

The Adventures
and Speculations
of the Ingenious
Peter Perez Burdett

The Adventures and Speculations of the Ingenious Peter Perez Burdett

By

Stephen Leach

**Cambridge
Scholars
Publishing**



The Adventures and Speculations of the Ingenious Peter Perez Burdett

By Stephen Leach

This book first published 2023

Cambridge Scholars Publishing

Lady Stephenson Library, Newcastle upon Tyne, NE6 2PA, UK

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

Copyright © 2023 by Stephen Leach

All rights for this book reserved. No part of this book may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the copyright owner.

ISBN (10): 1-5275-9217-0

ISBN (13): 978-1-5275-9217-9

For Tom

CONTENTS

List of Illustrations	xi
Acknowledgements	xiii
Introduction	xiv
Part I: England	
Chapter 1	2
The Transit of Venus	
Chapter 2	13
Amen Alley	
<i>A Picturesque View</i>	
<i>A Map of Derbyshire</i>	
<i>Joseph Wright</i>	
Chapter 3	28
The Orrery	
Chapter 4	33
The Prize	
<i>George Perry</i>	
<i>A New Proposal</i>	
<i>Before the Board</i>	
Chapter 5	42
Sam's Coffee House	
<i>Georg Wilhelm Kottowsky</i>	
<i>Benjamin Franklin</i>	
<i>Threadneedle Street</i>	
Chapter 6	56
Love Conquers All: Sulphuric Acid, Carbon Dioxide and Bone	

Chapter 7	63
The Burdett Line	
<i>A Map of Lancashire</i>	
<i>A Proposed Canal</i>	
<i>A Map of Cheshire</i>	
Chapter 8	79
Octagonians	
<i>Burdett's Liverpool</i>	
<i>Two Conversations</i>	
<i>A Future History</i>	
Chapter 9	106
The Prince's Secret	
<i>At the Soho Manufactory</i>	
<i>Dear Joe</i>	
<i>Jean-Jacques Rousseau</i>	
Chapter 10	137
Etruria	
<i>A Business of Moonshine</i>	
<i>A Red Hot Gentleman</i>	
<i>The Frog Service</i>	
Chapter 11	157
The Secret is Sold	
<i>Successful</i>	
<i>Joseph Banks</i>	
<i>Flight</i>	
 Part II: Baden	
Chapter 12	170
The Road to Baden	
Chapter 13	184
The Golden Man	
<i>A Beautiful Little Toy</i>	
<i>Triangulation</i>	
<i>Your Highness's Most Obedient Servant</i>	

Chapter 14	201
The Queen of Golconda	
Chapter 15	216
The American Cause	
<i>A Gracious Proposal</i>	
<i>Baron von Steuben</i>	
<i>James Crammond</i>	
Chapter 16	234
The Whole World is Composed of Jarring Atoms	
<i>The Captive King</i>	
<i>Frederique in Switzerland</i>	
<i>Nancy</i>	
Chapter 17	242
The Optical Compass	
<i>A Map and Compass</i>	
<i>Voltaire</i>	
<i>Sublime Switzerland</i>	
Chapter 18	259
The Noble Captain of the Carolina	
<i>An Inland Navy</i>	
<i>Dutch Holiday</i>	
<i>Sailing on the Rhine</i>	
Chapter 19	279
The Arbitration of Taste	
<i>The Power of Sound</i>	
<i>Drawing Portraits by Proxy</i>	
<i>God's Body is Light and his Soul is Truth</i>	
Chapter 20	293
The Greatest Rascal in the Sublunary World	
<i>Lavater</i>	
<i>The Holy Bonds of Matrimony</i>	
<i>Progress in Science and Art</i>	

Chapter 21	304
The Vanishing Point	
<i>Potsdam</i>	
<i>The Beauties of Spring</i>	
<i>Tulla's Testimonial</i>	
Epilogue.....	320
<i>Old Friends</i>	
<i>Nancy in Bohemia</i>	
<i>The Carlsruhe Pyramid</i>	
Bibliography	326
Index	334

LIST OF ILLUSTRATIONS

- | | |
|-------------|--|
| Figure 6.1 | Burdett by Wright, c.1767. |
| Figure 8.1 | St. Peter's and St. Nicholas's Church. |
| Figure 8.2 | St. Thomas's Church. |
| Figure 8.3 | St. Paul's Church. |
| Figure 8.4 | The Blue Coat Hospital. |
| Figure 8.5 | The North Front of the Sailors' Hospital. |
| Figure 8.6 | The Poor House. |
| Figure 8.7 | The Exchange. |
| Figure 8.8 | A View of the Customs House. |
| Figure 8.9 | 'A Conversation of Girls' by Joseph Wright, 1770. |
| Figure 8.10 | Lancaster Castle Gate. |
| Figure 9.1 | The Soho Manufactory. |
| Figure 9.2 | The Wolf and the Crane. |
| Figure 9.3 | Elijah in the Wilderness. |
| Figure 9.4 | View of Radcliffe's Library and St. Mary's Church. |
| Figure 9.5 | Sketch for the Alchymist. |
| Figure 9.7 | 'The Alchymist . . .' by Joseph Wright, 1771. |
| Figure 9.7 | Burdett's sketch for Joseph Wright's 'Captive King'. |
| Figure 9.8 | The Barton Aqueduct, after Jean-Jacques Rousseau. |
| Figure 9.9 | The Worsley Basin, after Jean-Jacques Rousseau. |
| Figure 9.10 | Brampton Place, 1768. |
| Figure 9.11 | 'Democritus in Meditation' by Salvator Rosa. |
| Figure 9.12 | 'The Philosopher by Lamplight' by Joseph Wright, 1769. |
| Figure 10.1 | Hannah Burdett? |
| Plate 1 | Burdett's house in Full Street, 1769. |
| Plate 2 | 'Three Persons Viewing the Gladiator by Candlelight' by Joseph Wright, 1765. |
| Plate 3 | 'Peter Perez Burdett and his first wife Hannah' by Joseph Wright, 1765. |
| Plate 4 | 'A Philosopher Giving a Lecture on the Orrery' by Joseph Wright, 1766. |

- | | |
|-------------|---|
| Plate 5 | Burdett's Map of Derbyshire, 1767. |
| Plate 6 | 'An Experiment on a Bird in the Airpump' by Joseph Wright, 1768. |
| Plate 7 | Composition with a Skeleton on a Seashore. |
| Plate 8 | Banditti robbing Fishermen. |
| Plate 9 | Two Boys by Candlelight Blowing the Bladder. |
| Plate 10 | Carlsruhe Palace, rear view. |
| Plate 11 | Burdett (1786) by Philipp Jakob Becker. |
| Figure 13.1 | Caroline Louisa by Joseph Wolfgang Hauwiller. |
| Figure 15.1 | The <i>Libertas Americana</i> . |
| Figure 17.1 | Carlsruhe Palace, front view. Johann Baptist Haas, after Burdett. |
| Figure 17.2 | Detail of Burdett's map of Cheshire, 1777. |
| Figure 17.3 | The Optical Compass. |
| Figure 22 | Anna Nancy Nostitz-Rieneck. |

ACKNOWLEDGEMENTS

I gratefully acknowledge advice and encouragement from: David Alexander, Lucy Bamford, Alan Barnes, Sarah Bendall, Romana Beranová, Tom Birch, Jes Cooban, Matthew Craske, Victoria Door, Martin Hopkinson, Stefan Jamin, Martina Jandlová Sošková, Kirsten Jarrett, Blanka Kubíková, Paul Laxton, Guido Meinhold, Jakub Mírka, Alison Morrison-Low, Mary Pedley, Ardal Powell, Martin Postle, Anne Powers, Jonathan Powers, Richard Šípek, Lubomír Slavíček, James Tartaglia, Hugh Torrens, Maurice Whitehead, Fergus Wilde, and Wolfgang Zimmerman. Any remaining errors are my own.

INTRODUCTION

Visitors to Derby's museum and art gallery may know Burdett as a figure in Joseph Wright's painting of an Orrery. He is the rather handsome man standing on our left, taking notes, with his hat held under his arm. It will here be argued that Burdett in fact played a significant part in the creation of all three of Wright's famous 'scientific' paintings: 'the Orrery', 'the Air Pump' and 'the Alchymist'. After Burdett emigrated to Baden in Germany in 1774, Wright would continue to produce good work but, arguably, he would never again create such original and ambitious art.

However, Burdett also had achievements to his own credit. He was the first to introduce the new technique of aquatint engraving into Britain; and he published maps of Derbyshire, Cheshire, and the entirety of Baden. Perhaps more than any single achievement, however, it is Burdett's character and life story that are of continued interest.

Any biography will inevitably involve a conflict between a thematic and a chronological approach – a conflict that is never finally resolved, and one which seems particularly acute in the story of Burdett's life. With almost equal energy, he seems to have almost simultaneously pursued different interests in different places. Sometimes, he is almost like Pythagoras, whom “on one and the same day was present at both Metapontum in Italy and at Tauromenium in Sicily, in each place conversing with his friends, though the places are separated by many miles, both at sea and land, demanding a journey of many days” (Porphyry, V, 27). Of course, this makes his story hard to tell, but it also one of the things that make him interesting.

Moreover, although they are as likely to provoke envy as admiration, there is often something undeniably attractive – even glamorous – about those rare individuals whom, like Burdett, brazenly defy conventional wisdom about what is and is not possible to do in life, and who seem to get away with it. They leave us wondering whether their charmed lives are based on luck or . . . something else? For, if it is luck, then surely, one day, they *must* fall.

Burdett's correspondence reveals him to be a man of the Enlightenment. According to Kant's definition: “Enlightenment is man's emergence from his self-imposed immaturity. Immaturity is the inability to use one's own

understanding without the guidance of another. This immaturity is self-imposed if its cause is not lack of self-understanding, but the lack of resolution and courage to use it without the guidance of another. The motto of the enlightenment is therefore: *Sapere aude!* [Dare to know!] Have the courage to use your own understanding.”¹ Kant was primarily referring to the Enlightenment of humanity in general but, at an individual level (whilst not in the least like Kant in personality), Burdett embodies something of the qualities that Kant attributes to the phenomenon.

Whilst he is not himself one of the stellar figures of the Enlightenment, such as Voltaire or Rousseau, both of these characters play a part in his story. Indeed, to name but a few of the great and the good who play a part in Burdett’s story is almost to provide a roll call of the most famous names of the time: Rousseau, Voltaire, Johann Christian Bach, Erasmus Darwin, Joseph Banks, Frederick the Great, Benjamin Franklin, Bouffleurs, Matthew Boulton. Yet, Burdett was no mere celebrity hunter; these were people whose work he genuinely admired and who profoundly influenced him – and, in that respect, he is just as much a figure of the Enlightenment as are they.

His story draws us into the worlds of art, astronomy, cartography, engraving, financial speculation, and music – and, in his later years, to the court of an enlightened despot, the Margrave Carl Friedrich of Baden, and his consort (and Burdett’s friend and pupil) the ‘Hessian Minerva’ Caroline Louisa.² This court is relatively overlooked in comparison to that of, for example, Frederick the Great of Prussia, Maria Theresa of Austria, and Catherine the Great, but it is just as interesting as a model of enlightened despotism.

Baden would be Burdett’s final home – but, as we will see, that was never a foregone conclusion.

¹ Kant ‘What is Enlightenment?’ (1784). Kant borrowed the motto from Horace.

² Here and throughout, I use Burdett’s spellings of Karl Friedrich and Karoline Luisa; likewise, Carlsruhe for Karlsruhe, the capital of Baden.

PART I:
ENGLAND

CHAPTER 1

THE TRANSIT OF VENUS

“Now!” exclaimed his Lordship, thrusting his fine pricker into the shadow of Venus.

It was 29 seconds past 57 minutes past 3 o’clock, on Wednesday morning, 6 June 1761, at Stanton by Bridge in Derbyshire, “where was a high hill . . . in a house that seemed built for the purpose.”¹ It was “one of the finest mornings I ever beheld.”²

. . . the horizon being a little hazy, I could not get an observation to be depended on ’till 3h 57' 29" when having desired Mr Whitehurst (a watchmaker of Derby) to assist with a most excellent Watch with seconds &c . . . with a fine pricker I made a small hole in the paper as near the centre of Venus as I possibly could . . . After this Mr Burdett (a very ingenious mathematician) was pleased to tend the instrument, & to follow the sun’s course with it, and I at the same attended with a pricker as before watching every opportunity to mark the planet in the centre . . . at which time I always called out now!³

The transit was already in progress when the sun rose. Between the first clear sight of the shadow of Venus – a small black disk traversing the face of the sun – and its implacable final departure at 34 minutes past 8 in the morning, Earl Ferrers was to call out ‘Now!’ a total of twenty-nine times.⁴ Each time, he made a hole in a piece of paper mounted on a board, and each time Whitehurst recorded the time. Burdett, meanwhile, kept the 4’ telescope steadily focussed upon the sun. Thanks to meticulous planning, and the fortuitous absence of clouds, the three friends were able to declare the experiment a resounding success.

However, as they well knew full well, the significance of their results depended upon the same procedure being successfully carried out in many,

¹ British Library, Lansdowne MS 820

² Ibid.

³ Ibid.

⁴ Ferrers’ account of observation, given to the Royal Society. JBO/25/26/81.

widely separated parts of the world. Theirs was, in fact, but one part of a worldwide experiment. For, as proposed by Edmund Halley in a paper to the Royal Society in 1716, if accurate readings were taken of the transit of Venus from widely separated parts of the globe, it would be possible to discover the distance between the earth and the sun by simple triangulation.

The transits of Venus are predictable but rare, occurring in pairs separated by eight years, thus there were transits in 2012 and 2004; in 1882 and 1874; in 1769 and 1761; and in 1639 and 1631. Halley, knowing that he would not live to see a transit of Venus, ended his paper with a heartfelt plea to his successors to make the most of the opportunity that would present itself in 1761.

Ferrers' letter to his cousin the solicitor Philip Carteret Webb F.R.S., in which his findings were communicated to the Royal Society, demonstrates his thorough study of Halley's paper and of Jeremiah Horrocks' observation of the 1639 observation. Horrocks' observations comprise the first accurate record of a transit of Venus, all the more remarkable in that he was called out on business whilst the transit was in progress. In his absence, his friend and assistant William Crabtree recorded little, being "rapt in contemplation . . . through excess of joy" (Whatton 1859, 129). There are no records at all of the 1631 transit.

Halley had recommended that expeditions should be despatched to Hudson's Bay and to Sumatra to observe the 1761 transit, but Ferrers expressed disappointment in his letter at having yet to hear in detail of readings taken in other parts of the world. He feared that this had to do with the ongoing war with the French and their allies, the Seven Years War. To a large extent, he was right. No readings are known to have been taken at Hudson's Bay, but the Royal Society had despatched the astronomers Charles Mason and Jeremiah Dixon to Sumatra aboard a naval frigate. After a few days out at sea, it was forced back to port by French fire. Upon reporting back to the Royal Society, Mason and Dixon had been told that on no account whatsoever were they to abandon their mission, and so, somewhat daunted and thoroughly chastised, they had set sail once more.

On their second voyage, realising that they would not reach Sumatra in time to make their observations, they cut their losses and set up their observatory in Cape Town, and it was from there that they took their readings. From that location, like Ferrers, they unavoidably missed the very beginning of the transit but at least they had a clear view of the latter part. They then sailed to join the astronomer royal the Reverend Nevil Maskelyne on the island of Saint Helena, which had, unfortunately, been covered in cloud on the crucial day.

When Ferrers wrote up his account in September, there was not yet any word back from Mason, Dixon, or Maskelyne – and the distance from the earth to the sun remained a mystery. Ferrers, with Burdett's assistance, had hoped to make this calculation himself; but by 1 September he decided he could wait no longer. "I have waited this long before I gave you an account of the observation . . . expecting to have found many besides myself that would attempt to make the observations . . . and I intended to have compared mine with them, but to my great surprise I cannot hear of any one that has made any other use of it than to observe its egress."⁵ It was only very slowly that the readings from all over the world reached the Royal Society.

The project was one that demanded international collaboration on a scale never before attempted, but science was also becoming more collaborative at a smaller scale. It is difficult, for example, to envisage how Ferrers' observations could have been carried out with fewer than three people without loss of accuracy.

However, it was undoubtedly Ferrers who was in charge – or, to give him his full name, Washington Shirley, the fifth Earl Ferrers (1722–78). Ferrers, as he signed himself, was used to command. He had first gone to sea as an officer at the age of fifteen, but he had only quite lately, and unexpectedly, succeeded to the title of Earl.

He had inherited the title from his elder brother, the last peer in England to be hanged. The fourth Earl was hanged at Tyburn in May 1760 for the drunken murder of his steward. Ever since, people have liked to believe that, in deference to his title, the hangman did not use a noose of ordinary rope but rather a length of silk. (Unfortunately, there is no evidence to back this story). After the dreaded last ignominy of all those who suffered capital punishment, medical dissection, what remained of his body was eventually brought back to Staunton Harold in Leicestershire where it was interred in the family vault (Crane 1990, 36-37).

A story so sensational was bound to circulate for years to come. Casanova, for example, was fascinated to learn its details on his visit to London in 1764. However, no stigma was attached to the family name. The fifth Earl did not allow his brother's fate to cast a shadow over the rest of his life; he remained a popular and clubbable man. He was, for example, an enthusiastic member of the Noblemen and Gentlemen's Catch Club (Gladstone, Boas and Christopherson 1996, 108), a club dedicated to the singing of songs and the drinking of wine. He also collected musical instruments (Craske 2020, 113); and he was an enthusiastic freemason. In

⁵ British Library, Lansdowne MS 820.

fact, he occupied the very highest masonic rank, Grand Master, between 1762 and 1764. In 1776 he was made Vice Admiral.

John Whitehurst (1713–88), the “watchmaker of Derby”, was some years older than Ferrers. He was the son of a clockmaker in Cheshire but had set up his own business in Derby many years earlier in 1736, making clocks, thermometers, and barometers. From clock-making, Whitehurst’s interests widened to include time and space more generally. He was one of several geologists in this period who championed the study of stratigraphy and who would thereby come to suspect that the earth was far, far, older than had previously been realised.

Whitehurst was a founding member of the Lunar Society. This scientific society was formed in the early 1760s by Whitehurst, Erasmus Darwin (Charles Darwin’s grandfather) and Matthew Boulton. They were joined in 1765 by Josiah Wedgwood and Dr. William Small, and later by, among others, James Watt, Josiah Wedgwood and Joseph Priestley. Most of those involved with the group were Nonconformists. The “lunaticks” usually met in Birmingham or Lichfield on the Sunday nearest the new moon. Members would stay the night and return to their homes, by the light of the moon, on Monday evening. However, there was never any formal membership list and no minutes were ever taken. Discussion was informal and topics veered widely from botany to geology, medicine to engineering, and chemistry to education – chosen, in pre-specialised times, for no other reason than an individual’s current enthusiasm. Much more is known of the Society in the 1770s and ’80s than in the 1760s, but the Society was characterised by international contacts and high ambitions from its beginning.

Peter Perez Burdett (1733–1793), the “very ingenious mathematician”, was the youngest of the three. This is the first known application of that epithet “ingenious” to his name but, in the course of this book, it will be seen that his contemporaries applied that term to him again and again. Granted, the word was generally in greater use in the eighteenth century than today, but its service in descriptions of Burdett is noticeably frequent.

Just a few months before the transit, Burdett had married Hannah Wansell in Saint Mary’s Church in Leicester on 28 January 1761. The marriage register gives his age as twenty-seven and hers as thirty. However, conscious that she was older than the groom, Hannah had rounded down. We know from the record of her death in Germany, which gives her age to the nearest day, that at the time of her marriage she must have been thirty-

one.⁶ She was of the parish of Saint Mary's in Leicester, and he is described as living in Stanton by Bridge (9 miles south of Derby and 4½ miles north of Staunton Harold).⁷

At this time, Burdett was probably already living in the house in Stanton by Bridge that would be used to observe the transit of Venus. There was one house in Stanton much higher than any of its neighbours, and that was Knowle Hill. It was surrounded by woods of oak and beech and known for its extensive views.

Knowle Hill was built in 1698 by Walter Burdett, and was occupied in 1762 by his great nephew, the Tory MP for Tamworth and Ferrers' neighbour, Sir Robert Burdett, with whom our Burdett claimed a remote cousinship.⁸ The families of Ferrers and Sir Robert Burdett had known each other for generations.

Inspired by Italian architecture, the house at Knowle Hill was built as a country retreat, according to a design that was thought to be highly individual, if not eccentric. In 1761, Sir Robert Burdett was staying there whilst a new house, Foremark Hall, was being built. As soon as Foremark Hall was completed, the old house at Knowle Hall was replaced by a cottage and left to go to ruin.

We may imagine Ferrers, Whitehurst, and Burdett working together to convert a room on the top floor of Knowle Hill into an observatory, Burdett, in the first months of his marriage, checking and rechecking the instruments and rousing himself ever earlier to rehearse the part that he would play at the breaking of dawn on 6 June.⁹ Burdett's participation was essential; for he was not only a mathematician, he was also, like Whitehurst, a "mathematical instrument maker". That is how he is described in 1754 when, aged twenty-one, he is listed as one of the subscribers to Daniel Fenning's *New and Easy Guide to the Use of Globes and the Rudiments of*

⁶ The record of her death on 6 October 1786 records, most specifically, that she died at the age of 57 years, 11 months, and 21 days.

⁷ Burdett's marriage certificate, dated 27 January 1761, confirms that Burdett had resided at Stanton in the parish of Bredon on the Hill for at least the previous four weeks, and that for that previous four weeks Hannah Wansell had resided in the parish of St. Mary's in Leicester.

⁸ There is a sketch of the coat of arms of 'the Derbyshire Burdetts' among notes on Burdett's ancestry that were probably compiled in the nineteenth century by one of Burdett's grandchildren. State Regional Archives (Pilsen) archival fond Family Archive Windischgrätz, file 222.

⁹ Ferrers' letter to Carteret Webb states that Stanton is in Leicestershire but it is actually just over the border in Derbyshire. This mistake is perhaps indicative of how little time he had spent in the neighbourhood prior to his unexpected inheritance.

Geography. The term was a catch-all for makers of scientific and nautical instruments.

The account of the observations given to the Royal Society on 10 December 1761, based on two letters Ferrers wrote to Carteret Webb, adds a few more details that are not in Ferrers' letter: "The apparatus was contrived in the manner of a camera obscura; with a telescope 4 feet in length, placed in a frame and fixed in a window shutter so as to exclude all light, but through its tube, and to be capable of motion in the direction of the Sun. An arm was joined to the frame in a parallel direction, and was supported by a stand in the chamber; and a sliding plane was fitted to the arm, and covered with white paper, and objected at right angles to the axis of the telescope; and this plane was fastened to its arm at such a distance, as to throw the image of the sun exactly upon a circle six inches and a half in diameter, drawn in the middle of the paper."¹⁰ On the basis of his observations, Ferrers was elected to the Royal Society on 10 December 1761.¹¹ At the same meeting a model was displayed, made by Benjamin Cole but perhaps designed by Burdett, to demonstrate the transits of Venus to the layperson, "for the farther improvement of Astronomy in general."¹² The model still exists (see Beech 2013).

However, it was not Ferrers who addressed the Royal Society, nor Carteret Webb. Although the presentation was based on Ferrers' letters to Carteret Webb, it was actually made by a Mr Davies, a friend of Burdett's.

An undated document in the Leicester Record Office mentions Burdett, together with a Morgan and a Davies, as the three founders of a mathematical society that sought Ferrers' patronage.¹³ The most likely candidate for Morgan is the London instrument maker Francis Morgan (Clifton 1996, 192), who emigrated to Russia to become instrument maker to Catherine the Great in 1772 – in fact, Ferrers himself had contemplated emigrating to Russia in 1770 to take up the work of improving the Russian navy (Craske 2020, 316n.93).¹⁴ Davies is most likely the James Davies who taught classics and mathematics at an Academy in Charles Street, Westminster, for it was this Davies whom, at a later date, collected

¹⁰ Royal Society MS, 'Journal Book of the Society', JBO/25/26/181. This account is based on two letters Ferrers wrote to Carteret Webb, the first, from which I quoted earlier, is dated London 1 September 1761. The other seems to no longer exist. It was dated Chartley (Staffordshire) 24 November 1761.

¹¹ He was officially admitted as a Fellow when he paid his admission fee and signed the Charter Book on 13 May 1762. Royal Society MS, 'Journal Book of the Society', JBO/25/26/45/128.

¹² British Library, Lansdowne MS 820.

¹³ Leicester Record Office 26 D53 / 2654.

¹⁴ *London Evening Post*, 27 October 1770.

subscriptions for Burdett's map of Derbyshire.¹⁵ We may envisage that Ferrers did indeed lend his patronage to the new society, but suggested that in return someone in the society might like to present his paper to the Royal Society.

It is not known how Burdett and Ferrers came to know each other. There is no evidence that Burdett was a freemason, but they shared an interest in music and architecture – Ferrers began to redesign his house at Staunton Harold almost as soon as he moved there – and, more unusually, they were both interested in boat design.¹⁶ A letter from Burdett to Ferrers dated 16 February 1766 acknowledges suggestions from Ferrers concerning the making of a compass and a micrometre, and offers suggestions concerning the most efficient positioning of a ship's mast. Burdett believed that its most efficient positioning might be expressed in a mathematical formula.¹⁷ That Ferrers shared Burdett's enthusiasm for applying science to boat-building is known from his description in 'The Patent' (1776) by William Woty (1732?–1791):

He to the realm of useful Science flew
With Active soul, beyond a Seaman's view
To Naval Structure, with unwearied mind,
To passive Theory the Practice join'd
And, far as true perfection can advance,
Render'd that *certain*, which before was chance

Woty lived with the Earl and his wife at Staunton Harold. According to his obituary (of 1791): "[h]e was of a sprightly genius, and well known in the world for his poetical publications. He was originally bred for the profession of the law, but in the early part of his life he quitted the same, and became the domestic companion and confidential friend of Washington, late Earl Ferrers, and so continued to the end of that nobleman's life."¹⁸ He was "a true bon vivant but by too great indulgence for conviviality and society he unfortunately injured his constitution."¹⁹ Shortly before Ferrers' death in 1778, legal provision was made for Woty to be supported by an annuity of £150 from the family estates for the rest of his life.

¹⁵ There was also a Davis who worked for Carteret Webb as a clerk—the same Davies as addressed the Royal Society?

¹⁶ Martin Hopkinson could find no trace of Burdett's name in the Masonic archives. (pers. comm.)

¹⁷ Leicester Record Office 26 D53/2654 & 26D5(part 1)/1943.

¹⁸ *A Supplement to the life and times of Charles Rozzell*.

¹⁹ *Gentleman's Magazine*, 1791, p.379.

Burdett, too, benefitted from the Earl's patronage, though Woty would not have seen him as a rival for the Earl's most intimate affection.

Like Whitehurst, Burdett had learned his trade from his father. William Burdett, a "mathematical instrument maker" (maker of scientific instruments), is known to have worked in that trade in London from at least 1732 to 1749, and to have served his apprenticeship under the clock and barometer maker Simon Cade of Charing Cross alongside his younger brother Henry Burdett (1700–1736) (Clifton 1996, 43). A document from 1726 in the National Archives describes William as of St. Bride's in Fleet Street and describes Henry as a goldsmith.²⁰ Henry had earlier been apprenticed to a goldsmith in Chelmsford.²¹ William also had a sister, Mary, who married John Lister (c.1660–1735), the rector of Rochford in Essex. One of Mary's five sons (Burdett's cousins), Theophilus, was a fellow of King's College, Cambridge.

Some of William Burdett's family may have been non-conformists; a record of non-conformist burials mentions the burial on 14 April 1737 of "Mr Burdett of Fleet Street" at the non-denominational Bunhill Fields in Islington.²² However, Henry Burdett was a Catholic. In 1731, he was married by a Jesuit priest to Margaret Myngs, a descendant of Admiral Christopher Myngs.²³

It is from the will of Margaret Burdett née Myngs, proved in 1741, that we know the name of 'our' Burdett's older brother, Theophilous – named, like his cousin, after his paternal grandfather, who was originally from Leicestershire.²⁴ The Burdetts had been clergymen in Leicestershire since the 1580s (Pruett 1978-79, 33). Grandfather Theophilus was a cleric in the village of Hallaton, but had moved to Essex with his wife Rachael to become vicar of Sandon near Chelmsford.²⁵ He was descended from another Theophilus Burdett of Leicestershire, the son-in-law of the Reverend

²⁰ C 11/1204/17.

²¹ Britain, Country Apprentices 1710-1808, Chelmsford 1715. National Archives (IR 1 series) 4 f 131.

²² TNA/RG/4/3979.

²³ Westminster Archdiocesan Archives. Baptisms, Marriages and Reconciliations, p.23.

²⁴ Information on Henry and Margaret Burdett was kindly provided by Anne Powers. She also identifies candidates for two sisters: Rachel, baptised at St. Brides in Fleet Street on 23 June 1727; and Elizabeth Ann, baptised at St. James, Westminster 22 June 1735.

²⁵ <http://db.theclergydatabase.org.uk/jsp/persons/DisplayCcePerson.jsp?PersonID=86634>

Anthony Grey, ninth Earl of Kent (1557–1643).²⁶ The Reverend Anthony Grey inherited the title of Earl unexpectedly, and is thought to be the only English nobleman to hold the title of Earl whilst performing the duties of a country vicar at the same time.

His descent from an Earl would help explain the remarkable social confidence which Burdett displayed throughout his life, perfectly at ease with English nobility and German royalty.

His confidence was, perhaps, further bolstered by the recently increased esteem of his profession. As is famously illustrated by the award-winning career of John Harrison, the inventor of the marine chronometer, it was now recognised that scientific instrument makers might themselves directly contribute to the expansion of knowledge (See Sorrenson 2013).

Little is known of Burdett's maternal grandfather, the Reverend Peter Perez – save that for over fifty years, from 11 April 1697 until his death on 17 February 1749, he was the vicar of Eastwood, just two miles from Leigh-on-Sea.²⁷ His affection for his grandson is indicated by the legacy of a silver watch bequeathed to Burdett in his will, read on 12 November 1750 – a gift that may also indicate Burdett's early interest in precision instruments.²⁸

However, the principal significance to Burdett's unusual middle name is that it called attention to the fact that, on his mother's side, he was a direct descendant of the Spanish statesman Antonio Pérez (1534–1611).²⁹ Antonio Pérez was the secretary of, and highly influential advisor to, Philip II of Spain. He amassed great wealth and a fabulous collection of art but, always attracted to the dark arts of political diplomacy, he fell from favour following the murder of Juan de Escobedo, the secretary of King Philip's half-brother Don Juan of Austria. Pérez had arranged the murder of Juan de Escobedo, with King Philip's blessing, 'for reasons of state.' However, King Philip came to feel, perhaps justifiably, that he had been manipulated by his secretary. Consequently, Pérez was imprisoned in 1579. After several failed escape attempts and having been tortured on the rack, he at last escaped for good in 1591. He made his way over the Pyrenees in heavy snow disguised as a shepherd, and spent the rest of his life at the courts of

²⁶ The Earls of Kent and the Ferrers family were related.

<https://gw.geneanet.org/comrade28?lang=en&n=groby+ferrers&oc=0&p=lord+john+grey+vii+of>

²⁷ His name is sometimes given in the Latinised form of Petrus Peres. In 1725 he married Margaret Edwards of St. Magnus by London Bridge.

²⁸ National Archives B/11/1784. The will is dated 16/4/1748.

²⁹ Burdett's descent from Antonio Pérez is recorded, possibly by his grandson, in the nineteenth century, in the archive of his daughter's family. State Regional Archives (Pilsen) archival fond Family Archive Windischgrätz, file 224.

Henry IV of France and Queen Elizabeth of England. A standoff ensued with King Philip, for Pérez possessed incriminating royal documents. King Philip had Pérez's wife and children imprisoned, and his family were only released when Philip died in 1598. However, even then, Pérez was unable to return to Spain. In exile, he plotted against the Spanish king whilst himself facing the almost continual threat of assassination. It was largely owing to Pérez's writings that, in English minds of the late Elizabethan and Jacobean periods, Spain was indelibly associated with outrageous tyranny.

Pérez's biographer, Gregorio Marañón, describes him as possessing "infinite personal charm" (Marañón 1954, 5). Marañón was attracted to his subject because he saw Pérez as embodying the spirit of the Renaissance. This he defines as: "A mixture of a passion for sensuality, of pagan love for the beauty of life, and a total lack of scruples to achieve those objectives" (Ibid, 144). Burdett, the man of the Enlightenment, would have admired his ancestor's opposition to tyranny above all else.

Furthermore, via the family of Antonio Pérez, or perhaps Pérez's wife, Burdett believed that he could claim some kinship with the last Aztec emperor Montezuma.³⁰ This is not quite as unlikely as might at first be thought. The Spanish maintained that Montezuma had voluntarily recognised the sovereignty of the Emperor Charles V. Maintaining the legitimacy of the Spanish conquest, three of Montezuma's children – Isabel, Mariana, and Pedro – were regarded by the Spanish as "natural monarchs with inherent rights" (Chipman 2005, 53). Isabel (Techuichpotzin), in particular, was highly regarded. She was seen as Montezuma's natural heir and so was married into Spanish nobility. To this day, there are several noble families in Spain that trace their origins, via her, to Montezuma.

Whatever the truth of the matter, Burdett had no doubt: he was the descendant of an English Earl and an exiled Spanish nobleman, with some kinship to Montezuma.³¹

Burdett was essentially an urban creature and, although his subscription to Fening's *Guide* in 1754 does not tell us his address, we may assume it was in London. However, he was in fact baptised not far from his grandfather's home, in Leigh-on-Sea in Essex, on 19 February 1733.³² Both

³⁰ Moctezuma in its Spanish form, or to be precise, Moctezuma II.

³¹ Burdett sealed his letters with a seal depicting a man's face in profile. This was presumably either Anthony Grey, ninth Earl of Kent or Antonio Pérez.

³² D/P/284/1/1. As he gives age as 27 at his marriage on 28 January 1761, we can deduce that that he was born between 28 January and 19 February 1733. According to the parish records he was born and baptised in 1732 in the old calendar, 1733 in

Leigh-on-Sea and Eastwood have now been absorbed into Southend-on-Sea, but in Burdett's day they were separate settlements. Leigh-on-Sea prospered as a port from the Tudor period through to the 1740s, when its deep-water harbour began to silt up. Sailors passed through the port from all over the world. As a boy, on visits to his grandparents, Burdett would have just caught the tail end of its outward-looking heyday.

A relic of Leigh-on-Sea at its most cosmopolitan are the sailors' stories that were collected there by a seventeenth century vicar of Eastwood, Samuel Purchas. He published them in 1613 as *Purchas his Pilgrimages: Relations of the World and Religion observed in all Ages and Places discovered from the Creation to the present Time*. Coleridge attested to the almost magical powers of inspiration of these tall tales in his claim to have fallen asleep over a passage in the book about Xanadu and Kubla Khan. He awoke to find that he had mentally composed the first two hundred lines of *Kubla Khan* (1797). We do not know whether Burdett read Samuel Purchas as a youngster, but it is tempting to think that he might have. He had a life-long taste for tales of adventure set in faraway lands.

In his youth, he seems to have travelled extensively, in Holland, France and Italy – he knew Latin and spoke fluent French, Italian and (in later life) German – and, as will be seen, there are tantalising hints of travels even further afield. However, his youthful wanderings abroad have left little trace in the historical records. It is hardly an exaggeration to say that it is only with the transit of Venus in the early hours of 6 June 1761 that Peter Perez Burdett steps into recorded history.

the new calendar. (In 1752 it was decreed that New Year's Day should move from 25 March to 1 January.)

CHAPTER 2

AMEN ALLEY

A Picturesque View

By the end of 1761, Burdett had moved to Derby. This is known from a book, *Manners*, which was conveniently signed by his wife, ‘H. Burdett, Derby, 1761’. The book not only informs us of the year in which Burdett and his wife moved to Derby, it also tells us something about Hannah. The book is more interesting than its title might suggest: it is an English translation of the second edition of *Les Moeurs* by François-Vincent Toussaint, a contributor to *L’Encyclopedie*. *Les Moeurs* is a book of essays on moral philosophy that has now lost its notoriety, but which, upon its first publication in 1748, was considered so dangerous in its determination to separate ethics from religion that it was condemned to be burned. There is much that we do not know about the relationship between Burdett and his wife, but the possession of *Les Moeurs* suggests that they were in sympathy intellectually.¹

In Derby, the Burdetts lived in a fifteenth century house at the corner of Amen Alley and Full Street, opposite All Saints churchyard.² The front door of the house opened onto the narrow Amen Alley that connected Full Street with Irongate where John Whitehurst lived (just 100 yards away).³ The house has since been demolished, but Amen Alley still exists, albeit now much wider.

It has sometimes been claimed that Burdett’s house was one further south with a Gothick façade, designed by the Derby architect Joseph Pickford. However, Burdett never gave his address as Full Street, but rather as “near All Saints’ church” or “All Saints’ churchyard.” For example, in September 1764 the *Derby Mercury* advertised a plot of land in Etwall, five miles from Derby, and informed readers that further particulars may be had

¹ Hannah’s copy (a translation of the second edition of *Les Moeurs*) is now in the Nostitz library in Prague.

² The house is described in (Bailey 1879).

³ Whitehurst moved to Queen Street, adjoining Irongate in the summer of 1764. (Craven 2020, 64).

from “Mr John Whitehurst or Mr Peter Burdett, near All-Saints’ Church, Derby.”⁴ This is the first of several such notices that would appear in the newspaper over the next few years.⁵ An advertisement in *The Manchester Mercury* on 12 February 1765 offered his services as a surveyor and valuer, and suggests he was for a time in business with Mrs Rivett, the widow of the Whig MP for Derby Thomas Rivett (1713–1763) (Craske 2020, 91n.30).

Burdett sketched his house in 1769, as the foreground to a view of Full Street (Plate 1).⁶ The door of the house faced All Saints’ churchyard, across the narrow Amen Alley, and it is possible that the house was the property of All Saints church. It was later inhabited by a Mr Marshall the beadle of the church. The house was by no means grand, but it would have appealed to Burdett’s antiquarian interests.

It was also ‘picturesque’. This was a newly fashioned aesthetic concept popularised in particular by William Gilpin and defined by him as “that kind of beauty which is agreeable in a picture” (Gilpin 1768, xii). With regard to architecture, Gilpin pointed out that a building might have a completely irregular structure, or even be in ruins, and yet possess an intuitively appealing harmony.

⁴ The *Derby Mercury* of 28 September 1764 advertised that the property would be auctioned at *The George* in Derby on 7 November.

⁵ On 4 January 1765 the *Derby Mercury* carried an advertisement for land near Ashbourne, the 800 acre manor of Blore and 52 acres at Great and Little Buckhorne. Interested parties were directed to Mr Goodwin, Attorney in Ashbourne, to Mrs Rivett in Derby, and to Mr Burdett at All Saints Churchyard in Derby. On 13 December 1765 the *Derby Mercury* carried an advertisement for Coates Park near Alfreton, a freehold estate of 63 acres “full of coal . . . Particulars enquire of Mr Bristowe Attorney at Law at Worksop or of Mr Burdett in Derby.” On 27 December 1765 there was a notice of 1 acre of land for sale close to the very centre of Derby: “Particulars enquire of Mr Wright, Attorney at Law, or Mr Burdett, in Derby.” The Wright referred to is either the brother or the father of the artist Joseph Wright. The manor of Blore and the land at Great and Little Buckholme had still not sold, and so were advertised again On 18 July 1766. Likewise, Coates Park at Alfreton was slow to sell and so was advertised for auction at the George in Irongate on 8 September. (*Derby Mercury* 29 August 1766). The Manor of Blore, also slow to sell, was at last auctioned at the Blackmoor’s Head in Ashbourne on 24 September 1766.

I have not found the name ‘Amen Alley’ in print in Burdett’s day, though Hutton looking back to his childhood in Derby refers to Amen Corner. Burdett may have thought All Saints Churchyard sounded more respectable as an address than Amen Alley.

⁶ The house was photographed and drawn several times in the late nineteenth century. The artist Jack Keene (1864–1930) based a watercolour on Burdett’s sketch.