

# WATERMILLS OF THE RIVER SALWARPE AND ITS TRIBUTARIES

## PART 2. THE SYSTEM OUTSIDE BROMSGROVE

by GORDON TUCKER

In Part 1 of this paper (*Wind and Water Mills*, No.2, 1981, pp 6-15), J.D.Briggs dealt with the 14 identifiable watermill sites in the parish of Bromsgrove. In this part the remaining 25 known sites on the River Salwarpe and its tributaries will be discussed.

Because the Tithe Awards of c1840 play such an important part in watermill research, it is convenient to use the parishes as they were defined then. It was on this basis that Briggs took Lint (or Charford) Mill as the last one in Bromsgrove, for the next two mills are now in the modern civil parish of Bromsgrove, although formerly in Stoke Prior. On entering the parish of Stoke Prior as formerly defined, the combined Battlefield and Spadesbourne Brooks become known as the Sugar Brook, but before leaving the parish this brook has become the River Salwarpe, and so continues for its tortuous course of some 12 miles to its confluence with the River Severn just north of Worcester. There are several tributaries, all those of any consequence being on the western side; two of them powered some watermills - the Elmbridge Brook which joins the Salwarpe just below Droitwich, and the brook which rises near Fairfield as the Hockley Brook, then becomes the Elmley Brook and finally the Hadley Brook before it joins the River Salwarpe in the parish of Salwarpe. Over its course the main stream of the Salwarpe (including the Sugar Brook) falls about 185 ft, and our survey shows 20 mill sites on this stretch. Fig. 3 shows this river system and the identified mill sites. The numbering of the sites is continuous with that of Part 1, and so here starts with No.15. Numbering proceeds down the main stream until a tributary is reached; numbers then proceed down the tributary from source to confluence; then down the main stream to the next tributary, and so on. Fig.4 shows a schematic representation of the watercourses associated with the mills, based as far as possible on the Tithe Maps of c1840.

The list of numbered mill sites is as follows :-

- |                              |                           |
|------------------------------|---------------------------|
| 15. Bant Mill                | 27. Town Mill, Droitwich  |
| 16. Sugarbrook Mill          | 28. Briar Mill            |
| 17. Sugarbrook Old Mill      | 29. Turn Mill (Badecourt) |
| 18. Fish House Mill          | 30. Elmbridge Mill        |
| 19. Needle Mill, Stoke Prior | 31. Salwarpe Mill         |
| 20. Corn Mill, Stoke Prior   | 32. Elmley Lovett Mill    |
| 21. Stoke Prior Mill         | 33. Doverdale Mill        |
| 22. Upton Warren Mill        | 34. Hadley Mill           |
| 23. Paper Mill               | 35. New Mill              |
| 24. Wychbold Mill            | 36. Porter's Mill         |
| 25. Walkmill                 | 37. Mildenhams Mill       |
| 26. Impney Mill              | 38. Hawford Mill          |
| 39. Hawford Old Mill         |                           |

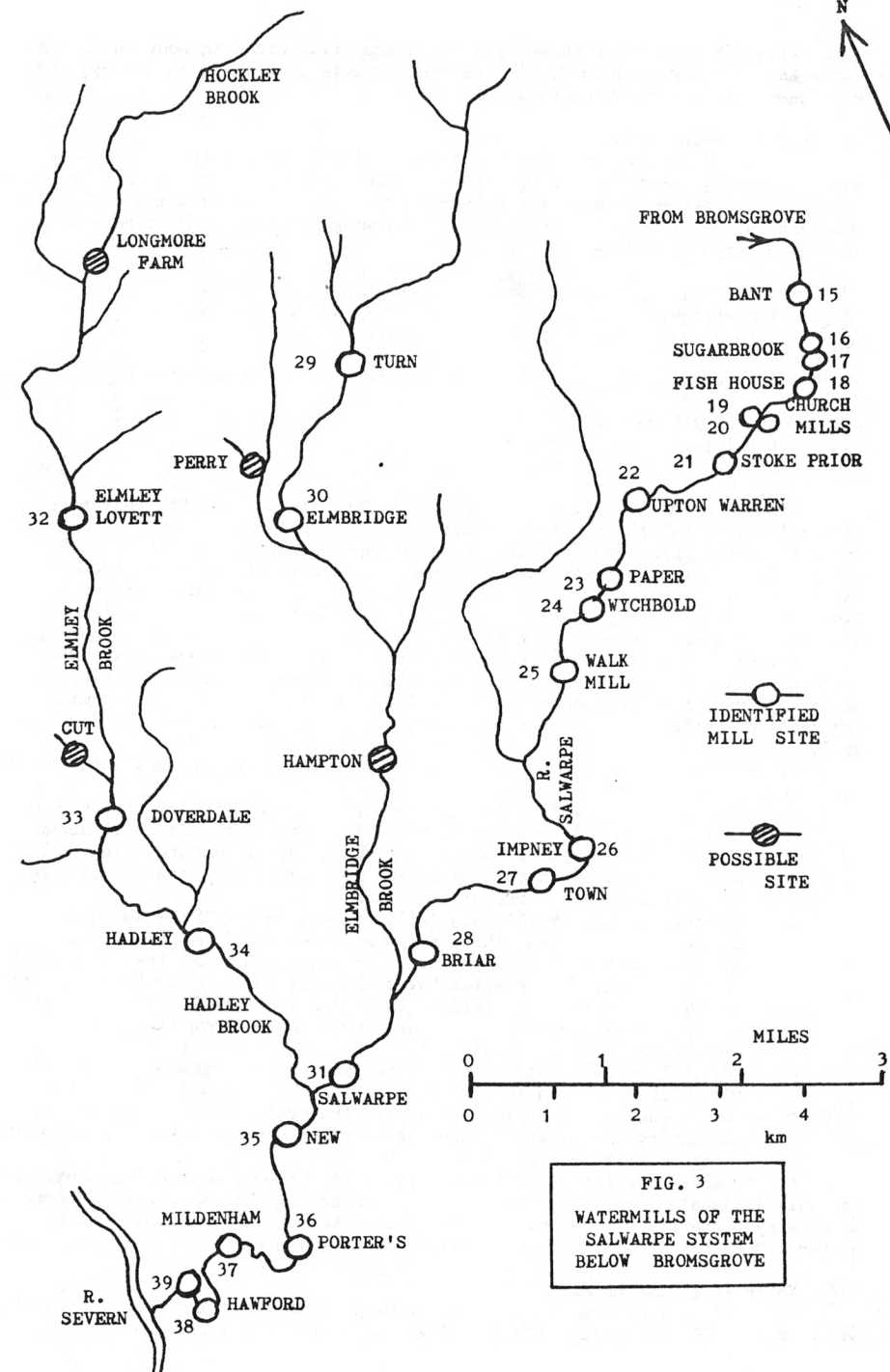


FIG. 3  
WATERMILLS OF THE  
SALWARPE SYSTEM  
BELOW BROMSGROVE

Although some 14 of these mill buildings still stand in some form, only two - Hadley and Mildenhall Mills - remain complete with their machinery, and even these are not fully operational.

#### POSSIBLE WATERMILL SITES

It must be emphasised that the above-listed sites are those that have been positively identified in some way as sites of watermills. There were possibly many other mills on the Salwarpe system at different times. The Domesday Survey of 1086(1) included the following mills which must have been on the Salwarpe system :-

Bromsgrove, 3 mills	Salwarpe, 1 mill
Upton Warren, 1 mill	Elmley Lovett, 3 mills
Wychbold 5 mills	Doverdale, 1 mill

and the following, some of which would have been on the Salwarpe system :-

Chaddesley Corbett, 3 mills
Ombersley, 2 mills
Northwick 3 mills

Nash(2) gives several references, from the 11th to the 15th centuries, to a mill at Tapenhall in Claines parish, and to a mill at Mildenhall nearby; these mills may well have been on the sites where Porter's and Mildenhall Mills now stand, but may alternatively have been at other points on that stretch of the Salwarpe. Mrs. Berkeley(3) states that in 1659 there were ten watermills on that last mile or so of the river; but it is unlikely that they occupied ten separate buildings and much more likely that there were several waterwheels, each driving a pair of stones, at each of three buildings. There is an advertisement in 1766(4) for a 'freehold farm situated in Wichbold .... consisting of a Dwelling House, Four Fulling Mills, .... ', but again the four fulling mills would almost certainly be in one building, or at any rate on one site (probably No.25).

Other sites are suggested by field names in the Tithe Awards. Three which have been noticed are :

- a) 'Perry Mill Close' on the Tithe Award for the Chapelry of Elmbridge in the parish of Dodderhill, 1842. The site suggested is at about S O 888689, on a tributary to the Elmbridge Brook, and lying on what is now a footpath. The stream is a small one, and the mill could have been a horse-driven cider mill.
- b) 'Part of Hampton Mill', and 'Mill Grove', on the Tithe Award for Hampton Lovett, 1839. The configuration of the land suggests a possible site at S O 892655, on the bridle road just the other side of the railway from Hampton Lovett Church, next to the bridge over the brook. There is a possible line of a leat, marked by trees on a bank running from the brook about 200 yards above the site, with a potential head of about 10ft.
- c) 'Cut Mills' (a field) on the Tithe Award for Doverdale, 1838, and 'Cut Mill Piece' on the Tithe Award for Elmley Lovett, 1840. These two fields lie on opposite sides of the small brook (tributary to the Elmley Brook) which forms the parish boundary. The site suggested is approximately S O 854672.

A site where the layout of the watercourses suggests a former watermill, but the only documentary evidence found is of a steam mill, is at Longmore Farm, Chaddesley Corbett, S O 884726. The steam mill, however, has an interesting history. Some further discussion of this site is given at the end of this paper.

#### THE IDENTIFIED WATERMILL SITES

The principal sources of information used in this section comprise firstly maps, principally Isaac Taylor's map of Worcestershire of 1772, the Ordnance

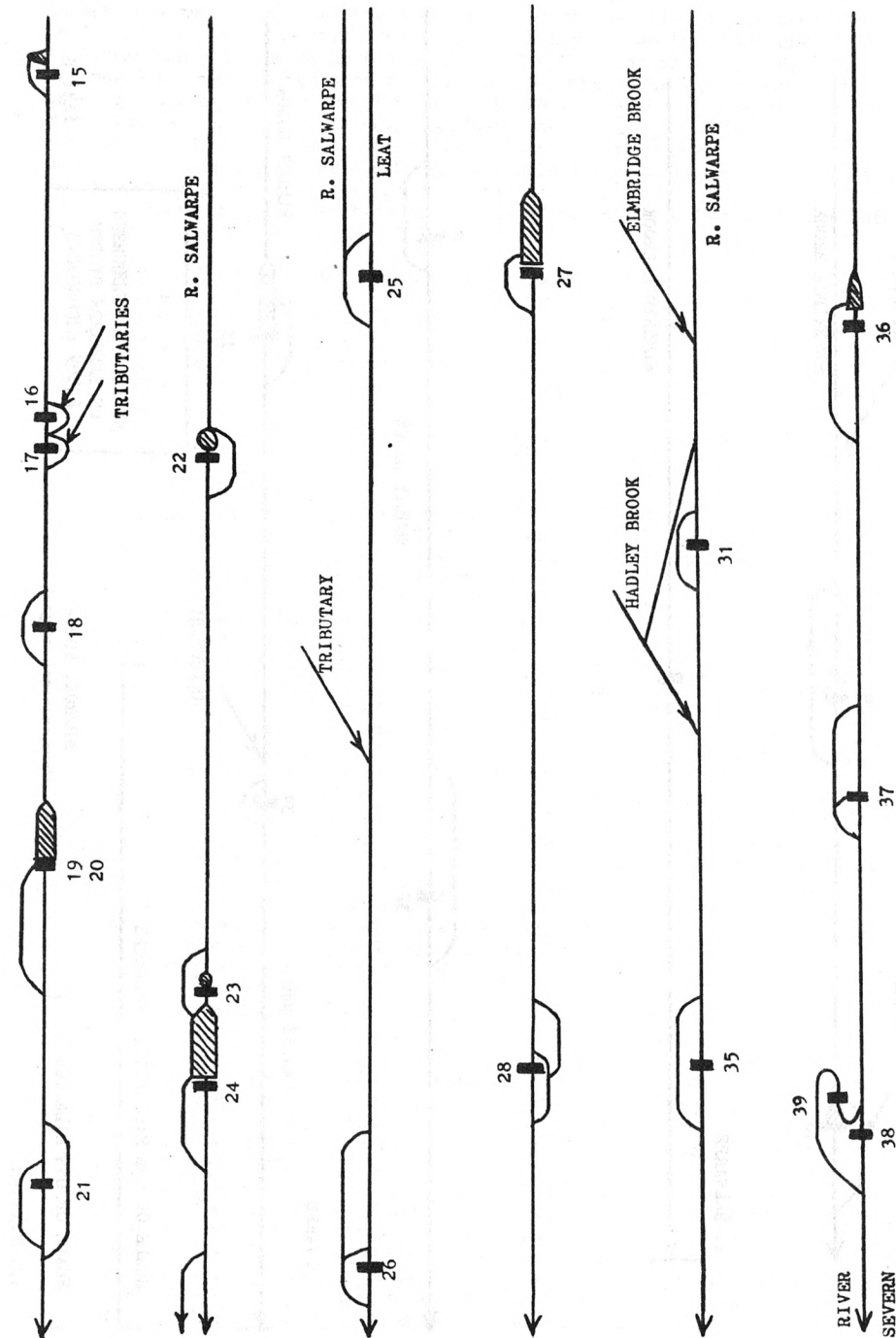
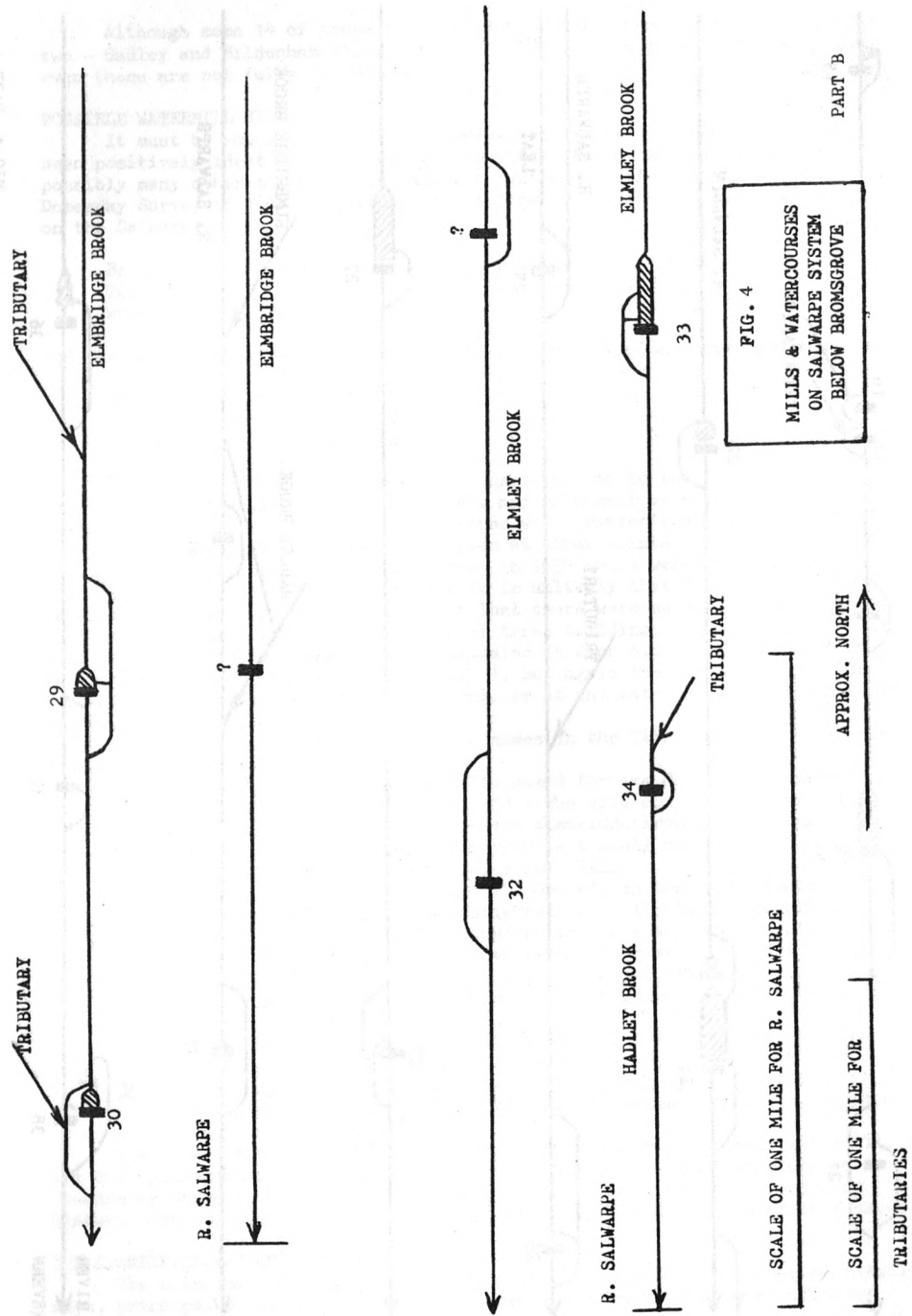


FIG. 4, PART A



Survey (OS) maps of scales from 1 to 25 inches to the mile, dating from c1830 to the present, and the Tithe Maps with their associated Apportionments, collectively known as the Tithe Awards (TA), of c1840; secondly the very extensive typewritten notes of the late H.E.S. Simmons, dating as far as this area is concerned mainly from the years 1944-45, and now filed in the Science Museum Library in London; thirdly published sources, principally those of references 1-3 together with the Victoria County History (VCH); and fourthly manuscript documents of various kinds, but mainly deeds, mostly in the County Record Office in Worcester but some in private hands.

Comments on the present-day condition of the mills and/or sites are based on the author's visits during 1978-81.

15. Bant Mill (Stoke Prior parish). SO 959690

Shown as Baddington Mill on OS c1830, Pant Mill on Tithe Map but Barrington Mill on Tithe Apportionments 1846, Pant Mill (owner Maria Cooke) in 1855(5). Name Bant Mill used on large-scale OS, by Mrs. Berkeley 1935, and by Simmons 1944; and persists in present-day road name. Corn Mill 1884 (OS). Demolished c1900 (Simmons). Some masonry remains visible in 1934 (Mrs. Berkeley). Site now lost.

A mention of Baddington Mill on the Salop Brook in the manor of Stoke Prior in 1650 (VCH) presumably refers to a mill on or near this site.

16. Sugarbrook Mill (Stoke Prior parish) SO 958682

17. Sugarbrook Old Mill (Stoke Prior parish) SO 958681

It is likely that the present mill building dates from between 1846 and 1848, for in the former year the TA shows the mill at site 17 (no mill at site 16), and in the latter year one James James declared that 'the Sugars Mill has been taken down and rebuilt'(6), and in the plan accompanying his declaration the mill is shown at site 16. The mill was part of the Bunsford Hill Farm estate and was referred to in 1842 and 1845 as Bunsford Hill Mill with an overshoot wheel and three pairs of stones (Simmons). Simmons states there was a fulling mill there in 1820, quoting the *Worcs.J.* for 16 March 1820.

Henry Baylis was miller from just before 1848 to after 1860, and was followed by various members of the Gibbs family from before 1872 to 1940. The mill ceased working as a mill in 1941 (Simmons).

Some idea of the scale of the machinery in the mill in the 1870s is obtained from surviving correspondence of 1876 between Robert Summers, millwright of Tanworth-in-Arden, and J. Gibbs, the miller(7). It appears that a previous estimate was rather costly, and the reconstruction now suggested, to cost only £850, involved putting in a water wheel about 13ft diameter and 6ft.8in wide with machinery for only four pairs of stones instead of the previously-proposed five, and with a wooden pentrough costing £50, presumably instead of a previously-proposed iron one. Evidently a complete replacement of the mill machinery was contemplated less than 30 years after the mill was built. No information is available on what was actually installed.

In its later years, the mill at site 16 had only roller plant and no longer relied on stones. This plant was on the ground floor, driven by the enclosed, all-iron, overshoot water wheel of approximate diameter 15ft. and width 6ft. Dressing machines were on an upper floor, with a line shaft driven from an iron and-wood crown wheel of 5ft. diameter. The description of the mill in a sale brochure of 1909 is interesting:(8)

'The Mill is in very good order, and is fitted with a Roller Flour Mill Plant by Messrs. Thomas Robinson and Co., of Rochdale.

It is capable of producing 1½ Sacks (280lbs.) of high-class finished flour per hour, and includes Grain Cleaning Machinery, Brush Machine and Elevators, Shafting and Pulleys, 4 Horizontal Roller Mills, Rotary Sieves, Scalpers, Elevators and Purifiers, Dressing Machines, Dust Collectors, Pair of French Stones, and other Plant and Machinery. In addition to the Milling Rooms there is a Sack Room, Flour Room, and Office; also large Wagon Shed, Stable and Cart Shed.'

At the present time the original large brick-built 4-storey mill on site 16 has been extended from its plan of approximately 90ft. by 25ft. by some single-storey buildings, and several manufacturing companies are housed; SAXONFOAM LTD., makers of cavity-wall insulation, occupying much of the main mill. There is now no trace of the mill-pond or pentrough.

Only a house now stands on site 17.

18. Fish House Mill (Stoke Prior parish). SO 954678

There is a good deal of confusion in the records of this mill and the next three, and it has not been possible to untangle their history completely. Simmons states that Fish House Mill was originally a 'tanning mill', although it may have been merely a tannery which did not use the water for power. He appears to have got this information in 1944 from the 91-year-old owner Mr. Gibbs, who stated that it was his father who converted the tanning mill. This is just possible, but 'the Water Corn Mill called the Fish-house Mill' was well established by 1832 because in November of that year it passed to Thomas Baukes and John Horton under the will of Mrs. Mary Enniss.<sup>(9)</sup> By 1842 Baukes and Horton had died and the mill had passed to John Jones, who advertised it for sale in 1842 as

'A Water Corn Mill called the Fishhouse Mill having an undershot wheel, driving three pairs of stones and machinery and tackle complete on an excellent stream of water ... and now or late in the occupation of Mr. Henry Freeman. The mill has lately been put into complete repair'<sup>(10)</sup> But it was not until 14 April 1846 that Jones transferred the mill to Benjamin Allcock, who nine years later sold it to J. Pitman for £700 or more.<sup>(11)</sup>

In the light of this evidence it is extremely curious that in the Tithe Awards of 1846 this mill is shown as a Needle Mill owned by Richard Alport and occupied by James Rockford. Tithe Awards are normally scrupulously accurate. Could it be that in, or just before, 1846 the mill had been converted to a needle mill, and that it was a later conversion back to a corn-mill which was done by Mr. Gibb's father? Could the story of the tanning mill be just a misunderstanding?

The mill was still working when Simmons visited it in 1944, but it has for many years now been a residence, considerably rebuilt and altered. It is most attractive. It is built of blue 'engineering' bricks, and is quite small, with only two storeys. A very considerable porch now on the south wall was stated by the owner to have been moved from the west wall. The watercourses still exist, as does the weir, and it seems clear that the waterwheel must have been on the south side, and it is difficult to see now how the head could have been as much as 9ft. Yet Simmons stated that the wheel was 'in a covered-in brick compartment at the east end ... all-iron overshot 9ft overall by 6ft. 2ins. wide, the curved iron buckets being 12 inches deep with an overhang of 10 inches, the six arms being 5 inches by 3/4 in. and the round ribbed iron shaft 10 inches diameter'. (The wheel shaft now lies in the stream which was formerly the head-race.)

Simmons went on to describe the unusual drive arrangement :- 'The pit wheel, which is cased in flush with the wall, engages a similarly placed toothed wheel operating a horizontal shaft on which are mounted two 4ft. bevelled spurs, iron with wood teeth, driving 15in. iron stone nuts on round spindles; the nuts are on tapers and are lifted out of engagement by a forked lever and chain. This gear is enclosed in a cupboard.' The stones were one pair of 4ft. Peak stones and one pair of 3ft. 10in. French burrs, the latter coming from Sugarbrook Mill when it was converted to roller milling. There was a large dresser on the stone floor. The line shaft driving the sack-hoist and machines was belt-driven from a wheel on the main driving shaft.

It is possible that the weatherboarded protrusion on the north wall is a modern accretion; but it is more probably a replacement of an original lucam.

The origin of the name Fish House is not known, but 'Fishhouse Meadow' occurs in deeds of 1792,<sup>(12)</sup> when John Tolley acquired the tenancy.

19. Needle Mill (Stoke Prior parish). SO 951678

20. Corn Mill

John Tolley held a 'Water Needle Mill' in 1784<sup>(13)</sup>, and as he did not acquire the tenancy of Fishhouse Meadow until 8 years later, and as he was in 1801 advertising a Needle Mill near the turnpike road from Bromsgrove to Hanbury and near the church in Stoke Prior, it is most likely that the mill was at site 19. By 1846 the Tithe Awards showed Edward Perks occupying a Needle Mill and 'Shops and Yard' for needle stamping and hardening at this site; but they also showed Jeremiah Jordan Haynes as occupant of a Flour Mill adjacent. Edward Perks, Needle and Fish Hook Manufacturer of Redditch and Stoke Mills, was bankrupt in 1849.<sup>(14)</sup> J.J. Haynes appeared in directories as the corn miller at Stoke Mill up to the 1860's, followed by John Haynes in 1872 (Simmons). The 6-inch OS of 1884 marked a Needle Scouring Mill. In 1887, 'Mr. A. Zealley, of the Church Mills, Stoke Prior, has favoured Mr. William Gardner, of Gloucester with the order to remodel his mill on Mr. Gardner's combined stones and roller system.'<sup>(15)</sup> There thus seems adequate evidence of the simultaneous existence of both a needle mill and a corn mill.

The name Church Mill was often applied to one or other, or both, of these mills. There was a serious fire in the early years of the 20th century, and the site was derelict by 1934 (Mrs. Berkeley). In 1944, Simmons found that 'The decayed flood gates and the small mill cottage are all that remain, and the small mill pool is choked with weeds.' The dam still remains, and Needle Mill Cottage has been renovated. From its position beside and below the dam, it might well have once been part of the mill.

Confusion of the records with those of Stoke Prior Mill (No. 21) is only too easy, and Simmons fell into this trap with many of his notes.

21. Stoke Prior Mill (Stoke Prior parish). SO 943674

The massive and ugly 4-storey brick mill which stands on this site has been the subject of much controversy in the last year or two, because its owners, who have been using it only for storage, have wished to demolish it, as, together with the formerly attractive mill house, it has been badly vandalised by the children of the area. Renovation and protection were thought to be too expensive; yet planning permission to demolish had been withheld,<sup>(16)</sup> although the house has recently been pulled down. This building is, however, not the original mill, which was burnt down in 1896.

It is difficult to separate the early history of this site from that of the sites 19 and 20 discussed above. It is convenient to take the Tithe Awards as a kind of anchor and note that in 1846 they showed at this site the 'Stoke Prior Flower Mill' with Francis Rufford as owner and William Bladom as occupier. (It may be noted in passing that adjacent to this site the TA showed 'Needle Mill Meadow', suggesting that at some time before the corn mill there was a needle mill on this site.) Now in 1852 there was advertised for sale a water corn mill called Stoke Mill which was leased to William Bladen and was the copyhold of the manor of Stoke Prior.<sup>(17)</sup> It had two overshot wheels with a fall of 15ft. 8in., driving four pairs of stones. This was presumably our Stoke Prior Mill. A mill 'near to Stoke Church' with 'four pairs of stones and two very powerful water wheels' was advertised as 'new built' in 1820.<sup>(18)</sup> This must have been the same mill, and so we have its date of building as just before 1820. It was occupied from 1820 for many years by William Harris and Son. Bladen or Bladom must have occupied it for perhaps ten years or more in the 1840s and 1850s, and then it passed to William Herbert Wall, in whose family it remained for over 40 years. Wall was apparently only 43 when he died in 1879,<sup>(19)</sup> so he must have been only in his very early twenties when he first had the mill.

In 1889 at least some of the stones were replaced by a roller plant (Simmons), but this and the whole mill were totally wrecked in the fire of 1896 already mentioned.<sup>(20)</sup> The new mill was built quite quickly, and was advertised to be let in 1899, 'recently erected with entirely new and complete

3-sack roller plant and two pairs of stones'.<sup>(21)</sup> Townsend and Sons, who had the Albion Flour Mills in Worcester, ran the mill for a few years, then in 1906 it was advertised again as a '3/2-sack Roller Mill, with almost new and up-to-date machinery, steam and water. Electric light throughout.'<sup>(22)</sup>

Corn-grinding had ceased long before Simmons visited the mill in 1944, for by then it had been used as a factory for box-making, then for making lamp-burners, and was currently in use by L.G.Harris for brush-making. In recent decades it has had very little use.

The name Stoke Prior Mill was a very ambiguous one, as there were so many mills in Stoke Prior. The mill was often called Wall's Mill through its long association with that family. On the 1st-edition 1-inch OS of c1830 it is marked as 'Brick Ho.Mill'.

22. Upton Warren Mill (Upton Warren parish). SO 932674

There may have been a mill on this site since before the Norman conquest. There was a mill there in 1772 (Taylor), and it may well have been the present building, which now has no machinery in it, having ceased work before 1930. In fact the mill had been out-of-order for some years before it was restored by Oliver Hancox in 1923 and worked for four years (Simmons). It is a small two-floor building, with attic, attached to the former mill cottage. Simmons gives the following description of the machinery :-

'The pit wheel was iron; the water wheel, on the south side, was an undershot 4ft. wide and about 12 feet diameter, covered over, with small flood gates alongside. The paddles and arms were wood on iron naves and an iron shaft. The upright shaft was also iron. The stone nuts were on tapered spindles lifted with fork and lever. The spur and wallower were iron. The stones were one pair of French 4ft. and composites 4ft. and 3ft.6ins. The iron crown wheel had wood teeth on top, with iron nuts operating the sack hoist and machines.'

23. Paper Mill (Hampton Lovett parish). SO 924666

This site is in the village of Wychbold on the south side of the river, and was at the time of the Tithe Awards in a very small detached part of the parish of Hampton Lovett, embedded in the large parish of Dodderhill, in whose Tithe Map and Apportionments it appeared in 1845, without any reference to the mill, although the map clearly shows the head-race entering the presumed mill buildings in their middle. It is likely, therefore, that the mill had ceased work not very long before then. The name 'Paper Mill' is preserved in Paper Mill Lane and in the name of the pair of semi-detached houses on the site, but the history is very obscure. A 'brown paper mill' was to let at Wychbold in 1777 and R.Lloyd was a paper maker in 1810 (Simmons). The site has been marked Paper Mill(s) on OS maps since c1830.

The owners of the houses on the site believe that the northern one was once the mill and the southern one the mill-house. Whatever the truth of this, there is no doubt there was a mill here; the site of the weir seems definite, with a stone dam for the head-race.

24. Wychbold Mill (Dodderhill parish). SO 922664

Although this mill has now disappeared, it was still standing, although disused, in 1945 (Simmons). It then had an undershot water wheel, about 20ft. diameter by 7ft. width, with paddle boards and three sets of eight arms, on an octagonal iron shaft 10 in. across. The wheel was at the west end of the building under a high arch. Some machines were worked from a line shaft. Simmons described the building as a 'large old red brick rectangular building, not used as a mill for a long time.

In 1845 the undershot wheel was of 10ft. diameter, with 12 arms and a 12 ft. shaft of 13 in. diameter, and there were four pairs of stones.<sup>(23)</sup>

'Corn Mill' on OS c1830; 'Mill' on TA 1845, Owner and occupier William Lilley. Millers: William Lilley c1835-54; J.Gibbs c1860-76; J.A.Jackson, then T.B.Jackson, c1880-1900; W.Pritchard c1900-04 (Simmons).

A paddle-type water-wheel now stands as an ornament in the garden of Mill Cottage, but it is not thought that this is derived from the original wheel.

25. Walkmill (Dodderhill parish). SO 917658

This site is only marginally qualified for inclusion as an identified site, but it was marked by a mill symbol on a leat by Taylor in 1772. 'Walk Mills' on OS c1830. The name 'Walkmills Farm' has persisted since then, and almost certainly indicates the site of the old fulling mill. The long leat, the small terminal pond, sluice and overgrown tail-race are all clearly shown on the 25-inch OS 1903, and suggest the site of a mill with some precision.

26. Impney Mill (Dodderhill parish). SO 910636

This mill, which was in the grounds of Impney Court, the home of the Corbetts, was demolished in 1879 (Simmons).

'Impney Mill' marked on Taylor 1772; clearly shown, with leat, overflow channel, and tail-race; on Tithe Map 1845 (but not in Apportionments); owner and occupier Thomas Thould at least from 1820 to 1864 (Simmons).

The mill-site is probably ancient, for a mill at Impney was mentioned in the 13th century (VCH).

27. Town Mill, Droitwich. (Dodderhill parish). SO 904634

This mill, which has now gone, was, in the 1840s, in its own tiny detached part of the parish of Dodderhill, embedded in the parish of St.Peters, Droitwich. It appeared in the Tithe Awards for St.Peters in 1841 and for Dodderhill in 1845. References occur from 1802; owners or millers were R.B.Jameson up to 1802. Thomas Perkins c1820-51; Mrs.E.Perkins c1854; J.Goodwin and Son in 1860s; William Horton c1870-1910; C.H.Everton c1910-45 (Simmons).

The TA show the mill standing just below the weir on the river, on the south bank immediately to the north of the Hanbury road. Later, in 1854-6, the Droitwich Junction Canal was built, and passed between the mill and the road and must have caused some modification to the arrangements. In 1901 the machinery included a 3-sack Turner roller plant driven by an engine, and three pairs of French stones driven by the water wheel.<sup>(24)</sup> The main part of the mill was destroyed by fire on 22 August 1909 and was rebuilt, probably on the same basis, for it had an undershot waterwheel 12 ft. diameter and 7 ft.wide. The mill was auctioned in 1945 and was then still at work, although no water-driven machinery remained (Simmons).

28. Briar Mill. (St.Nicholas parish). SO 887632

Marked as Bryer Mill by Taylor 1772.

Although the building itself was in the parish of St.Nicholas, Droitwich, the parish boundary divided the land on which it stood and part was in St. Andrew. Thus the mill appears on the Tithe Awards for both parishes (1839 and 1840 respectively); in St.Nicholas it is not named, but in St.Andrew it is named as 'Appler Mill' - a curious name which does not appear in any other records seen.

The name Briar (or Brier) Mill and the mill-site are ancient, the latter dating at least back to medieval times, when the name was Bierhalla (VCH). In 1774 there appeared an advertisement<sup>(25)</sup> for 'a stack of overshot mills near Droitwich ... much out of repair ... within half a mile of the Droitwich Navigation'. This must refer to Briar Mill. (Note that the Droitwich Canal, here referred to, was opened in 1771; it should not be confused with the Droitwich Junction Canal, mentioned in connection with the Town Mill.) In 1816, Briar Mill had two water wheels, two pairs of French stones and one pair 'French and Welsh'.<sup>(26)</sup> The mill was demolished in the 1870s and a house built on the site (Simmons). The site has now been virtually obliterated by recent road construction.

Millers were William Brook(s) c1816; Thomas Brooks 1818; John Knight 1835; Charles Haynes c1839-51; J.Craddock 1860; C.Cotterill 1864; Needham and Walker 1872 (Simmons).

29. Turn Mill (Badgocourt). (Dodderhill parish, Chapelry of Elmbridge). SO 906702

This mill worked on the Elmbridge brook with only a small pond. 'Turn Mill' was marked here by Taylor in 1772, by the OS c1830, and on the Tithe Map of 1842; it still appears on modern OS maps. The mill building still exists, devoid of

machinery; a small brick building of three storeys attached to the mill-house to form an L-shaped plan.

In 1844-45 the waterwheel was overshot and about 14ft. diameter by 3 ft. wide.(27) It was the same when Simmons visited the mill in 1945, with 9½ in. round fluted shaft; heavy six-arm pit wheel with square hub; iron spur; 2ft. iron wallower; three 15-in. iron stone nuts with wood teeth; iron bridge trees 20 in. long, bolted to 6-in. round iron uprights; tentering by spanner and nut; octagonal upright shaft 6 in. across; six-arm iron crown wheel with wood teeth, 4ft.4in. diameter; sack hoist; belt wheel for machines; and three pairs of 4ft. French burr stones. The mill broke down in about 1930, and never worked again.

Millers: William Fox in 1840s (TA and ref.27); Oliver Hancox 1916; S.C.B.Packer in 1920s (Simmons).

30. Elmbridge Mill. (Dodderhill parish, Chapelry of Elmbridge). SO 893 686

This site on the Elmbridge Brook may not be ancient, and the mill is probably of the early 19th century. The farmhouse with which it was associated is now a smart residence standing beside the renovated millpond, which has been incorporated into the large garden. The mill itself is a very small one, square, of red brick with three floors, standing just below the dam at the south of the pond. It now contains no machinery, but when Simmons visited it in 1945 it was complete, although disused. The overshot wheel was on the west side (Simmons said south, but this appears to be a slip), covered in, 11ft.diameter by 4ft.6in.wide, with 9in. rim, six arms 4in. by 3/4in. with inside ribs, a shaped nave, 7 in. octagonal metal shaft, and iron pentrough. The pit wheel was of iron, 6ft.3in. diameter in two sections. The wallower was of 3ft.diameter. The all-iron spur was of 5ft.diameter. The 17-in. stone nuts had wooden teeth and were carried on 2½in. spindles. Disengagement was by double rod and ring, with screw tentering. The 9in. round upright shaft carried an iron, four-arm crown wheel of 3ft. diameter. There was a pair of 4ft. Peak stones and a pair of 3ft.10in. French burrs. There was a small inclined bolter on the stone floor, and a bread-oven.

The mill originally had a wooden waterwheel, but this was replaced when Messrs.Bradley and Turton of Kidderminster renovated the mill in 1913.

Millers were: J.Homan 1820; J.Harris c1854-64; W.H.Langley c1880-1900; A.Langley c1900-1916; J.Brown c1920-40 (Simmons).

31. Salwarpe Mill. (Salwarpe parish). SO 874621

This site is almost certainly where the mill mentioned in the Domesday Survey was, and mentions of Salwarpe mill are frequent from then on (see Nash and VCH). It was shown by Taylor 1772, on the Salwarpe Inclosure Map 1817-18 (there was no Tithe Map), and on the OS c1830. The mill was last used in 1914, but was in working order until a great flood on 9 May 1925 swept away the sluice gates. It was demolished in 1942. (Simmons and Mrs.Berkeley).

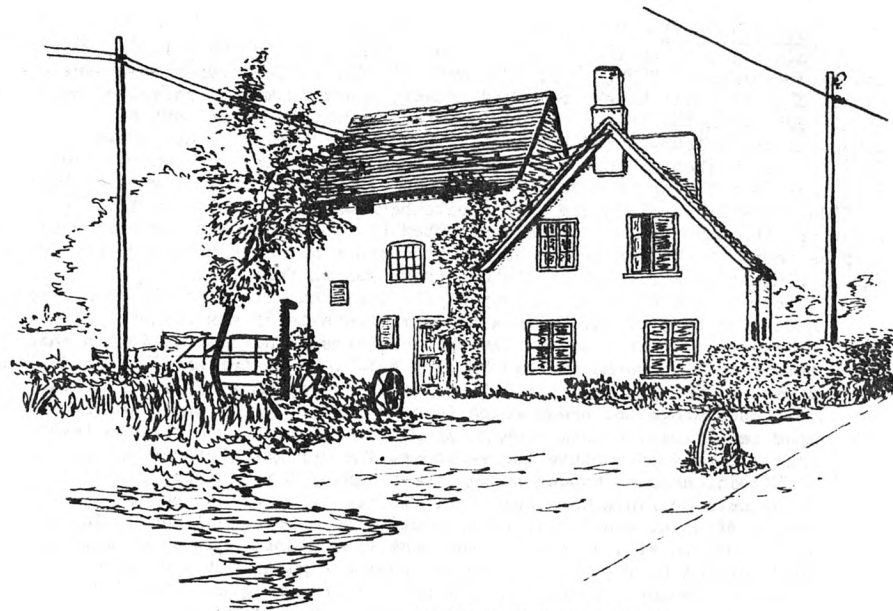
Millers were: Betty Brewster 1820; Thomas Brewster 1828; T.Croydon 1854; Anthony Rider 1860; William Mucklow c1864-90; Henry W.Smith c1890-1912; Sidney C.Knight 1916 (Simmons).

At the present day the head-race can be traced from the remains of the weir, which was apparently of brick; but there are few other remains.

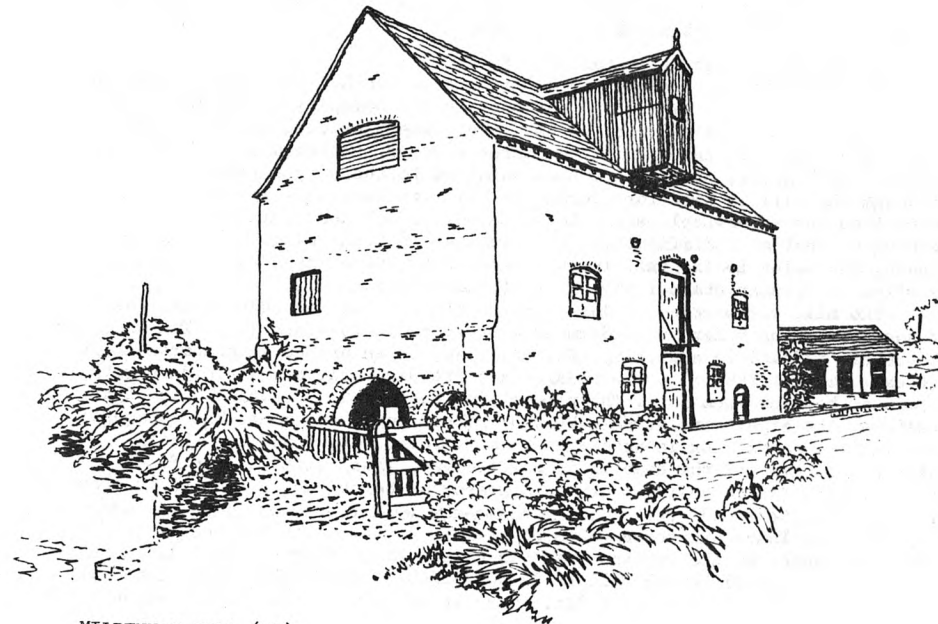
32. Elmley Lovett Mill (Elmley Lovett parish). SO 868696

This site on the Elmley Brook may have provided the power for one or more of the three mills in this parish which were mentioned in the Domesday Survey. Certainly the mill of which fragmentary remains can still be seen must have been very old, for it had an inscription on it 'H.T.1645', according to Mrs.Berkeley, who found it a ruin in 1934. Simmons simply reported 'Gone' in 1945. Now all that can be seen are the retaining wall on the bank against which the mill was built, below the now-abandoned small mill house, a few other pieces of wall, the pentrough still carrying water from the leat, and the leat itself in good condition. Seemingly the head available was about 12ft.

The mill was shown by Taylor 1772 and on the TA 1840.



UPTON WARREN MILL (22)



MILDENHAM MILL (37)

33. Doverdale Mill. (Doverdale parish). SO 858660

This may well be the site of the mill mentioned in the Domesday Survey and in documents of 1670, 1709, 1772 and 1804 (VCH). The present mill building, attached to the mill house, remained intact, apart from the removal of machinery, until 1976, when the present owners started to rebuild it as part of the residence. It was a four-storey brick mill, and was probably the one shown on the TA 1838, being then without a tenant (William Minifie was the owner). Minifie must have been trying to modernise or repair the mill at that time, for Turttons of Kidderminster supplied him with a pitchback waterwheel 10ft. by 5ft.6in. (28) These are the same as the dimensions quoted by Simmons in his inspection of 1945, when he found the mill complete and in good order although not used since World War I. Simmons' description of the machinery was as follows :-

'The wheel is under an archway at the west end; it is an all iron breast shot 10ft. by 5ft.6in., with a 9in. rim, two sets of six plain arms tapering from 4½in. to 4in., and on one of these arms is an inscription in raised lettering ... seems to read "Robert Ball". The water shaft is wood 17in. diameter. The pit wheel is 6ft. all iron, engaging a 2ft.6in. wallower 18 inches above the brass which is on a 11 inch by 12 inch timber. The spur is 6ft.6in. across, 8-arm, iron, in two sections with wood teeth and is placed 3ft. above the wallower. The upright shaft is octagonal wood 14in. across. Wooden bridge trees 7in. by 8in. support the 16in. iron stone nuts on 2in. square spindles. The two pairs of stones are placed N and S, 3ft.8in. and 3ft.10in. respectively in octagonal cases. The crown wheel is iron 4ft. across. On the west side a 13in. nut on a 2in. square shaft drives an iron pulley. On the east a similar nut and shaft drives a 1ft.8in. flanged wooden drum and, against the wall, a 3ft. wood drum presumably for a one-time flour dresser. Both shafts are brought into engagement by short levers.'

Millers were: G. Williams 1854; Eleazer Lamb 1860-1893; William Wall 1893-1900; E.H. Lamb 1900 on; Everton 1914-18. (Simmons).

At the present day the broad leat from the Elmley Brook still carries water which flows over the old overflow weir and sluice. There is no trace of the pen-trough or tail race. The building no longer looks like a mill, although it has become an attractive extension of the house.

34. Hadley Mill. (Ombersley parish). SO 865640

The brook has now become the Hadley brook. Whether this site corresponds to one of the mills in Ombersley mentioned in the Domesday Survey cannot be known, but the mill of Haddesley in Ombersley' was mentioned in 1230 (Simmons). The present day mill is of brick, of three storeys, attached to a two-storey L-shaped mill house, which has a barn attached to the wing remote from the mill. Although the mill is used for storage of hay, the machinery is complete and, apart from the waterwheel, seems to be in good order and could probably be got working without much difficulty. The situation is a charming one, in a deep dingle, and owing to the fall in the brook there was no need for a leat; an overflow or by-pass channel was all that was needed.

The mill was working in 1934 (Mrs. Berkeley), but had ceased work, although it was in working order, when Simmons went there in 1944 and 1945. The wheel is undershot, 14ft.6in. diameter by 2ft.6in. wide, in an arched-in compartment in the east side of the mill. The paddles are 2ft.9in. wide and 14½in. deep with strainers between each pair. The rim is 5in. deep by 1.1/8in. thick, in eight sections, the eight arms 4.1/2in. by 1in. ribbed back and front. The octagonal nave is 2ft. across and is packed on to a 7.1/2in. octagonal iron shaft. Between the nave and the bearing is a 2ft. cogged wheel with 2.1/2in. face, formerly used for conveying power to a nearby sawbench. The pit wheel is about 7ft.6in. diameter; wallower of iron; clasp-arm wooden spur 7ft.6in. diameter by 7.1/2in. deep. There are three pairs of stones, north, south and west, all French burr; the runner of the western pair has an eye ring of iron carrying, in raised letters, J.PICKIN MILLSSTONE BUILDER 27 COLESHILL ST BIRMINGHAM. The stone nuts are iron, 1ft.9in. diameter, on 2in. square spindles with plain screw adjustment;

wooden bridge-trees and uprights are 8in. square. The upright shaft is 12in. chamfered, and has its brass on a 14in. square timber. The clasp-arm wooden crown wheel is 4ft.3in., with teeth on its underside. Extending across the south stones is a 1½in. square iron shaft worked off the crown wheel by a 16in. iron nut and operating a 4ft.8in. seven-spoked wooden belt wheel with 6in. face. There was once a similar arrangement on the north side. The drive is engaged by a lever and chain working in a slotted upright beam. The sack hoist is a long octagonal wood shaft and 4ft.8in. wooden wheel, cord operated, with ratchet release, taking its drive from a small wood nut with a close-up 1ft.9in. wood drum against the east wall. The nut is brought into gear by hand lifting a beam in slots on both sides and wedging. (Mainly from Simmons.)

Millers were: William and Henry Lawrence before 1819; John Burrow 1820; Eli Lamb 1850s and 60s; Henry Harford c1870-1903; Mrs. Mary Harford 1903-10; Arthur T. Wynne 1913-28; John Butler from 1928 (Simmons).

35. New Mill (Salwarpe Parish). SO 865618

Back on the River Salwarpe, we have here an old, if not ancient site. 'New Mills' at Salwarpe were referred to (and probably newly-built) in the late 16th century (Simmons). 'New Mill' was marked here on Taylor's later map of 1800, on the Salwarpe Inclosure Map of 1817-18 when the owner was Thomas Callow, and on the OS c1830. It was advertised for sale as 'a corn mill known by the name of New Mill in the parish of Salwarpe' in 1815 (29). William Nichols was the miller in 1820, and John and Samuel James in 1828, but no miller appeared in directories after that. It was still marked as a mill on the OS 1884, and was believed to have been converted to a residence about then.

There is at present a derelict brick house on the site, there is no sign of the leat (it must have been ploughed up), and the head must have been very small, inferring an undershot wheel. Whether the present building is in any way derived from the old mill is not clear.

36. Porter's Mill (Claines parish). SO 861604

There has almost certainly been at least one mill on this site since the Norman Conquest, as mentioned in the introduction to this paper. The mill was for long associated with the farm of Tapenhall nearby. The name Porter's Mill probably arose from its ownership by John Porter in the 16th century. In the Gentleman's Magazine for November 1771 it is shown as Papist Mill (Mrs. Berkeley) and similarly on Taylor 1772. It is Porter's Mill on the OS c1830 and on the TA1843 when the owner and occupier was Henry Thould. It seems to have been Porter's Mill ever since.

The present large (approx. 45ft. by 36ft.) four-storey mill building dates from 1881, and according to Mrs. Mary Somer who lived at the mill house opposite (a very fine half-timbered house) for 75 years and is now (1981) within a few years of 90, and who helped her father James Alfred Jackson at the mill until his death in 1930 and then ran the mill herself, the brickwork showed three stages of expansion. She said the mill operated as a normal corn-mill, using three pairs of stones driven by the waterwheels, until 1938. Thereafter occasional corn grinding was done, the only customer being Besford Court, a boys' home (SO915453). After 1938 the main business was cake-crushing, using electrical power; but water power was still used for the hoists. The business continued until late in the 1960s, when the mill was sold and converted into a residence, with the addition of a large picture window on the south wall of the stone floor, and a much altered lucam. All that now remains of the machinery is the pit wheel inside, and the western waterwheel in situ, with the eastern wheel lying in the garden. Both wheels are practically the same: undershot, 11ft. diameter to rims, with wooden paddles 18in. by 37in. giving an overall diameter of 14ft. The width of the wheels between outer edges of rims is 32in. Paddle supports are of wood; all the rest of the wheel is of iron. There is iron peripheral bracing on the paddles. There are six T-section arms on each side. The octagonal iron axles are 8in. across. The wheels are rather dilapidated.

Millers were: Henry Thould 1843; William Beedom 1850s and 60s; James and Henry Beedom c1870-1890; William Jackson c1890-1900; J.Alfred Jackson c1900-1930 (Simmons); thereafter Mary Jackson and her brother. (N.B. Miss Jackson became Mrs.Somer in 1953 but remained at the mill.)

37. Mildenhall Mill (Claines parish). S0853608

This site is now the most important mill site on the Salwarpe system. Not only is it almost certainly the site of one of the mills listed in the Domesday Survey of 1086; not only does an almost complete set of deeds exist from 1729 to 1872 (we have studied these), and it is believed some also from the century before that; but it is by far the best-preserved mill on the Salwarpe system, being complete with its two waterwheels and all machinery, having its full water-supply, being used for no other purpose, being in sufficiently good order to be readily made operational again, and being a very handsome mill in a most attractive setting. Justice cannot be done to it in this brief entry in a general survey of the whole Salwarpe system, and it is hoped that a separate and more detailed study of the mill and its history can before long be published.

In spite of Mrs.Berkeley's belief, echoed by Simmons, that the present mill was built by Thomas Nash in 1609, this is very unlikely and it is probably of 18th-century date. It is brick-built, of rectangular plan, with its long axis roughly N-S, and of three storeys, with a lucam on the west side. Both waterwheels are inside the mill with their shafts N-S; they are undershot, both with 12in. paddles. The southern wheel is 14ft.6in. diameter over the paddles and 3ft. wide at the rim or 3ft.8in. over the paddles. The northern wheel is of lighter construction, 12ft. diameter and 3ft.4in. wide over the paddles. Both wheels drive two pairs of stones; one pair at each end is of French burr type by R.G.Handley, Moor St., Birmingham, and the other is of composite type by Barrons of Gloucester.

There are differences in the gearing construction between the two ends of the mill although the layout is conventional. At the south end all gears are of iron except that the stone nuts have wooden teeth. At the north end the great spur wheel is of clasp-arm wooden construction and the stone nuts are all-iron. At the south end the upright shaft is of iron, at the north end of wood. Some of the auxiliary machinery is driven from the north end, where the 5ft. clasp-arm wooden crown wheel drives an iron nut on a ribbed iron shaft carrying a small wooden drum formerly used for operating a wheat screen, a larger one for operating a grindstone, and another for driving the sack tackle and a Bentall grinding mill. At the south end the wooden crown wheel is of cross-arm construction, driving a wooden nut on a wooden shaft carrying a belt-wheel formerly used for driving the bolter and now a Tattersall mixer of about 1-ton capacity in a circular wooden casing. (Technical description largely based on Simmons' visit in 1945)

Millers were: Thomas Wood 1729; Thomas Brook 1781; Thomas Allies 1787; Thomas and Ephraim Lingham 1808; Ephraim Lingham 1816; Henry Thould 1831; William Horton or William Warner 1843; William Smith 1848; Joseph Hughes 1854; Henry Bill 1872; Mrs.H.Bill 1888; Mrs Emma Bill 1896; Sidney Bill and George Watts 1921; Sidney Bill and George Thomas Watts 1928; Mrs.Watts and Sidney Bill 1940; Dennis Watts to 1970. (Information mainly from Mrs.Mary Tucker.)

It can be seen why this mill, for a long time, was known as Bill's Mill. It was working commercially when Simmons visited it in 1945, and went out of use, it is believed, about 1947. It was restored to full working order by Mr.Dennis Watts in the 1960s.

38. Hawford Mill (Claines parish). SO 847600

The shell of this mill still stands; it is about 53ft. by 17ft. in plan. The early history of the site is rather obscure, and is also confused by the reference to another site close by (see No.39 below).

The main part of the story of Hawford Mill was well-told by Simmons in 1945. His papers usually comprise unordered and sometimes contradictory or even incoherent notes; but in this case he gives an admirable, concise and

coherent account, and we cannot do better than reproduce it, with the addition of references to some of his sources :-

There were three water corn mills at Hawford in 1659, owned by Richard Jones. These were probably all under one roof, for the foundations of the present mill include three wheel pits, one at each end and one in the centre. On December 3, 1767, when the mills belonged to Mr.Mayhall, they were entirely destroyed by fire. In 1775 they were the property of Samuel Corbyn of Losemore, Worcester, and tenanted by Nicholas Field(30). In 1815 they were again rebuilt, a new water wheel added and were used by the proprietor Mr.Pearce, who in that year sold them to Thomas Bedford(31). In 1854 William Horton was in occupation and by 1860 he was using both this and Turn Mill, Ombersley. He was succeeded at Hawford by T.Davis, followed by a miller named Warner whose widow carried on during the years 1892 to 1904. Later Mr.Flexman had the mill and in 1927 the property was acquired by Mr.James Dukelow the present owner(32). The mill was last used for corn grinding in 1910, but continued at intervals up to about 1936 for chaff cutting etc.

Hawford Mill is a low two-storey red brick building with attic, and stands below the mill house on the east side of the Ombersley road. From about 1815 it had two wheels, one each end, but there is evidence of a third wheel indicated by an archway in the centre of the building, and the present owner attending to a small garden placed in the triangle of the two end water-ways once fell through the shallow earth into the culvert below !

Both wheels as well as all the machinery, except for bedstones, are now removed, having been sold to a Worcester firm of iron-founders just before the 1939 war.

The wheel at the north end was an uncovered undershot measuring 18ft. by 4ft.3in., with iron frame, arms and nave and wooden boards. This is said to have been originally of the 3-arm type, brought from another mill and narrowed to fit. The shaft certainly was, for it was unduly long and extended well into the mill. The two pairs of 4ft. stones side by side at the north end of the west wall were driven by a horizontal shaft operated by a heavy iron pit wheel face geared to a smaller one; and there were the usual bevelled spurs operating the stone nuts. All the machinery was of iron, geared with wood.

At the south end the wheel, also an undershot, was 18ft. by 4ft., of similar construction to the other, but was covered in. It drove the usual pit wheel, an iron spur and wallower, and two pairs of 4ft.stones placed east and west. The round wooden upright shaft measuring 14 inches diameter and the iron supports to take the iron bridge-trees alone remain. Two of the stones went to Mildenhall Mill. A Burrows inclined flour dresser still stands in good order in the centre of the stone floor. There were two sack hoists, one at each end of the mill.

One point is worth adding to the above account. In the mill as rebuilt at the beginning of the 19th century there were three pairs of French stones, and one pair mixing a French and a Welsh stone.

The TA1843 shows the layout of the watercourses as they are now; the owner was then C.W.Osborne and the occupier William Smith.

39. Hawford Old Mill (Claines parish). SO 849601

The TA 1843 shows a small parcel of land on the north bank of the old course of the river (this channel became the overflow channel for Hawford Mill, No.38) which was entered as 'Allotment-site of old mill'. Nothing more is known of this matter, but the reference is specific enough to justify entering the site as an identified mill site.



The 25-inch OS of 1902 (Sheets Worcs.XV.5 and 9) shows on the Hockley/Elmley Brook, at SO 887729, a weir from just above which a leat starts, running across the country to the road junction beside Longmore Farm. The present mill at this farm stands well back from the road, but just opposite the mill, across the road, a channel looking like a tail-race runs down to the brook. The leat can be clearly traced over its first few hundred yards, and is marked by a line of old willow trees. Where a cricket ground has been made near the road junction it has now disappeared, but it re-appears just at the road junction. It was clearly not built for land irrigation, and the former existence of a watermill is a natural supposition. Unfortunately no documentary evidence of such a watermill can be found.

The present brick-built mill was erected around 1880 as a steam mill, and its large water tank can still be seen. It replaced an earlier steam mill of wooden construction which stood 'between the timber yard and the farm buildings' - i.e. more-or-less where the present mill is - and which was totally destroyed in a fire on Good Friday 1879(33).

The TA 1838, which shows the farm by its former name of Burgess's Green, clearly indicates the line of the leat but only as a field boundary, and does not mention a mill. On the other hand, the 1st edition one-inch OS does show the leat. No leat is shown on a large-scale map of 1745-6.

The tentative conclusion reached is that the leat was made along existing field boundaries to provide water for the steam engine at the mill, and was never associated with a watermill as such. Such use of leats is known elsewhere, but is not common. It is, of course, possible that a small waterwheel might have been used to pump the water to the boilerhouse. This case indicates how careful one has to be in mill research.

The mill at present is still in use for farm grinding, driven by an electric motor.

#### ACKNOWLEDGEMENTS

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#### REFERENCES

1. R.Bennett and J.Elton, 'History of Corn Milling', Vol.2, London, 1899, pp 153-4; reprinted by EP Publishing Ltd., Wakefield, 1973, with same pagination. The 11-th century names given in their list have to be interpreted by reference to A.Mawer *et al*, 'The Place Names of Worcestershire', Cambridge, 1927.
2. Treadway Russell Nash, 'Collection for the History of Worcestershire', 2 vols., London 1781-82.
3. Mrs.Berkeley, 'Old Worcestershire water mills', *Trans.Worcs.Archaeol.Soc.*, 11, 1935, pp 14-32 with Plates I-V.

4. *London Gazette*, 31 May-3 June 1766
5. Map at 6 chains to the inch attached to sale notice of 1855 for the Newton Estate (mill not part of sale), copy in Norton Museum, Bromsgrove.
6. Declaration of 8 Feb.1848, Worcs.R.O.5818-899: 524-2.
7. Letters from R.Summers to J.Gibbs, 21 and 22 April 1876, in possession of Mr.D.T.N.Booth.
8. Sale brochure, 1 July 1909, Cotton Collection, Vol.102, Birmingham Ref.Lib.
9. Deeds, Worcs.R.O. 5818-899: 524-1,2,3.
10. *Midland Counties Herald*, 23 June 1842, cited by Simmons.
11. As ref.9
12. As ref.9
13. As ref.9
14. *London Gazette*, 26 Jan.1849, cited by Simmons.
15. *The Miller*, 3 Oct.1887, cited by Simmons
16. *Bromsgrove Messenger*, 19 Oct.1979, 23 May 1980.
17. *Midland Counties Herald*, 12 Feb.1852, cited by Simmons
18. *Birmingham Gazette*, 3 April 1820, and *Worcester J.*, 6 April 1820, cited by Simmons.
19. *The Miller*, 7 April 1879, cited by Simmons.
20. *Ibid*, 7 Sept.1896, cited by Simmons. (Gives details of fire.)
21. *Ibid*, 3 April, 1899, cited by Simmons.
22. *Ibid*, 8 Oct.1906, cited by Simmons
23. Letters from G.and R.Turton of Kidderminster to William Lilley; information from Mr.D.T.N.Booth.
24. *The Miller*, 7 Jan.1901, cited by Simmons
25. *Worcester J.*, 17 March 1774, cited by Simmons
26. *Ibid*, 1 Feb.1816, cited by Simmons
27. Letter from G.and R.Turton of Kidderminster to Michael Bick, 29 May 1844; information from Mr.D.T.N.Booth.
28. Turton's correspondence; information from Mr.D.T.N.Booth.
29. *Worcester J.*, 6 July 1815, cited by Simmons.
30. *Ibid*, 14 Sept.1775.
31. *Birmingham Gazette*, 17 April 1815 and 23 Sept.1816.  
Note, however, that Simmons has overlooked a reference making it clear that the rebuilding took place before 1808:-  
*Worcester J.*, 18 Aug.1808
32. This was in 1945. Mr.Frank Ellaway is the owner now.
33. *Bromsgrove, Droitwich & Redditch Weekly Messenger*, 19 April 1879.

