



Gunpowder Mills Study Group

NEWSLETTER 8, NOVEMBER 1990

VISIT TO CUMBRIA IN SPRING 1991: AROUND APRIL 18-19

There was much discussion at the October meeting about the date for this visit, as no time is convenient for everyone. Inevitably some members will be disappointed that, after thinking very carefully and considering our own commitments, we have decided that it will have to be during the week beginning 15 April, as first suggested. This fits in with the annual conference of the Cumbria Industrial History Society, an event which we can highly recommend, which will be held at Charlotte Mason College, Ambleside on Saturday 20 April. Also we have invited members of the North West Mills Group to participate in the visit.

Mike Davies-Shiel will act as our guide to the gunpowder sites and we plan to join him in recording the remains of the Bassingill powder mills (NGR SD 5187). Our meeting will be based around Thursday and Friday the 18th and 19th but there is some flexibility as we ourselves shall be in the area all week, staying in Great Langdale. The detailed programme will depend very much on how many members come, so please let us know if you are interested. We can provide details of bed and breakfast accommodation in Elterwater village, close to where we shall be staying.

Alan and Glenys Crocker

REPORT OF 1990 AUTUMN MEETING

Seventeen members attended the Group's Autumn Meeting on Saturday 13 October at Birkbeck College, London. Ken Major, began the day with a talk on recording mills, which provided a great deal of useful advice. (Some members will be familiar with his book, *Fieldwork in Industrial Archaeology*, Batsford 1975, which contains a chapter on measured drawings). Michael Wilks then gave a talk on the Carshalton gunpowder mills, the text of which is printed on pages 9-14 below.

After lunch Andrew Pye of the Exeter Museums Archaeological Field Unit gave an account of the recent recording project which has been carried out on the Powdermills Farm site on Dartmoor. A report (Exeter Museums Archaeological Field Unit, Report No 90.07, June 1990) has been prepared, entitled *An archaeological survey of the gunpowder factory at Powdermills Farm, Postbridge, Devon*, by A R Pye and R Robinson. This contains an account of the historical background, a detailed description of remains on the site, details of outlying magazines and recommendations for protection and further work. It also gives extracts from census returns, inspectorate reports etc and contains 55 figures and plates. It is as yet unpublished but those interested in obtaining a copy when it is available may write to the Unit at the R.A.M. Museum, Queen Street, Exeter EX4 3RX.

Brenda Buchanan then reported on the international contacts she has been making since the GMSG's visit to Denmark in 1989 (see p3). She also showed some slides taken on the Group's visit to Scotland in April this year and some of powder magazines in western Scotland taken on previous occasions

and not then fully appreciated. Alan Crocker showed slides of the Scottish visit provided by Tony Yoward, who was unable to attend the meeting.

The day concluded with a business meeting at which it was noted that we have had no Secretary since Elizabeth Tough resigned. Alan and Glenys Crocker are therefore handling the running of the Group between them, and Brenda Buchanan is establishing and dealing with international contacts. The subscription for next year will remain at £3 for individuals and £4 for joint members and it was decided not to introduce a separate rate for overseas members at present. It was agreed to have another autumn meeting at Birkbeck College next year, provisionally on Saturday 12 October 1991. Arrangements for the proposed visit to Cumbria in April were discussed. Michael Wilks was thanked for once again hosting the meeting at Birkbeck.

KEN FLEMING AND HIS GUNPOWDER MILLS PHOTOGRAPHS

Members will be saddened to hear of the death of Ken Fleming, one of our founder members. Ken was a professional photographer, specialising in printing from black and white negatives, and was well-known for his prints in books such as those by Eric Newby on exploring remote parts of the world. He lived at Richmond, Surrey, and was active until a few months before his death from bone cancer in January this year. He attended several of our GMSG meetings, particularly those in the London area, and usually brought along his albums of photographs and notes on gunpowder mills. Unfortunately there never seemed to be enough time to examine these volumes carefully at the meetings, but I was always impressed with the way he was able to reveal detailed structures of ruined buildings and watercourses at overgrown sites. Most of us seem better at illustrating vegetation at sites rather than the remains which it conceals.

When Mrs Fleming let us know about her husband's death she generously indicated that she would be happy to let the Group have Ken's albums of gunpowder photographs. Glenys and I therefore visited her at her flat and we spent an interesting hour talking about Ken's enthusiasm for industrial archaeology, natural history and life in general. She hails from near Redcar and may well move back to that area to be closer to relatives. By chance our former Secretary, Phil Philo, who benefitted from Ken's expertise when he was excavating the Bedfont incorporating mills and is now Curator of Kirkleatham Museum also lives nearby. We know a little about that area ourselves as Glenys's sister lives at Robin Hood's Bay and indeed we spent several days touring corn mills on the North Yorkshire Moors with the Wind and Water Mill Section of SPAB in 1988.

Mrs Fleming gave us five A4 albums of Ken's photographs and notes and in due course will let us have the negatives. An indication of the contents of the albums, which have been labelled I-V is given below.

I. 'The Hounslow Gunpowder Mills. The History and the Present Scene'.

This contains 13 pages of typed notes on the history of the Crane Park site, the manufacture of gunpowder, Curtis's and Harvey, press reports of explosions, the closure of the Mills, the so-called Shot Tower, extracts from Hanworth parish registers and a description of the scene today (probably 1980). These are followed by a photocopy of a 15 page Inspector's Report on an explosion in May 1887 including three photographs showing damage caused by the explosion and an analysis of the buildings mentioned.

II. 'Hounslow Gunpowder Mills (Crane Park)'.

This commences with a 12 page typed introduction similar to that in I, but with a copy of a print of the scene of an explosion in 1796 and a photograph of the gravestone of a worker killed in 1887. This is followed by a plan of the site and 109 Ken Fleming photographs (20 in colour) taken between March 1980 and June 1986, together with copies of historic prints and some drawings and plans. All the photographs are dated and have neat informative captions. Finally there is an account of the GMSG visit to the site on 17 March 1985.

III. 'Hounslow Gunpowder Mills (Bedfont Mills)'

This starts with an annotated plan of Bedfont Mills and a smaller scale one of Bedfont and North Feltham. It then has 108 dated Ken Fleming photographs of Bedfont (4 in colour) taken between March 1980 and April 1985 and including Phil Philo's excavation. The captions are very informative and there are some explanatory drawings.

IV. 'The Cartridge Factory'.

This is the North Feltham site. It contains 32 Ken Fleming black and white photographs, all taken in March 1980 and a page of notes. Again there are informative captions.

V. 'Gunpowder Mills on the Hogsmill River, in the Lake District, Chart and Oare Mills at Faversham, on the River Medway at Tonbridge, at Chilworth on the Tillingbourne, at Godstone'.

Much of this is copied from published books including the Victoria County History of Surrey, Marshall and Davies-Shiel's 'Industrial Archaeology of the Lake Counties' and several less well-known local histories. Helpfully the relevant sentences on gunpowder have been underlined in red. The important contents however are the 15 Ken Fleming photographs of the Tonbridge site in 1964 and 7 of the Chart Mills at Faversham in 1967, before they were restored.

We are greatly indebted to Mrs Fleming for donating these albums to the Group. They are clearly a unique and precious archive of Ken's research depending so much on his skills as a photographer. We therefore propose that in due course they be deposited, for safe keeping, at a central location such as the Science Museum Library in London. In the meantime, if members would like to consult them, please let me know.

Alan Crocker

REPORT ON THE INTERNATIONAL GUNPOWDER MILLS PROJECT

After the GMSG's successful field trip to Denmark in the summer of 1989, reported in Newsletter 6, August 1989, it seemed appropriate to extend our international interests by undertaking a study of the history of gunpowder in the countries of Europe and North America, and a survey of gunpowder making sites. In order to establish the feasibility of this project, I have over the past year been in touch with historians of technology in several different countries. I have tried to discover whether there exists, or can be created, the nucleus of a group of scholars who share our interests and would be willing to contribute to a joint study of gunpowder, its history, the location of sites, and surviving remains. My conclusion is that, subject to considerable limitations, such a project could be undertaken.

I have been much helped in my enquiries by the International Committee for the History of Technology (ICOHTEC), and I should like to record my thanks to its officers and members. I was able to introduce the subject at a meeting in Hamburg, August 1989, and an account of the project was included in Newsletter 7, May 1990. I also had the unexpected pleasure of an invitation to discuss our project at a meeting of the Military Technology Interest Group of the American Society for the History of Technology (SHOT), in Sacramento, October 1989. As a result of this an account of the GMSG and our enquiries appeared in Newsletter 5 of that Group, January 1990. The Swedish journal of the history of technology, *Polhem*, also carried information on our project in volume 8:1, 1990.

It is very difficult to generalize about the results of this year's activity of talk and correspondence. As a basis for discussion I circulated a scheme describing the technological, economic and social aspects of the subject it seemed desirable should be studied for all countries, but it is clear that flexibility must be the keynote. Coverage cannot be comprehensive, for even amongst those countries which can be included the range of information must vary according to the interests of individual contributors. The national boundaries themselves are not now so rigidly defined as they were a year ago, which may have the advantage of allowing studies to reflect areas of concern rather than artificial borders.

The varying degrees of readiness for such a study amongst the scholars consulted is perhaps the most difficult problem. Responses ranged from the availability of a manuscript (the USA), to a generous offer to discuss the possibility of new work on the subject (the USSR); from a wide interest (the transfer of this technology from Spain to the New World), to a more specific concern (the production of saltpetre in France; and from contact with some half dozen scholars (West Germany), to a difficulty in tracking down anyone interested (for example, the Netherlands.* These incongruities mean that it is still impossible to plan a time-table culminating in the publication of these contributions.

Finally there is the imponderable question of where this project may lead us. From Sweden has come an invitation to the sixteenth meeting of the International Pyrotechnics Society to be held there in June 1991. A seminar will be organised by the Royal Swedish Academy of Sciences (Section for Detonation and Combustion), and we may exhibit our 'pyrotechnic products'. This is a proposition which will intrigue some of our members, but I fear it strays from the simple aim with which we embarked on this project a year ago, that of widening our interest in the subject by learning about the history and remains of gunpowder production outside the British Isles.

Brenda Buchanan

* Note however that in 1985, J Schoonhoven presented a paper to The International Molinological Society (TIMS), in which he identified some two dozen gunpowder mills in the provinces of Holland and Zeeland in the period from the early 17th to mid 19th century. He states that they were powered by horses. (Information from Ken Major, Ed.)

SOUTHAMPTON RECORDS

The Steward's (Treasurer's) Account Book for 1449-50, from Southampton, contains records of payments to the town's official gunner for repairing and setting up guns on the towers and walls of the town. They include "...paide to John Pyper for ij pestelles for to stampe the Gunne powder with all price - v.d" and "Item the viij day of Jule paide for ij Bagges of lether for to putte yn gunne powder - iiiij.d"

(Some members will remember that we had a short talk by Bob Thompson of Southampton Museums on the town's fortifications, artillery and powder production at the meeting in October 1985).

ITEMS FROM THE IPSWICH JOURNAL

Duncan Breckles of the Mills Research Group has noted the following reports from the first half of the 18th century. We are aware of some of these events but it is interesting to note how widely they were reported.

1721, June 10: Two powder mills near Hounslow blew up.

1727, June 10: Explosion at Albury (corn) mill near Guildford, where some powder was left stored overnight.

1728, August 3: Report from Paris dated July 30: 'A person going lately to see the Powder mills between Corbeil and Essone, drew his sword and struck fire with it on the wall. Several workmen endeavoured in vain to stop him, and one of them went to shoot him, but missing fire, the person ran his sword through his body and killed him on the spot, upon which he was immediately taken and carried to prison.'

1730, August 29: Two west country coaches robbed near the powder mills on Hounslow Heath by two highwaymen.

1730, November 21: attempt to blackmail powder mills at Brentford.

1741, March 14, 1741: explosion at Malden gunpowder mill, Surrey.

A DOCUMENT IN THE BIBLIOTHEQUE ROYALE ALBERT Ier, BRUSSELS

Visiting the *Bibliothèque Royale* during the conference of the International Association of Paper Historians (IPH) in Belgium in August, we noticed that one of the documents on display was open at a page showing a list of commodities and tariffs which include:

238. 1. Groote pyp Solfer.	0...14
239. 1. Ton Paftel oft Solfer.	0...8
240. De mindere quantiteyt naer advenant.	
241. 100. Ponden Salpeeter.	0...2
242. 1. Tonne bus oft canon Poeder ten advenant van 2. ftuyvers per 100. ponden	

Madame Elly Cockx-Indestege of the *Bibliothèque* kindly looked at the document for us afterwards and indeed was able to photocopy it. It is an ordinance promulgated by the town of Antwerp on 20 December 1768, shelf number LP 9-211 A. There may be other publications of this kind mentioning gunpowder and the materials for its manufacture.

RECENT ARTICLES

'The powder mills of Argyll', by John Robertson. *Industrial Archaeology Review*, 12[2], Spring 1990, pp.205-215.

The *Summary* of the article states: "Through the use of documentary sources the author traces the development of the charcoal producing industry in Argyll and its use both for iron smelting and for the production of black powder during the Crimean War. The Melfort gunpowder works are studied in detail and the hazardous nature of black powder production is demonstrated by the explosion record. The industrial archaeology at Melfort is described in an appendix by Alan Crocker."

'Pearls from the dungheap: English saltpetre production 1590-1640. *Journal of the Ordnance Society*, 2, 1990.

Interesting short article, but no mention of the mills supplied.

A POWDER HOUSE IN HOLBORN

Caroline Barron of the Department of History, Royal Holloway and Bedford New College, has supplied the following information about a powder house in Fetter Lane in the 1580s:

Guildhall Library Ms 4251, parish vestry minute book and general record book kept by Thomas Bentley, churchwarden in 1584 and continued after his death (1614) until 1622, relating to the parish of St Andrew Holborn. The book was transcribed and printed, not entirely accurately, as an Appendix in Edward Griffith, Cases of supposed exemption from poor rates claimed on grounds of extra-parochiality, with a preliminary sketch of the ancient history of the parish of St. Andrew Holborn (1831) These excerpts are taken from the printed version.

p.xxxviii-xxxix 1583 Memorandum. That this year also, in the month of July, 1583, all the glass windows in the church, especially the window in Lincoln's Inn chapel, a little before new glazed with many fair coats, or escutcheons, of arms emblazoned at the only charges of Mr. Steward, that married Mrs. Campion, of this parish, and late deceased, were pitifully shaken, rent, and broken down, as all the houses round about that part of the parish almost were, with the monstrous and huge blast of the gunpowder, that lately was set on fire, and blew up all the gunpowder house, and other tenements in Fetter Lane, to the destruction of many houses, and spoil of much goods thereabouts, yea, and to the death of one or two men.

p.xliiii 26 Elizabeth Memorandum - also that this year the glass windows of Lincolns Inn Chapel, at the east end therof, which was lately set up by Mr. Augustine Steward, at his own charges, containing all his coats of arms, which was sore broken and defaced with the gunpowder clap at the firing of the gunpowder house in Fetter Lane, was again by him, at at his own charges, new mended and made perfect in every part thereof.

THE POWDER MILL SITE AT ABINGER HAMMER, SURREY

Further information has been obtained by Judie English of the Surrey Archaeological Society (SAS) about the site listed in the *GMSG Gazetteer* under Abinger Hammer (NGR TQ 1047). The site, which is on the Tillingbourne 7 km upstream from the Chilworth mills, was known only from a plan and sale particulars of c.1790 in the Guildford Muniment Room (GMR 53/107).

While field walking in the area, members of SAS came across some earthworks in a pasture field called Abinger Hammer Mead and carried out a detailed survey. Amongst some complex platforms they found a series of well-made leats lined with blocks of sandstone.

The plan in Guildford Muniment Room has been found to relate to an application to build three pairs of gunpowder mills and associated premises. The progress of the application has been followed through Quarter Sessions Papers in the Surrey Record Office (QS Surrey Order Book, 1790-1793) from 13 July 1790 through several adjournments until 11 January 1791 at Southwark, when it was turned down. The applicants intended to appeal. Records of an appeal may exist in the Public Record Office but the sacks of miscellaneous documents which are thought to contain such material are uncatalogued and unavailable to the public.

It seems that some preparative building work was done on the assumption that permission would be given, and that the project was then abandoned. The application was made by Mr Palmer on behalf of John Wheatley the younger of Epsom, gunpowder maker, and William Hitchener of Thames Ditton. A letter from the applicants to the Overseer of the Poor at Abinger, stating their intention and dated 27 December 1788 (QS/2/6-1789 Ep 60) is from Wheatley, here described as a carpenter, John Hunter of Kingston upon Thames, millwright, and William Hitchener of Thames Ditton, farmer. We know that Messrs Hitchener and Hunter shortly afterwards turned their attention to the Stobsmill site at Gorebridge, Midlothian and in 1794, together with John Merricks of Kingston upon Thames, obtained a licence to erect powder mills there. (See Newsletter 6, August 1989, p.11).

GUNPOWDER SUPPLIES TO MINES

Llechwedd and other Ffestiniog railways, by Ivor Wynne Jones and Gordon Hatherill (Quarry Tours Ltd, 1977, ISBN 0 9502895 9 0) contains a photograph (p20) of one of the armoured gunpowder vans made at the Festiniog Railway's Boston Lodge works for Curtis's & Harvey of Glyn Neath, Breconshire. These were used to convey explosives from a magazine at the eastern end of the Porthmadog embankment directly into the mines and quarries of the users.

Tom Hay has reported a conversation he had with a 76 year old farmer at Temple Sowerby near Appleby-in-Westmorland, about how the waterwheel at Acorn Bank cornmill was used to draw tubs from the Acorn Bank Gypsum mine drift. He also mentioned that he used to collect Sedgwick gunpowder from Newbiggin station and take it by horse and cart to the main powder store south of the mine, which was licensed for 20 barrels, and to the small store beside the mine where they could keep only 2 barrels. The barrels

contained 100lb and came by rail in an enclosed van. The mine closed in 1939 and used gunpowder up to the end.

Alice Palmer, in Appendix IX to her thesis on the Lowwood powder mills, gives a list of Country Customers, compiled from letters to the company during the years 1800-1807. Most of their occupations are unspecified but the list includes the following:

- 8 lead mines (at Alston (2), Muker, Dufton, Swaledale, Richmond, Fremlington, Middleton in Teesdale).
- A miner at Newton in Bowland.
- 4 coal mines (at Worsley, Wigan, Whitehaven (2)).
- 3 iron works (at Bersham, Wrexham, Abergavenny)
- 8 slate quarries (at Kirkby Ireleth, Gawthwaite, Doves Nest, Kirkby in Furnes (3), Langdale, Torver.
- 2 copper mines (at Coniston, Tilberthwaite)

✓ KYNOCHTOWN

'Kynochtown, a great explosives factory on the Essex marshes', by A Clifton Kelway. *Essex Review*, 16, 1907, pp.112-121.

Describes the site and establishment of the works, the Corringham Light Railway, the 1897 flood, the layout of the factory. This was divided into sections for the manufacture of guncotton, black gunpowder, smokeless powder, cordite, nitro-glycerine, and .303 cartridges. There is a description of cordite manufacture. Illustrations include photographs of the guncotton dipping house, Kynoch steamers unloading at Kynochtown and the smokeless powder blending house.

GMSG VISIT TO DENMARK, July 1989

We are pleased to report that the article about our visit to Denmark, which appeared in the GMSG Newsletter 6 (August 1989), has been reprinted in the newsletter of the Friends of Danish Mills, *Den Danske Mølle* 3[4], 1989, together with the photograph which Anders Jespersen took of our party at the working forge museum at Hellebaek.

W J READER

The business historian William Joseph Reader, author of *Imperial Chemical Industries: a History* (2 volumes, OUP 1970 and 1975), died on 5 June this year. Volume I: *The Forerunners 1870-1926*, covers the various chemical concerns which came together to form ICI in 1926 and is an essential reference source for the history of the gunpowder and explosives industries. Obituaries appeared for example in *The Independent* of 20 June.

JOSIAS DEWYE AND THE CARSHALTON GUNPOWDER MILLS (TQ 2866)

Medieval Carshalton had three mills on the River Wandle, known unsurprisingly as the Upper, Middle and Lower Mills. The one which concerns us here was the Lower Mill situated at the point where the Carshalton river joins the Croydon branch coming in across Beddington Park some hundred yards or so upstream from the Hack Bridge. Technically the mill site lay within three different manors - Carshalton, Wallington and Beddington - and was attached to a fourth, the manor of Banstead (three miles south of Carshalton), which makes the record position highly confusing. There is still uncertainty whether the medieval mill, which was held by a religious house in Southwark, belonged to the Cluniacs of St. Thomas' Hospital, in which case it dates back to c.1200, or to the Augustinian Canons of St. Mary Overie from about 1290. From the middle of the fifteenth century to the mid-sixteenth it was just known locally as 'the fulling mill', and after the dissolution of the monasteries was bought by the Lambert family of Banstead. At some date before 1580 it was converted into brazil mills for grinding dyewood.

In 1623 the Lower Mill was acquired by Sir Henry Burton of Carshalton. The Burtons were a royal service family who had lived locally for two centuries, and by the early part of the seventeenth century had gained possession of much of the village. But in the early 1640s the staunchly royalist Sir Henry virtually bankrupted himself in trying to support Charles I during the Civil War: when he died in 1645 the residue of his estate went to his younger brother Charles, but the brazil mills had been mortgaged to a City financier. Charles Burton in fact survived the period of the Commonwealth: he eventually died in 1661, and it was during his time that the mills were converted to gunpowder manufacture. When he made his will in 1657 (1) and left the mills, still mortgaged, to his wife Elizabeth, he describes them as brazil mills. But we know that they were operating as gunpowder mills from at least the middle of 1653, when the Carshalton mills had a government order to produce gunpowder at thirty barrels per ton of saltpetre. Indeed between the end of August 1653 and the beginning of December they were supplied with seven and a half tons of saltpetre and made 360 barrels of powder, a rate of 45/50 barrels per ton. This was an outstanding achievement, and the only problem was that most of this powder failed to explode (2).

The mills were run by a consortium of which the most prominent figure was William Mol(1)ins, ironically sometimes written as Moulins, who was the main contractor, although he had a partner called Abel Richardson. Mollins certainly knew about gunpowder: he just did not know how to make it. Until the middle of 1649 he had been Controller of the Ordnance, of the artillery train, for the City of London Militia, and he had busied himself in placing guns to command all the approaches to and main roads in London. He had tried to be appointed Master of the Armoury at the Tower (3), apparently unsuccessfully, and he had contacts with at least one other well known gunpowder manufacturer, Daniel Judd. In 1645 Daniel Judd, who supplied the various needs of the Parliamentary army and navy, wanted sixty scaling ladders in a hurry for the famous siege of Basing House, and it was William Mollins who supplied them out of the London Militia stores. (4)

At some point around 1650 Mollins must have taken over the Carshalton brazil mills and had them converted to the making of gunpowder. He had no difficulty in arranging for the Commonwealth government to supply him with saltpetre, but he and Richardson had to take in another partner, John Jarvis, who contracted to supply the charcoal and sulphur. But none of them had very much idea what you did with these ingredients when you got them, and they had to add three more people, the Fossans: Bartholomew Fossan, citizen and skinner of London, (5) Lewis and Thomas Fossan,

powdermakers, with Lewis acting as clerk of the works; plus a certain John Pepper as chief workman. Throughout the First Dutch War of 1652-4 this bunch of incompetent tricksters supplied the Navy with powder which would not work. After the war, in 1655, the Admiralty mounted an investigation into the badness of the Navy powder and made a survey of manufacturers. This resulted in Lewis Fossan and John Pepper being hauled up before the Admiralty Commissioners in January 1655/6, and all the said manufacturers being required to attend a two-day conference in April. A kind of production league table was drawn up which showed that under tests the average proportion of good to bad barrels was around 50%, half and half. A really first class gunpowder producer, Josias Dewye of Chilworth, was achieving an astonishing success rate of only 17% bad barrels, and he claimed that his powder was so good that it could go to sea three times and still be usable. The failure rate of the Carshalton powder was on the contrary about 75%, far worse than anybody else. Various excuses were offered: they were using natural English saltpetre (probably made from local bird-droppings - the Croydon area was a main supplier of saltpetre to the Kingston collecting point), which was only semi-refined by comparison with the saltpetre sold by the East India Company; or they were getting bad powder supplied by the Hamburg merchants; and each member of the consortium blamed the others. But there was no escape from the situation. Mollins was condemned for greed and for deliberately endangering the State, and had his contracts cancelled.(6) Although the Fossans took over and carried on, there were complaints that they were failing to repair the old powder they were sent, and payments should not be made.(7) Eventually in February 1661 Charles Burton died: Bartholomew and Lewis Fossan took the opportunity to sell out, and the following month they transferred all the equipment and contents of the mills and the millhouse to Josias Dewye.(8)

Josias Dewye was to be in Carshalton for the better part of forty years, although it was a long time before the Carshalton clerks came to terms with the spelling of his name: he first appears as 'Mr. Duee' or 'Duey'(9), and they never could decide whether the 'y' came before the 'e' - as it should - or if 'ie' was better. It would be interesting to know how old he was in 1661, but at present we can only guess that he had been born about 1620 or perhaps earlier. Our first definite date is 28 August 1648, when he married Elizabeth Richbell, a lady, he tells us, who had her family's coat of arms engraved on their plate. She presented him with three daughters in the course of the next half-dozen years, but only one of them, another Elizabeth, was still alive in 1656.(10) Presumably he had completed his apprenticeship as a clothworker by 1648, and was now a citizen of London. Since he was married in St. Katharine's by the Tower, and the girls were baptised and buried in the adjacent parish of St. Olave Hart Street, he was probably connected in some way with the Ordnance at the Tower. He may have been the Mr. Dewey, clerk to Sir Walter Earle, who was commissioned to spend two years between 1647 and 1649 in making a survey of all the brass and iron guns in the castles and forts of the kingdom.(11) But how and where did he learn to become the most expert gunpowder manufacturer in England? The only indication so far is that when he married a second time (to a much younger woman, Jane Dible, during the 1680s), part of the marriage settlement was that he promised her his two houses and lands near Faversham.(12)

Although it would seem that he was still living near the Tower of London in 1656, he was nevertheless described in April of that year as holding the Chilworth powder mills,(13) and it is evident that he must have been at Chilworth making powder for the Navy at Portsmouth for some years. In March 1653 he complained that the Guildford area could not supply him with carriages suitable for transporting barrels of powder, and some had to be sent up from Portsmouth for him. A year later he petitioned Cromwell directly for ten tons of brimstone (sulphur), and got it.(14) He was forever complaining and demanding, which is no doubt why he was so successful: when his works were in full operation he could turn out 150 barrels a week, and so he

never lacked contracts, and he prided himself on his ability to complete them in time. The earliest contracts noted (for a total of 750 barrels) were in May and June 1651(15). It looks therefore as if he was at Chilworth for almost exactly ten years, between 1651 and 1661, although there is also evidence, as Keith Fairclough has pointed out, that he made a false start in 1650 at the Temple Mills at Leyton in the Lea valley, where again he had a ten year lease.(16) All the same, one cannot help asking why such an eminently outstanding powdermaker should have left Chilworth in 1661 and gone to such a decrepit operation as Carshalton. Any answer is pure speculation, but it may be the case that the Restoration of Charles II in 1660 had changed the situation so that Dewye would have been hard pressed to avoid a charge of collaboration with a regicide Parliament. On the other hand he was obviously far too valuable to lose, and just as the Americans removed the German rocket expert Werner von Braun to the United States in 1945, so perhaps the Government offered Josias a deal: rehabilitate yourself by reviving the failing Carshalton mills in the security of a village which had become a centre of royalist supporters - and where a strong Treasury presence might prove advantageous to any Government contractor.(17)

A comparison of three extant documents, the inventory of the contents of the mills and millhouse when they changed hands in 1661, Dewye's will of 1696, and the earliest plan of the estate, John Hodskinson's map of 1773(18), makes it possible to compile a description of the property which Dewye purchased from the Burtons. Known as Bacons or Great Bacons or Baconscroft, it included three houses by the end of the century. The main residence, the house 'wherein I now dwell', probably medieval in origin, survived until the 1780s when it was replaced on a different site by Shepley House. Technically this was a copyhold tenancy of the manor of Banstead, but the surrounding fields were at least partly Carshalton, and in the later 1680s Dewye built a second house to be let out to tenants on the bank of the Carshalton river: this still stands, Victorianised and now semi-derelict, in the form of Strawberry Lodge (Strawberry Lane Baptist Church). Little is known about the millhouse, but the inventory, with its description of a panelled hall and two bedchambers, suggests another medieval building. Like the mills themselves, this was freehold by 1696, but had apparently only been leased from the Burton heirs until four years previously.(19) It is interesting to notice that only three of four mills were mentioned in 1661. These were 'trough mills', whose troughs or trays were presumably used for mixing the charcoal and sulphur after grinding, and can probably be identified with the three copper mills shown later on the 1773 map. The missing first mill may have been a dyewood mill which was not converted to gunpowder, but which is known to have been working during the eighteenth century; or it may have been the remnant of the medieval Lower Mill which had fallen into disuse by 1660 and of which only a conduit was said to remain in 1773. The building in which the saltpetre was refined in boiling water can be located fairly accurately to the north of the site by the references to 'Boiling House Mead' both in Dewye's will and on the estate map, but the position of the Corning House and Stove House of the 1661 inventory - the places where the damp mixture was corned or granulated by being forced through sieves before drying - is not specified.

Since the Hearth Tax system of the 1660s and 1670s was based on the number fireplaces in a property, and this included stoves and forges, a gunpowder mill was a very expensive place in Hearth Tax terms: in the Carshalton Hearth Tax returns Mrs. Burton's house, becoming Mr. Dewye's house in 1663, was assessed for more hearths than anywhere else in Carshalton. There were fourteen hearths 'in all', of which seven appear to relate to the mansion, and the other seven to the mills and millhouse. In fact Dewye refused to pay for all fourteen hearths. When he took up residence in Carshalton - the returns suggest this was not until 1664/5 - he only paid for the hearths of his house, and let the tenant of the millhouse (John Morgan ?) pay for all the others(20). By such economies the rich get richer, and none more so than Josias

Dewye. He was already a rich man when he came to Carshalton (although it is doubtful whether he had ever been poor), and he went on getting richer. His daughter Elizabeth married Edward Carleton, a tobacco merchant trading with America and one of the wealthiest men in the village - although she had died by 1683, leaving Josias with a grandson, Josias Carleton(21). It may be in this connection that Dewye is found shipping gunpowder to the colonies in 1672 (200 barrels) by arrangement with Sir Thomas Chicheley, Master of the Ordnance(22). It was probably the Carleton connection which gave Dewye half the grain tithes of Carshalton and half the church barn to keep them in.(23) Gunpowder production figures are not available for this period, but during the Great Fire of London in 1666 he supplied the crown with sixteen barrels of powder to blow up houses to make a fire break: and ten years later was still demanding that the justices of Southwark should petition the king to replace those used for this purpose (24). He was a most litigious person, often involved in lawsuits. In 1672 he accused George Wharton, Treasurer of the Ordnance, of massive corruption and fraudulent conversion (although Wharton claimed that the king knew all about it and had sanctioned it); twenty years later he again unsuccessfully sued the king's Sergeant-Plumber; and there appears to be a number of Chancery cases in which he was involved(25). Exactly what his official status was has not been determined, but in 1672 he is described as being a member of the Mint at Southwark, so his connection with the Tower of London, the usual home of the Mint, may have continued.

Josias Dewye died in 1698 and was buried in Carshalton Church. Fortunately, two years before he departed, he made a new will which lists both his possessions and his surviving relatives, although it is difficult to be clear about what happened after his death. By the terms of this will Josias' widow, Jane Dewye, received the two mansions on the estate for life, also the Faversham properties. But after her almost everything was to go to the grandson, Josias Carleton, who received the mills and the millhouse directly in 1698. It may have been the case that young Josias was so overcome by his good fortune that he died immediately: at all events the Carshalton manorial court roll records in 1700 that Jane had inherited, but her heir was to be John Dewye of Croydon, a nephew of old Josias.(26) It was certainly the case that John Dewye took over the gunpowder business, and is listed as supplying the Ordnance with powder every year between 1703 and 1711. But this seems to be the last reference to Carshalton gunpowder, and it is likely that production did not survive the end of the French wars and the Treaty of Utrecht or the change to Hanoverian government.(27)

There is a frustrating gap in local records for the next quarter of a century, and when the gunpowder mills reappear in 1740 they have been converted into copper mills, and were subsequently operated by the Company of Copper Mines of England. It is uncertain whether John Dewye was responsible for the change, but it might be mentioned as an afterthought that in 1692-3 he had been one of a group of businessmen who successfully petitioned the crown for permission to form a joint stock company which would prospect, dig and work a series of mines for minerals - although they were particularly interested in silver, not the humble copper.(28) By the middle of the eighteenth century the days of Carshalton gunpowder had gone forever, and when John Dewye Parker leased the mills to George Shepley in 1773 it was specifically stated that they were not to be used for gunpowder 'or in any other trade or business which may be a nuisance or annoyance to the inhabitants'.

Michael Wilks

NOTES

1. Carshalton Wills (Sutton Central Library: PRO, 36 Laud), pp.111-12. The mortgage was held by the heirs of Alderman Sir Richard Gurney. According to the stone in Carshalton church Burton died in February 1661, aged 78. See also A.E. Jones, From Medieval Manor to London Suburb (Carshalton, 1970), pp.29-32.
2. M.S. Giuseppi, 'Industries: Gunpowder', VCH, Surrey, ii.306-29 at p.323.
3. Calendar of State Papers, Domestic, 1649-50, pp.215, 534; CSPD, 1650, p.526; 1651, pp.330, 447.
4. CSPD, 1645-7, p.110; note also p.295 where Judd was paid with 'ground tow' from the yards at Chatham and Woolwich for his deliveries of lead and shot that year.
5. CSPD, 1658-9, p.296.
6. CSPD, 1655-6, pp.130-1, 256, 271-2; VCH, ii.323.
7. CSPD, 1655-6, p.551; 1656-7, p.397.
8. Surrey Record Office (Kingston), 212/9/3: I am grateful to Alan and Glenys Crocker for a copy of this very interesting document.
9. Hearth Tax Assessments and Payments, PRO, E.179/257/30 and 258/1, for 1663 and 1664.
10. My thanks to Stella Wilks for producing a family tree: Elizabeth, bapt. 12 October 1651; Mary, bapt. 6 September 1654, bur. 18 July 1656; Hester, bur. 7 July 1655.
11. CSPD, 1649-50, p.527.
12. Carshalton Wills (183, Lort), pp.132-6: Great and Little Bayfield or Bovell and lands in Ospringe and Throwley.
13. CSPD, 1655-6, p.270.
14. CSPD, 1652-3, p.539, also pp.147, 478, 525; 1654, pp.152, 552.
15. CSPD, 1651, pp.567, 571-2.
16. I am very grateful to Keith for further details: in March 1650 Dewye and his partner George Boreman, together with William Pennoyer, took over the lease of Temple Mills from John Berisford (who had converted the mills to gunpowder in 1643). There is no evidence that gunpowder was actually produced here after 1650, since Pennoyer's name last appears in Ordnance records in 1652 and in 1653 the Ordnance specifically queried whether the mills were capable of being worked. At the end of the lease in 1663 the mills were definitely derelict: Dewye and his partners paid £1285 compensation for this five years later, when John Samyne had taken over. Boreman may have continued with Dewye at Chilworth - there was a Mr. Boerman repairing powder in the Portsmouth stores in January 1653 - and possibly came to Carshalton with Dewye, where one of the mills was located in Boreman's Mead (in Wallington).
17. One other name common to both Chilworth and Carshalton is George Duncombe, who had a Chilworth mill in 1655 (G. Crocker, Chilworth Gunpowder (Guildford, 1984), p.3), but thirty years earlier had acted as agent for the Earl of Arundel in purchasing a moiety of the manor of Carshalton (VCH, iv.182), but the connection is a tenuous one.
18. SRO, 173/3/6A.
19. In 1657 Charles Burton left the mills to his widow with the reversion to his great-nephews (through his sister Anne) Edward Henry and Prosper Fenton. In 1666 Elizabeth Burton and the Fentons conveyed a house occupied by John Morgan to Walter

Rumsey of London, one of the witnesses to Burton's will. In 1691 Rumsey made his own will, leaving the gunpowder mills and a house occupied by Mrs. Eleanor Morgan, widow, and Robert Rawlins, to his wife Sarah (Carshalton Deeds, Middlesex Guildhall, bundle 1, nos.7, 11 and 14).

20. PRO, E.179/187/479 (1662); 188/481 and 257/30 (1663); 258/1 (1664); 258/4 (1665).
21. A.E. Jones, The Story of Carshalton House (Sutton, 1980), p.7.
22. Calendar of Treasury Books, 1669-72, pp.1099, 1313; and note also CTB, 1676-9, p.540, about repayment to Chicheley of money due on a contract between Dewye and Daniel O'Neill of 5 November 1660. For O'Neal (d.1664) and his royal gunpowder *
23. Carshalton Wills, p.133. The other halves were held by his neighbours the Byne family, mostly lawyers, with whom Dewye was to be engaged in a chancery suit. There may have been a political antagonism: in 1695 Dewye took the oath of loyalty to William III and Mary, whereas the Bynes refused: C. Webb, Association Oath Rolls for Surrey (West Surrey Family History Society, Microfiche Series, no.3). But the award to Edmund Byne of £40 for 'his pains in finding out the true number of hearths in Surrey' in 1664 may not have started their relationship on a good footing: CTB, 1660-7, p.605.
24. CSPD, 1676-7, p.195.
25. CTB, 1672-5, pp.289-90; CSPD, 1691-2, p.513.
26. CCR, 1682-1833, pp.16-17; also pp.29-30 for the transfer to John Dewye Parker in 1730.
27. My gratitude to Dr. Jenny West for lists of gunpowder suppliers from the Ordnance Office Bill Books in the PRO.
28. CSPD, 1692, p.336; 1693, p.207.

* monopoly see H.C. Tomlinson, Guns and Government: The Ordnance Office under the Later Stuarts (London, 1979), p.114.