleasure, possibly translated by Lalande), 1978 (31 pp, 6 plates, Loughborough: Plough Press)

Art of Papermaking

1976 (Clare: The Ashling Press, translated by Richard MacIntyre Atkinson)

Kunst papier zu machen

1984 (238 pp, ill, Münster: A. Bruns)

Art de faire le parchemin

1762, listed in the Royal Soc Library

Art de l'hongroyeur

1765, listed in the Royal Soc Library

Art du cartonier

1762, listed in the Royal Soc Library

Art du chamoiseur

1763, listed in the Royal Soc Library

Art du corroyeur

1767, listed in the Royal Soc Library

Art du megissier

1765, listed in the Royal Soc Library

Art du tanneur

1764, listed in the Royal Soc Library

Astronomie

1764, 1771, 1781 (4 vols, Paris: Veuve Desaint)

Astronomie des dames

1795 (Paris: Cuchet), 1841 (268 pp, Paris: Rene)

Bibliographie astronomique

1803 (Paris), 1970 (viii, 966 pp, Amsterdam)

Canaux de Navigation

1778 (xix, 588 pp, 14 plates, Paris: Veuve Desaint)

Compendio d'astronomia colle tavole astronomiche

1777 (xxvi, 316 pp, 10 plates and iv, 254 pp, Padova: Giovanni Manfre); probably a translation of *Abrégé d'astronomie*

Connoissance des mouvements celestes

1761 (242pp, folding map, Paris: Imprimerie Royale), 1762 (246pp, Paris: Académie Royale des Sciences), 1763, 1765?

Dictionnaire des Athées

1805 (2nd supplement, Paris)

Discours sur la douceur

1786 (83 pp, Bourg-en-Bresse, 2nd edn)

Histoire de l'astronomie pour 1805

Listed in the Royal Soc Library

Memoire sur l'interieur de l'Afrique

1795 (an III, 39 pp, 1 plate, Paris: Impr. des administrations nationales)

Reflexions sur les cometes qui peuvent approcher de la Terre

Listed in the Royal Society Library

Tables astronomiques

Listed in the Royal Society Library

Tables de logarithmes étendues à 7 décimales

nd (204, 28pp, Paris: Gauthier-Villars), 1871

Tables de logarithmes pour les nombres et pour les sinus

1808 (200 pp, Paris: Didot), 1824 (200 pp, Paris: Didot)

Traite du flux et reflux de la mer

Listed in the Royal Society Library (also in vol 4 of *Astronomie*)

Voyage d'un françois en Italie

1759 (8 volumes, atlas, Paris: Desaint), 1786 (9 volumes, atlas, Paris: Veuve Desaint)