The lower Soar and the Loughborough Navigation

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THE LOWER SOAR AND THE LOUGHBOROUGH NAVIGATION

by

BRIAN CHARLES JOHN WILLIAMS

MASTER'S BY THESIS.

Submitted in partial fulfilment of the requirements for the
award of Master of Philosophy of the
Loughborough University of Technology.

November 1985.

The Lower Soar and the Loughborough Navigation

Brian C.J. Williams (M.Phil thesis 1983) ©
Loughborough University, Department of History.
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Bourne J. Bourne. Place Names of Leicestershire and Rutland.


Leic N.A.S. Leicester Navigation Account Statement.

Leic N.M.B. Leicester Navigation Minute Book.

Leic Nottm. Leic. and Nottm. Journal (Newspaper)

L.N.M.B. Loughborough Navigation Minute Books in four volumes (1766-1932)

Nichols John Nichols. History and antiquities of the County of Leicester, published in eight volumes.

Owen C. Owen. The Leicestershire and South Derbyshire Coalfield.

Patterson A. Temple Patterson. 'The making of Leicestershire Canals 1776-1814'.

Pochin T. Pochin. Loughborough in 1720.

Russell P. Russell. A Leicestershire Road.

Soar N.A. 1st Act of 1766 for making the Soar navigable to Loughborough.

Thosby J. Thosby. ed. Thoroton's Nottinghamshire. 1797


Tomlinson W. Parget Tomlinson. Canal and River Navigations.

V.C.H. Victoria County History volumes for Leicestershire (Leics), Nottinghamshire (Notts) and Derbyshire (Derby).

The Lower Soar and the Loughborough Navigation.

Abstract.

A study of the development of total river usage over the lower twelve miles of the River Soar from Loughborough to its confluence with the River Trent.

Evidence is drawn from an outline geological and geographical study of the river valley and early traces of habitation relating to river gravel terraces. Roman settlement with the transportation of heavy materials, possible river use and crossing points are raised. The period from the early medieval settlement until the turn of the 17th century reveals in documentary and field evidence the increased harnessing of the river. This includes watermills causing river level changes, fisheries, fords and bridges. The earliest attempts to promote the use of the river for navigation from the 17th century onwards reveal the conflicts between established watermill users and pressures to increase fuel and trade supply into the area. The Loughborough Navigation by its Act of 1776 was the first navigation to be established in Leicestershire, using the natural river aided by a series of navigational cuts. This represents a fine example of a 'hybrid' between a navigable river and a totally man made canal.

Details of the supporting shareholders, construction, and use, reveal how its success encouraged extension from it creating most of Leicestershire's navigation network.

The 19th century sees the decline of watermills but the increasing success of the Loughborough Navigation in the national waterway system as a key link, followed by decline in competition with the railways. Changes in river use in the 20th century include uses of water for sanitary and power station purposes, and the survival of the navigation until a changing society found a new use for it, the promotion of leisure activities.

The field study looks at the lower Soar today and the vast changes being made by the flood prevention schemes. Details of medieval field systems in relation to the river, navigation architecture, and navigation field dyke systems reveal factors never before studied in this area.
The objective of this thesis is to study the lower twelve miles of an important tributary river to the Trent in the East Midlands and the influences settlement and usages culminating in a navigation made on it and the local landscape.

Although the study of the navigation forms a large portion of this work, initial concern for the shaping influence of the landscape, local resources and evolutionary factors are taken into account. General outline studies of Leicestershire's Navigations have been made before, and are also included in the context of Nationwide canal systems. Such surveys, valuable as they are, take little or no account of the localised physical or social situation. An act for a river navigation, the number of locks, and a table of share prices affected later by railways is not an original study in itself for any river in Western Europe. But no two rivers duplicate precisely each other's social and economic story and generalised statements endanger individual truth.

This study seeks to use a number of sources that curiously in some cases seem little used in many river and navigation studies - certainly never before as a whole in respect to the Soar. These allied to the more expected source material will, I trust, make this appreciation justified.

In the first instance below I propose to define the reasons for the length of river under study, and then make reference to the sources I use in relative chronological order through the work and what I feel is my justification for using them.

The lower Soar is for the convenience of this study some twelve miles of river running northerly from two miles east of the town of Loughborough to the River Trent, being the largest of its southern tributaries. In this respect it is commensurate in size with the northern tributaries - the Derwent and Dove in the central plain known as the Vale of Trent. The chosen length of the River Soar involves all the early, and first successful attempt to bring about a navigation, and the relationships with the final major bridge crossings and watermills along it. Some account is also able to be made of other influences on it along the Trent itself. Above Loughborough the Leicester navigation
was eventually to follow. Although the influences both from it and on it must be considered, an in depth study needs a separate work from this one.

The introductory piece begins with a simple geological and geographical description of the river and its tributaries from its source to the River Trent. This will help in explaining some of the decision making in early settlement - or lack of it and the physical resources that might be exploited. There follows a resume of early settlement evidence along the lower Soar valley based largely on archaeological evidence revealed in aerial photographs, excavation reports, and extensive personal field walking and finds. Concentration develops from the bronze and iron age rather than before since scattered finds of flint scrapers and stone axe heads on their own indicate a presence but no hard evidence of relationship to the river.

Settlement leads to ford and bridge crossings negotiating the river as an obstacle. The relationship of these to both early and later settlement together with physical factors that governed the choice of location will be examined. By implication at least I hope to demonstrate that such river crossings have an element of continuity in some cases running from at least the Roman period to the present, and the trade routes they related to.

The harvesting approach to the river in the form of watermills, fisheries, and osier planting will also be examined. From the middle ages watermills represent the first evidence of river harnessing which lead to water level changes, artificial cuts and channels. The evidence for these are drawn from medieval and later documentary sources and personal fieldwork examination. Factors that governed their location bear direct relationship to the later siting of locks for the navigation and contested water usage.

Their economic importance will be indicated and some account given of how they precluded early navigation development despite local merchants being aware of the advantages of this facility elsewhere.

From the 17th century references and contemporary observations are used to outline the increasing pressures to establish a navigation. The local economic demands to increase trade and the supply of fuel were at variance with traditional mill
interests and the jealously guarded riverhead trade port of Nottingham. The struggle to overcome this on the Upper Trent and its tributaries like the Derwent and Soar are an essential part of the final navigational achievements of the mid 18th century. I wish to demonstrate that the navigation idea evolved through a series of economic pressures and was not simply an 'instant spontaneous idea' of enthusiastic speculators.

For the 18th century development I have made a close study of the navigation minute books and contemporary newspaper reports, and other writers of the period. In addition I have taken advantage of every surviving estate, enclosure award, and tithe map that covers the lower Soar. This source seems curiously unused in any previous studies. The justification of using them are many. The enclosures were largely being carried out in the same period as successful navigation. Land ownership reveals the significance of peoples' interest or antagonism to navigation and the emergence of country parked estates away from the villages and who their respective owners were. This may be related to shareholders names in some cases and warrants discussion. All these maps reveal other features such as older river boundaries, ford sites changed by navigation, and alterations of site in bridge rebuilding especially with turnpike road development. The turnpike roads themselves were to feel the effects of navigation especially on long distance land commerce. Finally these early maps serve as a vital cross reference to modern maps, navigation maps, and field surveys and often help to explain features that would otherwise seem enigmatic.

A detailed study of the navigation minute books, papers, newspaper reports, and 19th century census returns build a picture of the effects of navigation on local communities and the resources used. They are a source for learning a little more about local lock keepers, maintenance men, and boatmen - their conditions of employment, wages, and living standards. Such images of working class people are less easy to construct than those of the landed and merchant classes whose finances controlled the navigation. Their importance is just as vital and no detailed reference to them and the constant need to repair bridges, locks, and other features has been attempted before.
A supplement to this human record has been gathered by
the use of tape recording a generation who are now in their
70's and 80's. These are the last generation who used the
navigation for the purpose it was originally constructed for.
By using cross referencing methods a skein of information is
brought to light that is the unrecorded pattern of everyday
life. This never finds its way into official documents and
newspapers and in a few more years will be an impossible record
to make.

For visual resources I have turned to the archive collections
of Nottingham and Leicester Art Galleries for early paintings,
drawings and engravings. In addition 19th century artists
sketches, and early photographs in library and private hands
have been sought out and many of these have never been used
or seen in such a study as this before. In addition I have
used my own sketches made over some twenty five years all of
which reveal features now changed or gone. My subsequent field
survey has updated the study with my photographic record made

My historical study culminates in a field survey that
no appreciation of such a subject as a river and navigation
can possibly do without unless it is to be a look at paper
records in unrelated isolation to physical realities that leave
too much unanswered. In the field survey I have concerned
myself with the use of local material sources not only for
cargo and commerce but in constructional activity on the
navigation itself.

The resources of stone, brick, and timber have involved
a closer study of now abandoned stone quarry and marley pit
sites. Samples have been compared with those taken from the
navigation itself and cross referenced with the surviving written
record. The lock toll houses and several of the accommodation
bridges leave no surviving plans, not even in modern British
Waterway archives except where sections of modernisation have
been applied. In making such plans and surveys I have been
able to make further comparisons with older written references.
In addition it is possible to obtain a clearer picture of
living conditions and standards in lock houses and record
detailed features that in some cases have now been removed in
1984-1985 modernisation programmes. Such a record will avoid confusion in any future interpretation of the purpose, function, and detail these alterations have made.

The field survey also records physical alteration to locks, bridges and other structures in a comparison with earlier maps and surveys. Many original records were destroyed in London bombing during the second world war which included not only the tonnage accounts but probably the earliest surveyed maps of the navigation. I have been able to find one remarkable mid 19th century navigation survey surviving however and this can be used for a detailed look at the river and navigation then and now.

A field study at this time is especially significant since the Soar Valley from the Trent to Cossington below Leicester is in the third of a nine year flood alleviation scheme. This is being carried out by the Severn-Trent Water Authority and involves extensive flood banks, deep dredging, new navigation and drainage cuts, weir lowering, and the subsequent drop of river level by 1 ft (30 cms) in some lower reaches. Some demolition will be involved, new watergate systems and a new lock replacing an original one on a new site. Such changes affect future visual and landscape effects, tree growth and wild life, farming husbandry and possible encroachments over a 'flood free' valley floor. Despite present preservation policy history records if nothing else decision changes from one generation to another. My survey at this time records the river and navigation as it has been - in a substantially unaltered state of use for a little over 200 years. It also takes into account the changes as witnessed actually under construction. This structural survey can also make an interpretation of the local and more distant influences on its architectural style. Comparison can be made with adjacent navigations and their features and it can also serve as a reference to any comparative study that may be made further afield.

This study is essentially one dealing with a navigable river whose history is still being made. Craft still ply its waters, albeit with different motives to those originally
intended. There is no convenient closure act to neatly round the study off. The advantage is that its very life force can be observed in action. Locks still fill and empty in much the same time, and problems of maintenance and navigation can be witnessed rather than theorised on.

The lower Soar represents the major part of an interesting group of rivers that bridge a gap between ancient major river navigations and the later wholly man made canal systems. The Soar had a typical medi eval situation of turning many a mill wheel whose economic ideas precluded any chance of navigation. Its size nevertheless brought thoughts of such possibilities as early as the 17th century. The eventual 18th century success produced that ingenious compromise system of natural river use with a system of short 'cuts' to achieve a viable navigation. Its promoters may not have foreseen the key link it was to form in our East Midland and national network. Despite any initial planning shortcomings that can be levelled at it, the fact remains that not only did it reward its shareholders to a handsome degree out of all proportion to its size, but it has survived unlike many more ambitious ventures elsewhere.

This historical appreciation and survey follows in the steps of many over the centuries who have sought to harness the river, who cast their calculated look over it. To follow where they went and to try and interpret their reasoning gaze is reason enough for my work here.
Acknowledgments.

No matter how original a study it cannot be undertaken without the help and facility provided by a great many people and institutions. I have been particularly fortunate in being given access to property and documentary sources that are not normally available to the public. Those especially of British Waterways were vital to a large proportion of this thesis.

First I must thank the Director and Leicestershire Education Committee for the one year secondment to undertake it with all the advantages of a block of time reckonable in terms of many years otherwise.

Secondly to be accepted by the dept. of History at Loughborough University. The facility of the department and library together with the generated advice and confidence cannot be underestimated. In particular I am indebted to Dr. M. Palmer, Head of the History department whose advice and 'channel weed clearing' observations have been invaluable.

In acknowledging my sources below I have tried to list particular people especially in working capacities in offices etc. whose sympathetic interest led them to give particular time and effort to my enquiries.

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Mr. O. A. Evans, British Gypsum Gotham, and photographs Kingston
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Mr. J. P. Felstead) supervisors formerly of Loughborough Lock
House. Photographs and recollected memory
history.
Mrs. R. Fletcher. Narrow Boat Family history recollections.
Mrs. R. Freeman. Family navigation and boat history, associated
photographs.

- 8 -
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Mr. C. Hadfield, Author. Canals of East Midlands, etc., correspondence on early canal surveyors.
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Mr. G. E. Hallam, Charnwood Borough Surveyor, Investigations canal tunnel for Woodbrook.
Mrs. B. Hampson, Investigation into music for Leicestershire Canal Song.
Mr. R. A. Holmes, Manor Farm Ratcliffe. Permission to record flood bank systems and land.
Mr. F. G. Johnson, Bridge Fields Kegworth. Recollections Navigation Inn and Kegworth Wharf.
Mr. G. W. Knight, Research Index Lists. Railway and Canal Historical Society.
Mrs. F. Marshall, Recollections and cottage investigation at Zouch.
Mrs. E. Marshall, Kegworth History and recollections.
Mrs. S. C. McNamara, Brooklands Canal Bank. Early deeds to property.
Mrs. A. D. Mellor, Bridge Farm, Kegworth Fields. Stable investigation and recollections.
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Mr. N. Mills and Mrs. Mills, former lock house keepers Red Hill etc.
Mr. V. Mills. Boatbuilding and owning family associations Trent Lock.
Mr. W. S. Moffat. Loughborough University, Geological help and advice.
Mr. J. Monk, retired boatman, formerly Fellows Morton & Clayton.
Miss C. Morgan. Recollections and cottages investigation at Zouch.
Mr. O' Mcgee, Ratcliffe on Soar, Concerning weirs and dismantled canal bridge.
Mr. S. J. Packe Drury Lowe. Permission on land of Cotes Park House site.
Mr. K. Reedman, Author of a history of Long Eaton - references Trent course changes.
Professor A. W. Skempton. Correspondence on early canal and river surveyors and engineers.
Mr. B. Smith, New Kingston. Photographs and data on the Kingston mineral line.

Mr. G. Surrage, family history data in relation to basket making in lower Soar valley.

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Miss P. White. Notes on Cotes Mill, and local family notes.

Mr. H. Wood. Owner of the Thurmaston Gravel Boats.
1. The geological setting and the course of the river Soar.

The River Soar is the principal river of Leicestershire, centrally dividing its heart like shape of some 900 square miles from South to North. Its lower reaches border Nottinghamshire until it joins the River Trent as its main southern tributary facing Derbyshire\(^{(1)}\) - see map 1.

The course of the Soar also indicates a striking geological division. On the western side it is largely Trias with outcrops of granite, slate, and the pre-Cambrian rocks of Charnwood rising like a miniature mountain range up to 912 ft (278m) over the softer undulating landscape. Coal measures, some limestone outcrop and millstone grits lie to the west of Charnwood. Much of the area is covered with Keuper Marl or red clay.\(^{(2)}\)

The eastern half is Lias, which although rising up to 600ft (182m) has a more gentle rolling aspect - called wolds as it descends into the Soar valley below Leicester. These undulating hills are mainly formed from the edges of the oolite limestone escarpment running from the Cotswolds to the Humber. Toward the Trent below Loughborough the wolds break down into outlying low ridge like hills still containing some limestone but also now containing rich quantities of gypsum overlaid with Keuper Marl clay. These make a final physical gesture in the ridge known as Red Hill where the Soar flows into the Trent and acting almost like a defensive buffer to separate the Trent and lower Soar Valley.\(^{(3)}\)

The contrasting division made by the Soar Valley is part of the geological boundary of harder rocks relating to the Pennines and Wales, - north and west, and the softer stones of east and south England. This is also known as highland and lowland Britain.\(^{(4)}\)

The Soar rises from two springs a mile apart just over the south west county boundary formed by the Watling Street that divides Leicestershire from Warwickshire. Here the rising ground is part of one of England's key watersheds separating streams flowing south to east and west, from those flowing north and east to the Trent as may be seen clearly on map 1.\(^{(5)}\)
The course of the River, from its source, is depicted in the map, together with the main tributary systems.

KEY:
- Shaded areas indicate the course of the main river.
- Dotted lines represent the maximum flood lines.
- Solid lines mark the pre-glacial coastline.

Legend:
- Maximum flood line of the main river.
- Land up to 100 ft. above the flood level.
- Contour lines indicate the land elevation.

SCALE:
- 1 inch = 1 mile.

COUNTY:
- County boundaries are shown.

MAP 1
The course of the Soar.

The point at which the Soar rises near Leicester Grange and Soar Hill is so critical that it was described in the late 18th century as 'so situated that its waters may with equal ease be directed to run either through the County of Warwick or through the County of Leicester into the river Trent'. (6)

Crossing the Watling Street its course was further described as running under a large stone used as a bridge known as the 'Soar Stone'. Just below this spot it is joined by its second little source spring descending from the Watling Street nearer to High Cross. Together they then become known as the Soar Brook flowing on through the village of Sharnford whose name means 'muddy ford'. (7)

With the aid of map 1 we see the course of the Soar northwards toward Leicester over a distance of some fourteen miles, and its gradual swelling by a number of tributaries. These include the Leire and Sence rivulets to the east of the granite outcrop of Croft Hill. Below their entry begins the indications of a river valley broadening to a river plain a mile across at Leicester. The Roman and Medieval town was sited on an island of gravel by its east bank.

From Leicester the river valley becomes well defined by the eastern wolds, and the undulating land west rising fairly rapidly into the Charnwood range. The valley floor varies from a mile to two miles in width - constituting rich loam and silt meadowland. The valley sides have well marked river terraces of gravel and loam up to 20ft. (6.09m) above the present river floor. This indicates that the river level ran much higher with a greater volume of water at an early prehistoric period. (8) The Rothley Brook, Woodbrook and Blackbrook are the main tributary feeders to the Soar off Charnwood on the west. The more major tributary - the Wreake slices through the wolds on the East. The river winds back and forth across its valley skirting close under the granite outlier hill on the west at Mountsorrel.

Extraction of gravel at Barrow on Soar has revealed
evidence of mammalian reptiles and later woolly mammoth and rhinoceros. Fossil ammonites and other creatures have also been found in the thin layers of limestone on the eastern side of the valley here. (9)

From Loughborough to Kegworth the valley floor broadens out in excess of two miles. To the west Charnwood gives way to undulating low hills covered in Keuper Marl overlying soft sandstones and millstone grits that actually outcrop a little at Kegworth. These low hills turn sharply away west at Kegworth - away from the Soar toward Castle Donington as the river enters the flood plain of the Vale of Trent. The Whatton Brook is the last major western tributary to cut through this rising ground. On the eastern side the Kingston brook winds through the wolds and outlying gypsum based hills to the Soar as the final significant tributary before the gesture of Red Hill rising to 200ft (60.9m) on the north east bank and the entry into the River Trent. See also on Map 1.(10)

Naming the River.

The name is thought to be of Old British river origin derived as in the Latin word 'serum' meaning to flow - or fluid. The earliest known reference is 'Sora' 1149.(11) The Norman-French name of Mountsorrel of the same period can be interpreted as 'Mount Soar Hill'. It is possible here also that it has a French derivation from Montsorel or Montsoreau near Saumur and Rennes in Western France, and might indicate a re-christening name of the river in Norman times.(12) Certainly by the early 14th century various documents refer to the villages on the lower Soar of Ratcliffe, Kingston, Bonington, Sutton, Normanton, Stanford, Cotes, and Barrow with the end appendage -super Sorum- on the Soar.(13)

A contender for an alternative early name is the tributary stream 'Leire' rising near the small village of that name. Leicester itself may be derived in post Roman times from 'Legra-ceaster' or town on the Leire.(14) From the 17th century antiquarian writers supported this idea and also claimed that Loughborough derived from 'Leire-burg' or fortified settlement on the Leire, (15) Modern scholarship does not support the
name 'Leire' as the first element of Loughborough any more than the popular 'lake-settlement' equally quoted with reference to the local meadows ability to become just that at flood time. (16)

Another suggestion is that Soar could be a corruption of the French Loire by misinterpreting the first letter. (17) In such a contention as this one might equally derive Leire from it by altering the second letter. Whatever the Celts or the Saxons called it we can only feel safe from the 12th century, unless a Roman site along its banks one day reveals the name of the river God on a convenient inscription.
Notes. Chapter 1. The geological setting and course of the River Soar.


4. Ibid.


6. Ibid.- Nichols went on to describe a Dr.Aldridge who built around the spring source claiming it had medicinal properties.Also how a little later a line of channels or canals were constructed to fill a lake.

7. Ibid.


12. Ibid. p.333.

13. Ibid. - in notes after all relevant names.

14. Bourne. op.cit.... p.44.


2. Developments up to the 17th century.

**Prehistoric.**

Any opening statement on the earliest use of the river prior to the Iron Age can only be summed up here as an indication of tentative presence. There exists a thin scatter of flint scrapers and hand axes found in or near the edges of the valley that experts interpret as spanning a range of time from an incredible 350,000 years ago to c.2000 B.C.\(^1\) No positive settlement has yet been identified in association with these finds. A possibility lies in the Windmill Hill S K. 436259 where I have identified a ditch cutting off the spur end of the hill before it descends to the river just south of Kegworth village. Flint scrapers found in the walls of the ditch are of probable mesolithic date.\(^2\) Despite the modest height (60m) the hill commands an extensive lower Soar valley view and perhaps again an ideal location for hunting and fishing activity in this part of the valley.

More positive settlement in the valley floor can be related to the Bronze and Iron age and reveals now that not all activity was related to hilltop sites treating the river more distantly as Beacon Hill and Buddon Hill. In the lower Soar area a bronze age barrow excavated in Lockington parish S K. 465289 on the valley floor revealed that burning and ploughing has gone on before the mound was erected - see Map 2. Only one other site in the valley floor has so far been excavated of this period - comprising two ring ditches at Cossington nearer to Leicester.\(^3\)

By making a close study of aerial photographs, a small number of other sites on or near the river in the lower Soar Valley having pre-Roman characteristics can be identified. Their distribution is also shown on Map 2, which can be used with the following summarisation. At Cotes S K. 551209 \(^4\) is an oval enclosure on a tight meadow bank loop of the river opposite the Cotes Park House site. It also seems involved with a river course change here.

On the Loughborough Meadow - close to the river and opposite the Foxcover Hill S K. 5362110 \(^5\) is a ring ditch
with an opening and less distinct enclosures nearby. Just above Kegworth Bridge SK.495269(6) on a river loop there are similar enclosures as those at Cotes present in grass scorches marks. The most obvious and complex are in Lockington parish only 750 metres west of the Soar SK.481235(7). Here a complex of enclosures containing up to fifteen hut circles have been tentatively identified as an iron age village.(8) This may have related via the old ford sites to an Iron Age earthwork site on Red Hill.(9) Other sites probably exist and most certainly indicate a drier climate and perhaps a lower river level than followed in Roman and medieval times.

Evidence in this period of boats for fishing, trade and communication have been found in gravel workings a few miles downstream on the Trent at Clifton and Holme Pierrepont. They are all dug out canoes ranging from 18ft long with a beam of 3ft, flat bottomed and vertical sides. to 33ft long and a beam of 4ft.2in. of similar construction.(10) No gravel workings have taken place on the lower Soar to reveal anything similar but the riverside sites mentioned hint strongly of their former use for at least limited stretches of river. The distribution of Iron Age 'Hunsbury' type querns from Red Hill to near Loughborough, Barrow and Quorn on Buddon Hill perhaps hint at some waterborne traffic in this heavy Derbyshire Millstone Grit commodity,(11) Roman.

The Roman presence in the Soar Valley as a whole is strong, and the proximity of some sites by the river suggests the reinforcement if not establishment of at least some of the ford crossing sites. Beginning at Red Hill there is evidence here of an important settlement succeeding the earlier Iron Age that also had a 'Jupiter' shrine or temple site overlooking the river above the present Lock House. (12) John Throsby in the 18th century says -"At Red Hill there have frequently been discovered human bones; old coins also; some of which were gold and silver..."(13) This site is believed to have a communication link with Derventio or Derby situated by the Derwent. A known Roman road descends S.E. toward the Trent with Roman associations at Breaston.
reservoir and Sawley en route. The remaining ½ mile to the Trent is now lost due to flood banks and development but its alignment would bring it almost to the later known ferry site at Trent lock used by the Loughborough Navigation. This would effect a crossing to Red Hill across the meadow land opposite via the old earthwork enclosure of Sawley Cliff farm, to cross the Soar by a second traditional ford site by Red Hill Lock. (14)

Near this point however one can see on Map 2 that the Soar originally ran into a now lost loop of the Trent that would enable the road to make only one river crossing originally rather than two. This loop must still have been operative when this corner of the Leicestershire bank was recorded as in the prebend of Sawley in Derbyshire and is still so recorded in the 1849 Tithe map for Lockington in whose parish it now lies. (15)

Another ford still in use with a stone set bottom at Ratcliffe S.K. 499233 probably linked the Red Hill site with a Roman Villa site S.K. 483294 adjacent to the Iron Age village complex mentioned earlier, (16) see also Map 2.

Roman material found on the hillside by Hathernware Brickworks at Sutton Bonington S.K. 243515 (17) may have a bearing on a ford site recorded on the 18th century Hathern enclosure map by Zouch Mill below this site. Stanford on Soar — 'Stony-ford' has a Roman site sitting under its medieval parish church and very close to the river. (18) A crossing here would link with scattered Roman material finds in the Loughborough and Dishley area. (19) Such evidence continues up to Leicester, at Barrow on Soar where the 'Saltway' crossing the Foss-Way descends to a Roman site found in the riverside gravel workings. (20) There is no hard evidence that the Romans ever used the Soar for navigation but certain circumstances of construction materials should be mentioned. The forum and basilica of Roman Leicester incorporate large blocks of Derbyshire Millstone grit in its carved material - probably from quarries near the Trent at Melbourne. (21) Considerable quantities of Charnwood forest slate were used for roofing not only in Leicester but at Red Hill,
and at Margidunum on the Foss to the east of the Trent.
Gypsum or alabaster cubes are known are known in Roman mosaics
at Lockington, Red Hill and Leicester.\textsuperscript{(22)} At Leicester the
Romans constructed a contoured aqueduct later known as the
Rawdykes over a distance of 2,500 metres for a fresh water
supply of canal like proportions, viz 15m wide and up to 2.4m.
depth.\textsuperscript{(23)} Had the Romans wanted to transport these materials
by water or made themselves responsible for any of the lost
loops recorded in the survey later they were capable of this
and such methods are known elsewhere.\textsuperscript{(24)}

\textbf{Early Medieval period and boundaries.}

The period up until the Norman Conquest is totally devoid
of documentary reference to the lower Soar. However the existing
settlement structure on the gravel terraces along the valley
came about in this period, some at least as early as the 6th
century, evidenced by pagan burial urn sites known in the
vicinity of Kingston, Kegworth, and Loughborough.\textsuperscript{(25)} Most of
the name derivations of the villages are Anglo Saxon but later
Scandinavian influence is suggested by the fairly constant 'holm'
names for an island both on the Soar and Trent.\textsuperscript{(26)} Normanton is
a hybrid name - the Northman or Norwegians settlement -
presumably a relative stranger in an Anglo Saxon community.\textsuperscript{(27)}

Another important factor evolving in this period is that of
administrative boundaries in relation to the river. From
the Kings Brook between Cotes and Stanford on Soar up to the
Trent the Soar divides Leicestershire from Nottinghamshire,
Derbyshire lies across the Trent opposite the Soar mouth. As
if to emphasise this significance the former medieval boundaries
of the diocese of York, Lincoln and Lichfield met at the
confluence of the Trent and the Soar. At the junction of
the Soar and Trent a lost loop gives Leicestershire a former
piece of Derbyshire from the opposite bank, see Map 3. This
river corner or junction area of what is now the Leicestershire
bank is deliberately unrecorded on the 1849 Lockington Tithe
Map - in whose parish it is now deemed to be, for this reason.
A map by G. Sanderson of 1830 still shows it as part of Long
Eaton Derbyshire. It was eventually made over to Lockington
in 1884. Sometime after 1787 a farm called 'Sawley Cliff Farm' was built inside an oval banked enclosure some 68 metres across. The enclosure has nearby traces of ridge and furrow ploughing that implies the enclosure is much older than the farm - presumably placed inside for flood protection. The site and area may relate to the name 'Michelholm' and a fishery related to it recorded from the 12th to 16th century which I refer to later under fisheries. If this were the case the name 'Michelholm' or Michael's Island is in keeping with sites dedicated to St. Michael that often occur at strategic, natural or political boundary points throughout the country. Michelholm is however repeatedly referred to as in the lordship of Lockington which may imply this lost site was near rather than on such an island. A similar loop west of Sawley on the Trent but belonging to Hemington has the name Mytheholme - very similar in sound but never was it in Lockington. The former course of the Soar and Trent may also be indicated in Jessors' river survey of 1782 when he gives the name 'Moses Mouth' to part of the Trent opposite Trent Lock. This interesting name leads one to the Biblical thought of Moses in the bulrushes. Could this be a descriptive reference to the reeded up former course of the Trent towards the Soar at this point?

A final enigmatic reference is found in 1402 when Bishop Burchull cedes half the island of Sandholm to the Abbey of St. Mary de Pratis, Leicester, treating the new river bed as the boundary. On the 1787 enclosure map for Sawley a piece of riverside ground near Trent Lock bears the name 'Sandams' that might have a relationship.

Properly resolved these lost names, loops and islands may not be but they are an integral part of the river story. There are some 30 'fleets' or Old 'Trents making similar islands or holms recorded along the River Trent, even Shakespeare mentions them. Similar parcels of land change sides along the Soar and are recorded in detail on the later survey. All the Parish boundary lines also conform to its course. Although indications of such boundary use are first recorded in the 1086 Doomsday survey together with the county 'hundred and wapentake' divisions.
- the survey was obviously following a long established structure. Just how old these might be and whether they related in any way to ancient Saxon Kingdoms of Middle Angles and Mercians or yet older still can only enter the realm of conjecture.

Some element of boundary dispute may be noted in the moat or moot hill site overlooking the Soar and Kings Brook county boundary see Map 3. The name suggests one of the open air meeting points for such purposes and is certainly well placed here.

Watermills.

The first recorded harnessing of the river, begun at least in the late Anglo Saxon period, is its use for water power. For the most part, and entirely on the lower Soar, watermills are first mentioned in the 1086 Domesday Survey. Their existence prior to this survey is indicated by mention of the previous owners name, retrospective valuation, and the occasional reference to the 'site of a mill'. This latter record could very well indicate that at the time of the survey a mill was out of action due to flood damage rather than any man made destruction and is supported by more specific valuation records later in the middle ages that give this reason. Size and importance can be considered in looking at the valuation table - plate 1. Here it can be seen that the Soar was capable of supporting mills of a valuation capacity equal to those on the Trent. Proportional value on smaller tributary streams is also evident. The economic importance of them is also indicated at Domesday in the 5,624 mills spread over 9250 manors. Only one at Tamworth and one at Old Windsor, Berkshire have been so far excavated and recorded back to their pre-Conquest origins. The latter one had three wheels and a leat 1,100 metres long and this should make one wary of any assumption that they were minor affairs.(31) The distribution of the watermills can be seen on Map 3, and seen here also in their relationship to fords, bridges, and villages that they served.
A comparative evaluation of Domesday Mills on the lower Soar with its tributary streams and the Upper Trent.

<table>
<thead>
<tr>
<th>Place</th>
<th>River</th>
<th>No. of Mills</th>
<th>Total Value</th>
<th>Previous Owner</th>
<th>Domesday Owner</th>
<th>County</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASTLE DONINGTON</td>
<td>TRENT</td>
<td>🍀</td>
<td>10 shillings</td>
<td>Countess Aulvm, wife of Leoric, Earl of Mercia</td>
<td>Same.</td>
<td>LEICESTERSHIRE</td>
</tr>
<tr>
<td>SAWLEY</td>
<td>TRENT</td>
<td>🍀</td>
<td>20 shillings</td>
<td>Bishop of Chester</td>
<td>Same.</td>
<td>DERBYSHIRE</td>
</tr>
<tr>
<td>LONG ERDN</td>
<td>TRENT or tributary</td>
<td>🍀</td>
<td>NIL</td>
<td>BISHOP OF CORWOR</td>
<td>Same.</td>
<td>DERBYSHIRE</td>
</tr>
<tr>
<td>RATCLIFFE on SOAR</td>
<td>SOAR</td>
<td>🍀</td>
<td>10 shillings</td>
<td>OSGOOD</td>
<td>SAWIN holds it of the King.</td>
<td>NOTTINGHAMSHIRE</td>
</tr>
<tr>
<td>KINGSBURY on SOAR</td>
<td>SOAR</td>
<td>🍀</td>
<td>NIL</td>
<td>ALGAR</td>
<td>SAWIN holds it of the King.</td>
<td>NOTTINGHAMSHIRE</td>
</tr>
<tr>
<td>SUTTON (2000)</td>
<td>SOAR</td>
<td>🍀</td>
<td>20 shillings</td>
<td>KING HAROLD</td>
<td>HUGH Earl of CHESTER</td>
<td>NOTTINGHAMSHIRE</td>
</tr>
<tr>
<td>STANWOOD on SOAR</td>
<td>SOAR</td>
<td>🍀</td>
<td>SITE ONLY+ 1/2-6 shillings</td>
<td>ELIS ALFAG.</td>
<td>ROGER and BILLY, Robert son of WILIAM.</td>
<td>NOTTINGHAMSHIRE</td>
</tr>
<tr>
<td>LOUTHBRIDGE</td>
<td>SOAR</td>
<td>🍀</td>
<td>10 shillings</td>
<td>Sime Thyn.</td>
<td>ROGER from HUGH, Earl of CHESTER</td>
<td>LEICESTERSHIRE</td>
</tr>
<tr>
<td>BARROW on SOAR</td>
<td>SOAR</td>
<td>🍀</td>
<td>30 shillings</td>
<td>KING HAROLD</td>
<td>HUGH, Earl of CHESTER</td>
<td>LEICESTERSHIRE</td>
</tr>
<tr>
<td>EAST LEAKE</td>
<td>SOAR</td>
<td>🍀</td>
<td>2 shillings</td>
<td>SWARD</td>
<td>HENRY de FERRERS</td>
<td>NOTTINGHAMSHIRE</td>
</tr>
<tr>
<td>DISHLEY</td>
<td>Blackbrook Soar tributary</td>
<td>🍀</td>
<td>5 shillings</td>
<td>EDITH, wife of Edward the Godwin.</td>
<td>GODWIN from the King in 60 sh.</td>
<td>LEICESTERSHIRE</td>
</tr>
<tr>
<td>SHEPSHED</td>
<td>Blackbrook Soar tributary</td>
<td>🍀</td>
<td>5 shillings</td>
<td>OSWOT</td>
<td>GODWIN from the King in fee.</td>
<td>LEICESTERSHIRE</td>
</tr>
</tbody>
</table>

- MILL 🍀 Site of a mill recorded. 🍀 Fishery. * Not shown on map.

Below for comparison are two tributary sites on streams more than 8 miles from the Soar:

| RATBY | Tributary to Ratby Br. - SOAR | 🍀 | 28 pence | ? | HUGH de KERMOSEL, Earl of Lancaster | LEICESTERSHIRE |
| BUNNEY | Bury - a nearby Trent tributary | 🍀 | 12 pence | LEVENOT | RALPH, son of HUBERT. | NOTTINGHAMSHIRE |

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Watermill size and function

The size and function of all the mill sites shown on Map 3 in the lower Soar and its tributaries cannot be properly determined from the often rather cryptic references to them in medieval documents. Certainly the three main watermill sites on the lower Soar at Kegworth, Zouch, and Loughborough's Nether Mill by Cotes Bridge comprised of two mills on each site that later in the 18th and 19th century were re-modelled into one mill running two wheels each. So far as can be determined all the other mills had only one wheel. The types of wheel known to have been used toward the end of their working lives were of all three main types - viz overshot, undershot, and breast wheel. Sometimes as at the Nether mill both a breast wheel and an undershot wheel were in use. But again it would be unwise to try and determine early mill wheel types on the basis of those used in the 19th and 20 century. Most mills may be assumed to be corn mills but two other types of function are mentioned, that of fulling, and malting.

Fulling Mills, often alternatively referred to as 'Walk(e) Mills' played a vital role at least from the 13th century in England's cloth industry, causing by its quality for instance a high customs duty being imposed on Lincoln's cloth being exported to Venice. (32) It was also in high demand in Norway and it was to reverse the earlier trend of merchants exporting raw wool to Flanders with the development of our own fulling mills. (33) The process succeeded an age old system of putting cloth into a tub of water containing Fullers earth and trampling it with human feet for up to two days to clean, shrink, and felt it. The adaptation to a watermill was by fastening wooden hammers shod with iron tips to the spindle of the revolving wheel and working on a tilt hammer system the hammers working alternately up and down beat the cloth as human feet had formerly done. The Fullers main job was then to keep the cloth in the trough turning properly. (34) The hammers were still called feet and hence the 'Walk Mill' reference.

The lower Soar and its tributaries had four such mills. One at Kegworth is mentioned in 1543 as one of two mills, one-
'a fulling mill called a walke mill, with the mylne holme, -
and the myll house.'(35) One of the two mills at Zouch is
referred to in the 19th century as 'the old Worsted mill'
and indicates a tradition of being a fulling mill.'(36) The
upper mill above the Nether mill at Cotes Bridge is last
recorded as a corn mill but 18th century references also call
it a 'Walk Mill'.(37) Garendon abbey near Loughborough had
two watermills on its tributary stream of Blackbrook. The
Garendon mill site is now lost but it is distinctly referred
to in the late middle ages as a 'Walk Mill'.(38) Apart from
corn and fulling mills there is one reference to a malting
mill. This was in Loughborough on the tributary Woodbrook.
Its site lay on the western end of Market Street whose older
name was Malt Mill Lane and distinctly referred to in the 17th
century.(39)

Other mill references, disasters and problems.

The physical location of watermills often had the perils
of flood to contend with. Ratcliffe on Soar has a short
graphic reference in 1254/5 when two watermills there worth
4 marks yearly had been 'carried away and broken by great
floods and so are worth nothing.'(40) One had recovered by
1285 with its attendant fishery, and by 1313 two watermills
and a fishery are recorded again and worth £5. But by the
end of the middle ages they had disappeared again and even their
sites are uncertain.(41) One may have been on a small feeder
stream just to the west of the church and very close to the
Soar. The area is very subject to floods receiving the
'backing up' effects of the Trent also in this lower reach.(42)

A little further upstream Kingston also had two mills and
a fishery recorded in 1460.(43) The sites are again uncertain
since the village was 're-modelled' in the 18th and 19th century.
One at least was probably on the tributary Kingston brook since
this village keeps a more respectful distance from the Soar
itself.

Kegworth's watermills are distinctly mentioned in 1322 as
worth 46s.8d. yearly together with a fishery in the 'Sore worth
two shillings'.(44) By 1345 two distinct mills are recorded,
one of which we later identify as a fulling mill, and in 1584
the fishery is again mentioned. Disaster is recorded here
in 1692 when on the 25th June -'a flood, which brake down the
Mill causey in several places, and overflowed the common and
Netherfield. It came up above Richard Burton's door, and to
the cross-hedge which divides the lower garden belonging to
the parsonage from the kitchen. The water was four inches
deep in the stable next the coach house, and carried away
most of the pales above the dove-house close.'

Long Whatton on its tributary further upstream once had
two watermills - both recorded in 1633. Only one survives
as a building today and is probably on the site of the
'estmilne' mentioned in the 13th century. In the same document
mention is made of 'Holmesmouth' - perhaps where the stream
enters the Soar and an 'aqueduct in le croft meadow'. This
curious reference may be in connection with an artificial
watercourse associated with a mill.

The mill in Sutton Parish grew into its own hamlet by
the river we now know as Zouch. This curious name is first
recorded in 1247 as 'sottesmulne', then 'Molendinum de Soth' in
1296, 'Molend de Salts Mylne' in 1535, 'Sottes Milles' in
1536, and 'Sache Milnes' by 1611. It is apparently derived
from the old English nickname sōt or foolish and may be a wry
reference to its flood danger location. In 1340 it was
recorded in the ownership of Garendon Abbey with its holm and
fishery.

The tributary Blackbrook is recorded after Domesday with
a mill at Dishley in 1237 together with a fishery in the Soar.
The site of one other mentioned in the Domesday survey is now
lost. Further upstream here the lost fulling mill of Garendon
and the still surviving Dishley mill featured in a ninety year
protracted litigation involving ten law suits with the Lords of
the manor of Loughborough in the late 16th and into the 17th
century. The trouble revolved around these two mills and the
watermills of Loughborough where under successive manor lords
for centuries the inhabitants had to take their corn to be ground.
The town mills comprised of the Upper and Lower Mills on the Soar near Cotes bridge also referred to as the King's Mills and the Lower mill also again being called at times the 'Nether Mill'. A third mill - the malt mill on the Woodbrook in the town has been referred to earlier. The troubles seem to have started after the dissolution of the monasteries when the former Abbey mills of the Cistercians at Garendon and Dishley came into new ownership with offers to grind corn quicker and cheaper than the millers of the Loughborough Mills. By 1610 Katherine, Countess Dowager of Huntingdon and tenant of "all those three auncyent milles...of the manor of Loughborowe' instituted a suit against the Dishley and Garendon millers. In her claims she said that the lords of the manor had rights to grind corn of the inhabitants from time immemorial and that the two millers (of Dishley and Garendon) had enticed tenants and inhabitants, - and had sent men and horses to carry it to and from the town, and took less toll than was charged at her mills.(52) If such rivalry were not enough Quorn mills further upstream enter the contest causing a Bill of Complaint against them of a similar nature in 1626 to be laid against them by Henry Hastings, the fifth Earl of Huntingdon. In his complaint he makes distinct reference to his mills usage as - 'two water corn mylnes standing upon the the river Soare and one mawlte standing within the saide Towne of Loughborough - at which the inhabitants were used to grind their corn and malt.' No final decisions are known on these complaints but rivalry presses merrily on. Another entrant into the affray was Henry Skipwith - a member of the Skipwith family who came to Leicestershire and principally Cotes from Yorkshire in the 16th century and were destined to play a role in early navigation in the early 17th century. At this time Henry Skipwith had acquired Knighthorpe Hall and went ahead and built a windmill and persuaded tenants to grind their corn there in 1633. In addition one John Nicholas had set up a common bakehouse in the town in opposition to the Earl's bakehouse. The final judgement here in 1640 was in the Earl's favour but left the inhabitants the leeway that should the inhabitants corn and malt fail to be ground within 48 hours they were at liberty to take it elsewhere. (53)
Similar disputes with Thomas Farnham's mill at Quorn and also Dishley Mill arise again in 1643, 1651, and 1664. The seventh Earl, Theophilus Hastings leased the town's mills in 1675 to John and Benjamin Harrison, perhaps to avoid some of the protracted actions against rivals. They in turn brought action against the miller of Dishley, and the Earl himself became later involved. The miller of Dishley claimed the Earl's mills were 'inefficient' and that he had always brought corn from Loughborough to be ground.(54)

Yet further actions followed in 1682 without any obvious decisions being made. The final action in this power struggle between the traditional manor lord rights of corn grinding monopoly and the inhabitants assertions to grind their corn wherever they wished came in an action brought by Earl Theophilus in 1697. It was heard at the Bull's Head in the High Street Loughborough. Witnesses claimed that the Earl's miller would take four pounds out of each strike of wheat and sometimes even seven or eight. A woman complained of getting red wheat back in return for white wheat sent to be ground. Another said that a peck of rye came back five pounds short. Others significantly said that the Earl's mills could not grind corn in time of flood, sometimes for three weeks duration. The conclusions brought total freedom from thereon for the townspeople to have their corn ground where they pleased. The mills of Loughborough were to remain with the Lords of the manor until the sale of the estates in 1810 by the Earl of Moira.(55)

In conclusion it can be seen that the development and holding of watermills was a powerful factor in the local economy. Mills may well have tenants but ultimate ownership until the 18th century remained in the hands of manor lords. Alternatively of course the Spiritual lords as in the case of the Cistercian Abbey of Garendon holding two tributary, and one major river mill at Zouch. Their priority precluded all alternative river usage except on the largest of England's rivers, and even here navigation was sometimes contested. Local merchants were certainly aware of navigation possibilities in the middle ages. Nottingham has a Domesday reference or clause against anyone
hinder the passage of ships to the town. Even nearer to the Soar is a charter of Henry II. to the Burgesses of Nottingham for right of toll over people passing along the Trent from Thrumpton to Newark. The Derwent of comparative size had a charter from King John in 1204 to use the 'Darent, navigable from ancient times'. Despite this by the end of the 13th century it was so blocked with mill weirs no vessel could pass. Leicestershire merchants did have inland navigation interests elsewhere when in 1373 they joined with several other counties to petition Parliament to make Lynn a staple town - being convenient to convey their goods on account of the many rivers - which flow directly towards Lynn from various parts of the said counties. Parliament agreed on condition that the more distant Yarmouth remain a staple town. Only three years later though they were complaining - 'that the great stream of water between St. Ives and Huntingdon (the Ouse) was so stopped by three mills, that their vessels and merchandise could not pass, and many times much injured...'.

These are the roots of the powerful opposition any future navigation of the Soar was to face and a protracted power struggle that was to last into the 19th century.

**Fisheries.**

It is perhaps difficult today with a river slowly recovering from 20th century pollution to appreciate the harvest rivers provided to the economy of the settlements on their banks and their contribution in being salted down to the winter diet also. No fisheries are mentioned on the lower Soar at Domesday by comparison with several references on the Trent. References occur many times in the later middle ages and almost invariably in the same documentary context as a watermill as I have indicated in some earlier instances. Their distribution can be seen on Map 3. Virtually nothing is locally recorded concerning those responsible for their catching and distribution. One may only assume that in their relationship to watermills their use fell within the rights of the manor or monastic owners or tenants responsible for the mill. Their physical relationship to watermills is known in 18th century pictures elsewhere, where the mill pools were used for stocking purposes,
salmon leaps constructed by the weir and sluice gate system, and osier baskets are shown mounted over the same structures. Separate fisheries are known on the Trent and there are two interesting references on the Soar that can be examined.

The first is in the foundation grant of Robert Bossu, Earl of Leicester to Garendon Abbey in 1133 of -'Michelholm, in the Lordship of Lockington for a fishery in the Trent.'(61) Leicester Abbey held it subsequently when in 1547 it is again referred to as 'Wykelholme - late of the monastery de pratis of Leicester'.(62) It receives several mentions in the 17th century, the final one being in 1658 when it is called -'Michelholm for free fishing in the rivers Trent and Soar'.(63) This latter reference for fishing in either river suggests a location near the Soar mouth. I have already made mention of the former loop of the Trent here in the Roman and Medieval section. This loop would make a 'holm or island' as may be seen on Maps 2 and 3.(64)

Traces of nearby ridge and furrow ploughing may have some relation to the last fishery of Michelholm.(65) There is also mention in Lockington in 1221 of a mill and pool and meadow of 'Falfareshill' that may have a nearby relationship.(66)

The second fishery reference occurs for Long Whatton where in 1423 Ralph Dalcock was accused by Thomas Asheby of fishing in his separate fishery and taking away fish to the value of 100 shillings.(67)

References to actual fish species are non existent in the middle ages but a sample of later comments may give some indication of pre-pollution riches. In the 18th century is the reference -'The rivers that pass through Leicestershire though not large - supply the County with many sorts of fish, particularly the best sort of salmon, which comes from the Trent into the Soar.'(68) Another states of the Soar -'It is said this river produceth the best pike in England'.(69) The Woodbrook tributary is described as -'well replenished with trout and cray fish.'(70) Large 18th and 19th century eel spears are known in village collections and in 1870 Thomas Goodall of Ratcliffe was fined for spearing eels - 'in waters the property of Earl Howe'. (71) The whole image of a very well stocked river capable of supplying a major contribution to the diet of the locality emerges.
Bridges and Fords.

With a reference to Map 3 the lower Soar was spanned by just three bridges before the coming of the navigation and railways. These were supplemented by several fords, some of which have been already referred to.

These three bridges at Cotes, Zouch, and Kegworth link the key western road and settlements along the Soar Valley from Leicester, to the east and north. In particular these crossings enabled communication in long distance trade to the staple ports of Boston and Lynn and more closely to Nottingham via Trent Bridge. There was no other bridge crossing over the Trent westwards along this section of the river Trent until Swarkestone Bridges - in the middle ages. There was however an important series of fords about Sawley and Wilne on the Trent but weather conditions always pose limitations of use. It is believed Donington Castle was probably motivated as a controller of such fords in the 12th century.

Kegworth bridge is first mentioned in 1316 when it received a grant of pontage or right to collect tolls for five years for its repair. This is probably in association with floods following heavy rainfall that swept Western Europe in 1315-16. According to one John de Trokelowe in Nottingham it began to rain on the 11th May 1315 and did not stop throughout the summer and autumn. The Trent swept over its banks causing great damage to roads and bridges. A Royal Commission was set up to survey the bridges and causeways on the Kings Highway.

Kegworth bridge is mentioned in 1318 in the same context. Kegworth bridge may well have replaced a ford - or allied itself beside one as early as 1289 when Kegworth received its first recorded market charter as an incentive to trade. Unfortunately no foundation dates of any of the lower Soar's bridges are known but a hint comes with Zouch bridge in 1358 when it was said that it had first been built under Edward I (1239-1377) and that no community was legally chargeable for its repair. Similar claims for the repair of Zouch bridge occur in 1614 and 1621 when the inhabitants of Sutton Bonington were indicted for not repairing - 'Sotts Bridge' - and Thomas Lees the miller for the
OLD ZOUCH BRIDGE AND FORD.

Actual size detail from the 1778 Hathern Enclosure Map showing the approaches to the ford where the present 'County' bridge now stands and the offshoot approach to the original medieval bridge. Field nos. and ownership names have not been put on this detail for greater simplicity. The ragged letters are not on the original map.

- The ford.
- The medieval bridge.
- Footway from Loughborough.
- Footway from Hathern.
- Turnpike Road from Hathern to Rampstone.
- Bridge over the Wharton Brook on the Loughborough to Gwendish Bridge Turnpike Road.
- The beginning of the Zouch Cut only 2 years old when the map was made.
- Piece of land belonging to Hathern on the Nottinghamshire side of the river due to a course change.
- Another over the border Hathern parcel of land.
- Zouch Mill just a little higher upstream but on the Hathern map.

The elegant three span bridge built at Zouch in 1743 on the site of the ford. From an engraving in Nichols County History of Leicestershire, Vol. III Pt. II and dated 1796. This bridge was eventually replaced in 1931 by the present one some 300 feet away on the downstream side. The decorative close circular arches are similar to Kayworth.
Both Kegworth and Zouch bridge were probably narrow stone pack horse bridges that supplemented adjacent fords and would bear a strong resemblance to those surviving in Garendon Park, Anstey and Aylestone in Leicestershire. This is strongly indicated in the 1778 Rathern Enclosure Award map in which the original bridge is shown upstream from a broad ford across the river on the main link road to Zouch. The bridge itself has a minor diversion road running off the main road to cross it as one can see in detail Map 4. Both Kegworth and Zouch bridge received much more ambitious replacements in the 18th century.

The principal town of Loughborough had a much more ambitious work and organisation to maintain it commensurate with the second town of the County. The town had prior to Domesday been held by five Saxon theigns or minor members of Saxon aristocracy. It probably had a ford if not a bridge crossing of an important nature at a very early time. In 1221 it received its first recorded market charter which indicates the likely presence of a bridge by then. King John is believed to have used this route earlier in 1209 en route for Nottingham. In 1225 the Abbot of Garendon obtained permission to export wool to Flanders and the Cotes bridge is the obvious route for Nottingham or an East Coast staple port. The first specific mention of the bridge occurs in 1284 when it is evidently in need of repair. The people of Loughborough and the Abbot of Garendon were recorded denying their responsibility for making and repairing the bridges before the Seneschal and Marshall of Edward III, holding court in Nottingham. At the hearing William Bosard and Robert Oseveyne were named as bridgemasters 'custodes pontium inter Loughteburg et Cotes', who claimed repairs were done by the collection of alms in the neighbourhood. These are the earliest of Loughborough's bridgemasters on record to survive in a line picked up again from 1569 to 1848.

In 1318 Thomas Earl of Lancaster and Leicester, High Seneschal of England, called up and arranged all his forces at Cotes Bridge - to the number of 18,000 men, so that he might negotiate peaceably with the unhappy Edward II. A military presence was again felt during the 17th century when in 1644 a division of
Extracted detail from a 1740 estate map entitled 'Part of the Lands in the Manor and Parish of Loughborough' now in the Leicester Record Office. The detail depicts the main bridge over the Soar at the top, and then crossing the mill stream and backwater lower down as it becomes a causeway toward Loughborough. The mill is the black square situated to turn an undershot wheel seen in the engraving below, and a breast wheel internally on the opposite channel. Note also the sluice gates of the weir to the right - against the island inscribed 'Breaks'.

The medieval bridge and part of the causeway crossing the Soar at Coates. The watermill with one of its two wheels can be seen over the top of the bridge. Loughborough Parish Church and the Charnwood Hills are in the background to the right. The engraving is taken from Nichols's County History of Leicester: Vol. III. Pt. II. Drawn in the 18th century - published 1804.
Sir Edward Hartopp's troops aided by others of Lord Grey's regiment took position at Cotes bridge on behalf of Parliament. This was to block the advance guard of Royalists whose main force were coming from Oxford to relieve Newark. Initially gaining the upper hand in which cannon were also used the Parliamentary advantage was lost on a subsequent withdrawal to Leicester on hearing of Prince Rupert and the main Royalist armies near approach. The prince crossed unopposed and moving north east to the Foss Way broke the Parliamentary siege of Newark. (86)

The Loughborough bridge system is not a single structure. The records of the bridgemasters list their responsibility for some 50 arches in and around the town covering the Woodbrook, Hermitage Brook and divers swampy places. (87) Others are recorded over the Nether meadow at 'Stanford planks' and many must have been of timber construction. But the main trade link system was the 1030yd (941.8m) long earth causeway and bridge reaching like a long finger over the Nether meadow to Cotes and still carrying the main road to Nottingham. Ditched on either side it is pierced by five sets of smaller bridges to let the streams and flood waters through before crossing the Soar originally on thirteen tight gothic arches interspersed with cut waters. It survived virtually unaltered until the 18th century and is illustrated with Map 5. The easternmost medieval arch of this bridge still survives together with another pair by Little Moor lane and fragments of others on the causeway itself. The bridge and causeway originally involved a total of some 30 arches out of the total 50 the bridgemasters made themselves responsible for. The cost of maintenance was often helped by merchants leaving both money and property from which rents could be drawn for such work. A typical reference to this is found in the 15th century will of Thomas Burton merchant of Loughborough and of the Staple of Calais. (87) These various benefactions led to the merchants of the town appointing two bridgemasters every year to administer rent collection and payment for repairs and other town works. These become increasingly variable through the 16th and 17th century records and included repairs to the school and replacement of the town bull. In short their duties eventually fell little short of a town council.

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A system was used whereby each year one new bridgemaster was appointed to serve office with an experienced one of the previous year. This one in turn would serve a second year and presumably show the new man the system of administration. (89)

To record all their involvements and works from the bridgemaster account books is far beyond the scope of this work but if a period of twenty two years income in the late 16th century is looked at, the income from property was £960. (90)

Out of this £126 was spent on the bridges. This in detailed percentage amounted to 64% labour costs, carriage hire 12%, timber 13% and lime 10%. Stones were largely drawn off the forest at the cost of fetching them. Lime was recorded as being fetched from Barrow (on Soar). (91)

Typical in respect to bridge repairs from the hundreds of entries are the following:

1614. In primus paid to Robert Lambleye for getting a lode of stones in the fforeste, for the bridges at Coate bridge. I1ls.
Paid to Robert Lambleye for getting xj loads of stonnes in the fforeste for the Bridges. 11ls vlljd.
Paid to Thomas Nicholas for carriage of Tow loads of sande xlld.
Paid to Richard Collson and Hymfray Ollinsc for fhouse (four) Dayes work at the Bridges. 1ls.vlljd.

Item payed to a Labourer for one daye worke ther. vjd.
Item payed to Whittell of Barrow for six Quarters of lyme for the Bridge. xvjs. (92)

The tonnage of stone sunk into the causeway and bridges over the centuries defies calculation but only serves to emphasise here the major nature of this Soar valley crossing.

Finally the importance of the ford and ferry crossings of the Trent linking the traditional Soar Valley alternative route northwards, on the western side of the valley is emphasised in the 17th century civil war period. In 1644 Parliamentary forces gained the defended crossing at Wilne where the Cavendish Bridge was to be built later in the 18th century by setting fire to waggon loads of hay and pushing them before them with a sympathetic breeze compelled Captain Robinson and his half
blinded Royalist defenders to surrender the crossing.\textsuperscript{(93)} They then later swept along the Leicestershire bank to Kings Mills another Royalist outpost, and took it by a rear surprise attack slithering down the steep river cliff on their 'breeches seats'.\textsuperscript{(94)} Imaginative approaches were not always the perogative of the King's men.

Bridges and fords on the lower Soar are always closely allied to settlement flanking the flood plain. All watermills relate closely to them and the development of a settlement is reflected in its river crossing. It could be argued that the effort put into the bridge and causeway at Loughborough was determined by political and trading pressures present in that place, but equally possible in my opinion is that the natural presence of a spring enriched gravel hillock on which the town grew, coupled with a series of gravel islands across the flood plain brought about the decisions for development.

We can see also how the medieval manorial ownership of watermills and fisheries begin to have their tight monopoly challenged in the 16th and 17th centuries. Initially this may have been started by new ownerships of the former monastic holdings and the rise of a new order of owners and traders seeking opportunity at home, at the same time as new horizons were also presenting themselves overseas. The 17th century civil war did much to challenge former 'immemorial rights' with the displacement of many old ruling families. Despite this however the economic necessity of mills challenged the desire to develop rivers for navigation right into the 19th century. But just as the 17th century saw the protracted struggle for the townspeople of Loughborough to 'choose' where they might go to have their corn ground, so also the pressures of trade and the desire to bring fuel to an increasing population saw the first challenge to mill monopoly on the Soar. The challenge initially to bring about navigation was not envisaged as a replacement of the old land routes over the bridges but as an improvement or addition, and to try and have a share in the river head trading prosperity so long enjoyed by towns like Nottingham.
Notes. Chapter 2. Developments up to the 17th century.

3. Liddle. op.cit. p.15.
5-9 All taken from Hunting Studio Air Photo. Survey 1969 deposited Planning Dept, County Hall Glenfield. Ref. run. 18/2029 and 20/0882.
14. See also Map 2.
15. Original in Leicestershire Record Office, ref.Ti/202/1
18. Ibid. also extensive finds by B.C.J. Williams.
20. Ibid. - no.1 p.10.


33. Ibid.

34. Ibid. p.8.


41. Ibid.

42. Field observation.

43. Rec.ThorotonS.Notts.op.cit.(40) 9.55.

44. Farnham, op.cit. Vol.IV.p.47.


46. Ibid. p.854.


51. Ibid. p.788.
52. Ibid. p.887-888.
53. Ibid.
55. Ibid.
59. Ibid.
63. Ibid. p.191.
64. Also recorded on a map of 1830 by G.Sanderson entitled 20 miles around Mansfield.
65. Referred to earlier under 'Early Medieval Period & Boundaries'.
69. Throsby. op.cit. p.29.
73. Ibid. p.430-431.
74. Ibid.
75. Ibid.
78. Original map. County Record Office. Leicester.
82. Calendar Patent Rolls. op.cit. p.522. also Humphrey. op.cit. p.41.
85. Russell. op.cit. p.20.
89. Nichols. op.cit. Vol.111.Pt.11. p.896. The Original Bridgemaster Account Books number four covering the periods 1570-1597., 1603-1677., 1678-1732., 1733-1764., In addition there is a memorandum book 1736-1773 and order books for 1773-1795., 1795-1819., and 1819-1849., and an account book for 1827-1860 and order books for 1773-1795., 1795-1819., and 1819-1849., and an account book for 1827-1860, and finally a Rent Roll for 1796-1827. The whereabouts of some of the originals is not now known but a manuscript copy made under the direction of Mrs. N. Richmond is in the Local History section of Loughborough Library.
91. Ibid.
92. Ibid.
94. Ibid.
3. Towards a Navigation. - The growing awareness of a need and the traditional opposition.

During the first half of the 17th century navigation was still limited to stretches of England's major rivers. Locally this applied only to the Trent, principally from Nottingham to Gainsborough. There was nothing else west until the Severn at Shrewsbury or east until the Nen at Peterborough, and south the Great Ouse reaching Bedford. (1) But voices were being raised country wide for extending the advantages of navigation. John Taylor in the early 17th century perhaps summed it up with his - 'There is not any one Town or City which hath a Navigable River at it, that is poore, nor scarce any that are rich which want a River with the benefit of Boats'. (2) Another contemporary, Andrew Yarranton, observed that - 'corn in Leicestershire was cheap having no navigable River near it to carry it away'. (3) In 1622 William Burton the early county historian referring to Leicester observed - 'Had it a navigable river whereby it might have trading and commerce, it might compare with many of no mean rank.' (4)

But towns like Nottingham fortunate to be on or near such rivers had long enjoyed a wealth derived from being a major trade centre at a navigable river head. It is no accident that the causeway and bridge over the Soar from Loughborough carried as it still does one of the principal routes north of Leicester through to Trent Bridge since at least the 13th century. Such towns fought hard to retain this monopoly resisting at great financial expense any out flanking navigation on the river reaches above them or their tributaries. Nottingham was a notable example in this for over a century. The Corporation with traders, landowners, millers and others sustained an array of counter argument against such proposals. They feared gluts of corn, cheese and other produce undercutting local farmers market prices. (5) Local land carriers including farmers often carried coals which they claimed supplemented their rents, and boats could rob them of this. Landowners feared river improvement could raise water levels and flood land. Halers (6) would trample corn and grass, steal sheep, rabbits, wood, and horses eat up
mallews.(7) Millowners saw the destruction of weirs and even
mills gaining additional sympathetic support from dependent
bakers and mealmen.(8)

The first attempts to make the Soar Navigable

Clearly any attempt to make a tributary river navigable
that led to using the River Trent to approach Nottingham on
the upstream side, or west of Nottingham Bridge would be met
with very powerful opposition. The first attempt to make the
Soar navigable does not appear to have been opposed in Nottingham
probably because its motives were not to make use of the river
Trent to approach Nottingham or affect the trade balance there
in any obvious way. The origins lay in the coming of members
of the Skipwith family from Yorkshire to Leicestershire in the
16th century.(9) Among the lands they acquired was the manor of
Cotes -'pleasantly upon the Soare, the seat of Sir William
Skipwith' as a Mr. Wyreley wrote at the end of that century.(10)

Holding high office this family made Cotes Park House, seated on
rising ground commanding a fine view over the river, bridge,
mill, and causeway to Loughborough and the backcloth of
Charnwood hills, their main residence. In 1622 Sir Henry
Skipwith here was made baronet and by 1636 he was high sheriff
of the County. His younger brother Thomas doubtless aware of
the feelings growing for navigations and living in such a prime
riverside position applied to the King and Parliament for
licence to make the Soar navigable from the Trent to Leicester.(11)
He was 40 at the time and may have seen this as his opportunity
in life to make a permanent mark and success. His reasons
set out in his subsequent licence were to be echoed more than a
century later and worthy of closer examination. Opening with
reference to him as -'our well beloved subject' - it goes on -
'hath showed us that our County of Leicester being a champion
country and destitute of such supplies of fuel as are abundant
in other places, is constrained to fetch their coals into the
most parts thereof, at a distance of eighteen or twenty miles'.(12)

This distance and reference is almost certainly in relation to
the coalpits at Wollaton and those being developed in the
Frewash Valley. It confirms references even in the previous
century of Sir John Willoughby and Mr. Nicholas Strelley operating coalpits there of the - 'schyres of Leicester and Lyncn, being very baren and scarce centres of all manner of Fuell'.(13) Later that same century Sir Percival Willoughby had ten boats transporting coal below Nottingham.(14) By 1620 it was customary for tenants of Beaumanor to pay part rent to the Herrick family there in loads of coal.(15) This may have come over the forest from the Coleorton district, but certainly a traditional route was being established down the Soar valley with the probable use of the ford crossings on the Trent at Wilne and Sawley linking to the coalfields beyond. This is also suggested in a letter of Thomas Houghton in 1693 in speaking of local production about Heanor says - 'Thro' which abundance in summer are carried as far as Northamptonshire, from whence is brought back barley, These coals at Smalley and Heanor are in the hands of one Mr. Samuel Richardson who finding that Derby consumed annually about 3,000 loads besides what was fetched into Leicestershire and Northamptonshire' - (16) The whole concept of obtaining coal from this area therefore rested in the mid eighteenth century on an overland tradition of considerably long standing.

Thomas Skipwith's licence also contains much in its stipulation that also anticipates later 18th century acts. It describes the town of Leicester in the County centre - 'hath a river dischanneling itself into the great River of Trent, - and without any inconvenience to any, might be made fit for carrying Boats...'.(17) Counter trade is suggested as being 'such Provisions and Commodities which they might well spare'.(18)

Before granting the application or licence the Kings Parliament took the precaution of sending Henry Earl of Huntingdon and Henry Earl of Stamford to Leicester to sound out feelings for the proposal from the inhabitants, and finding them - 'inclinable and willing'.(19) So it was that Thomas Skipwith and his 'assigns' at his own cost was given free licence to make a navigation - 'and set up such locks, engines, and devices'(20) as thought fit and - 'act on work artificers, workmen, and labourers - for digging, cleansing, and scouring'.(21) But he had to - 'first compounding and agreeing - with lords, owners, and occupiers of the said river, or any Mill or Mills
thereupon - according to the loss or damage they shall sustain.' (22) It further allows him and his heirs to demand and receive - a reasonable Recompence, summe, or Allowance - according to the bulk burthen of the said Boats, Vessels - 'or in effect set his own toll charges.(23) The agreement concludes that a tenth part of the profit was to be given to the King and was witnessed on the 10th March 1634 at Westminster.(24) Unfortunately no documentary evidence survives detailing the actual progress of this undertaking, but it was recorded toward the end of the century that 'he performed it, for five or six miles from the Trent, and then for want of money (the ruine of many good undertakings) was forc'd to leave off.'(25)

Beginning the Soar navigation from the Trent southwards was the pattern adopted over a century later. Five or six miles would imply he had possibly reached the vicinity of Zouch bridge. Again some of the old river changes that antedate the recorded later navigation cuts may have been a result of his influence but surface surveys alone cannot confirm this possibility.(26)

The outbreak of civil war halted navigation works everywhere. Thomas's brother Sir Henry took the Kings side and was one of the Commissioners of array for Leicestershire. On May 25th 1645 the King was entertained at Cotes while his army stayed overnight in Loughborough en route to besiege Leicester.(27) There would probably have been little thought about navigations on the river below him. Sir Henry was later fined £1114 by Parliamentary sequestrators, and following the results of Naseby field the Skipwith fortunes faded from Leicestershire and Cotes Park House burned down never to be rebuilt later in the 17th century.(28) Another champion of the Kings cause, Henry Hastings, made Lord Loughborough for his loyal services, was exiled to Holland at the end of the war. After the restoration, although appointed Lord Lieutenant of Leicestershire in 1660, he resided in Loughborough House, Lambeth, Surrey. In 1664-5 he obtained an act of Parliament to make the river and sewer navigable from Bristow causeway into the river Thames.(29) Perhaps his Dutch exile had its influences but the Soar saw none of it.
The ever increasing demand for coal in development was probably putting more pressure on pack horse and overland cart teams, for we find William Herrick in 1691 speculating for coal on his Beaumanor estate. This abortive attempt had been made with an agreement with George Linyes and Joseph Montgomery of Swadlincote, and Thomas Lancelott of Ticknall in return for £14, plus an extra £1 if they supplied their own boring rods. Three fields in the adjacent Old Loughborough Park known as Great, Little and Over Coal Pit Closes may relate to this period. (30)

John Houghton described the Soar in 1693 as having - 'sixteen fulling and corn mills on it...' between Leicester and the Trent. He goes on to make reference to Thomas Skipwith's early navigation attempt saying - 'whose name is now forgot - and since then no man has had the courage to venture on it, which may be done without any great difficulty, but will be chargeable.' (31)

Despite such observations no further attempts either to improve the river or road systems are recorded until 1726, when the Harborough, Leicester, Loughborough road was to become the first of the traditional County trade routes to be made into a Turnpike road. (32) This improved Loughborough's communication to the south and goods such as corn and cheese could have a better road to cross Cotes bridge en route for Nottingham. Beyond Cotes bridge only the road through Hoton parish remained in Leicestershire before passing on to Trent bridge through Nottinghamshire. In 1737 this important link was also made into a turnpike road as far as Cotes Bridge and causeway. This remained under the care of the Loughborough Bridge Masters. During the 18th century as part of the improvement to this route they widened the bridge and whole causeway system from an average of 13ft 8ins (4.2m) to 25'0 (7.6m). (33) A plan of the bridge and its medieval appearance is depicted on Map 5.

In the same year as the Cotes to Nottingham road was made a turnpike route the - 'Mayor, Bailiffs, Burgesses, and other inhabitants of the Borough of Leicester - and Gentlemen and Principal Freeholders in the County', presented a petition for a Bill to make the Soar navigable from Leicester to the Trent. (34)
In their petition they said it would —'very much preserve the highways and be a means to improve the Trade of the Town and other places near the river, and also employ and support the Poor, and be of great advantage to the Publick,'(35) Coal is not mentioned, - perhaps a sensitive issue with coal owners in Leicestershire. This may have been a hidden factor together with those 16 watermills mentioned by Houghton in 1693 that influenced the voting. The House of Parliament divided on the petition with 98 in favour and 140 against.(36)

Despite the turnpike roads the continuing inability to move goods and fuel into Leicestershire in the quantity only a navigation could cope with saw a continuing pattern of slow economic decline against those having such advantage. Charnwood Forest described by Burton in 1622 as a 'vast forest'(37) had been decimated of timber for both fuel and an intensive but short lived charcoal based iron smelting industry in the Whitwick area.(38) By 1770 Loughborough - that Burton had described in the previous century as 'adorned with many fair buildings', (39) had suffered fires and neglect, They were now described as —'very indifferent', and 'not the least tincture of elegance graces any one...’ The former malt trade had been —'reduced to little more than home consumption.'(40)

Some developments on the Upper Trent 1633-1750.

During this period of over a century Leicestershire passed through the Civil War into a long economic decline. This was contributed to by a failure to make the Soar navigable. To appreciate how this decline continued one must take note of developments just west of the Soar on the river Trent boundary. Here trade developments that could have been so advantageous with a navigable Soar, were to literally float past the river mouth, leaving Leicestershire with limited overland transport for another century. It also indicates the direction the incentive to develop a navigation would lie in addition to a quest for coal. At this time the tight grip that Nottingham held on the upper Trent area was to be challenged and finally broken. The Fosbrooke family who had been responsible for river traffic in coal from Lord Willoughby's mines at Tollaton at the turn of the 17th century downstream below Nottingham, moved to
Shardlow. They came to work on behalf of the powerful Coke family of Melbourne Hall. They obtained the lease of the manor of Castle Donington with its fishery, weir, and mills at Kings Mills. From 1633 they also had control at Wilne ford and ferry on the Trent and proceeded to develop navigation here. From a series of letters of the Coke Ms. and in my own collection covering a period up until the early 18th century a pattern emerges of goods, principally cheese from Leicestershire, Derbyshire, Staffordshire, and later Cheshire being taken down the Trent to Nottingham. Despite difficulties of shoals this was possible with strong bands of 'halers' or men to haul the craft over the difficult stretches and since no navigation act was involved it was difficult for merchants in Nottingham to act against it. The cheese found its way eventually to Gainsborough and then by sea to London merchants. Intense rivalry even developed between the Fosbrooke control of operations at Shardlow on the north bank of the Trent and other Derby merchants using Castle Donington men and boats on the south bank.

Letters of complaint against Leonard Fosbrooke's attempted monopoly reached Coke of Melbourne as backer to the Fosbrooke enterprise from Derby merchants. This must have placed him in an unenviable position since he and various members were successive M.P.'s for the city of Derby. The city fathers of Nottingham could only retaliate against the developing upper Trent trade by threatening in 1699 to place chains across the arches of Nottingham bridge to 'stop all interlopers'. That same year Sir William Paget with interests at Burton on Trent broke both the Nottingham hold on the upper Trent and the Fosbrooke trading monopoly at Wilne by winning an act of Parliament to make the Trent navigable from Wilne ('Wilnc) Ferry up to Burton. This was to improve also the damage that had been done to Burtons trade in the civil war period and reverse the towns prospects since the decline of its cloth industry. It also opened up the Cheshire cheese trade, since Daniel Defoe observed in 1724 that some 4000 tons were coming down and travelling on by this route yearly.
The Derwent tributary from Derby had to fight its case for a navigation for a further twenty one years before it succeeded in 1721.\textsuperscript{(48)} Unlike the larger Trent its winding course could not be used naturally without an act of improvement being gained. Nottingham, Chesterfield and Rawtry blocked such applications no fewer than seven times during the 17th and early 18th century.\textsuperscript{(49)} One attempt to obtain an act in 1699 was also opposed by the Corporation of Leicester. They resolved to do this by 30 votes to 12.\textsuperscript{(50)} The reasons are uncertain but may have gone a little further than their piqué inability to make the Soar navigable. It could have meant to Leicestershire coal mine owners the bringing of competition a little closer.

The first act for a Navigation on the Soar.

By 1750 Leicestershire interests must have been well aware of the increasing prosperity of Burton and Derby and of plans afoot to make yet further improvements to navigation on the upper Trent.

Equally as important was the building of the Cavendish Bridge over the Trent replacing the Wilne ferry and ford on three main classical arches.\textsuperscript{(51)} This brought about the all year communication of Derby with Leicestershire and ruled out delays of floods on the Trent. The improving trade situation almost certainly saw the reason for the large amount of rebuilding and enlargement in 1754-5 of the Bull's Head in Loughborough's High Street - destined to play a key role in the coaching trade, post office, and as a meeting point of Loughborough Navigation shareholders.\textsuperscript{(52)} The navigation interest now gathering momentum among gentlemen in the Loughborough area. If the Soar up to Leicester could not achieve a navigation then one into Loughborough with only two major mills at Touch and Kegworth to contend with might be possible. The responsibility for the plans and application together with the initial survey became the responsibility of a Loughborough solicitor, Mr. John Watkinson and a Mr. John Kirkland.\textsuperscript{(53)} John Watkinson is also recorded as serving as a town bridgemaster in 1765 and such experience and connections for river bridge maintenance would be useful in practical thoughts for a navigation.\textsuperscript{(54)}
The plans submitted initially with the petition to obtain an act from Parliament proposed to make the Soar navigable along its entire length up to the Thorpe Fields Brook that divides and formed the parish boundary between Thorpe's Bishop Meadow and Loughborough's Nether Meadow. This is illustrated on Map 6. From here a mile long canal was to be cut right across the Nether meadow by-passing the islands, shallows, and loops about Stanford on Soar to re-enter the river again where the Hermitage brook runs in. This brook was to be scoured and deepened up and into the 'Hermitage Pool' that lay on either side of the final arches of the great Cotes bridge and causeway taking the road from Nottingham into the town. The thinking I believe here was that the Hermitage Pool would make a very convenient basin and wharf situated right against a main road into the town. The waters of the brook would fill the basin of the Hermitage pool presumably with a suitable lock or staunch at the entrance into the Soar to build up and maintain the water level along the scoured and deepened brook. The cut across the Nether meadow on very level ground would possibly even avoid lock construction. Unfortunately the original plans and detail here no longer survive and one can only make these deductions from the words of the original act. This final enabling Act was obtained from the Parliamentary Sessions begun on 19th May 1761 and ending 17th December 1765, and was obtained on the same day as the Trent and Mersey Canal act to improve the Trent, and the Staffordshire/Worcestershire Canals were passed. The threshold of realistic achievement had been reached.
Notes on Chapter 3. Towards a Navigation.

5. Willan. op.cit. p.46.
6. Ibid. p.45.
7. Ibid.
8. Ibid. p.47.
10. Ibid.
12. Ibid.
17. Rymers Foedera. op.cit. p.888.
18. Ibid.
19. Ibid.
20. Ibid.
21. Ibid.
22. Ibid.
23. Ibid.
24. Ibid.
26. River changes are looked at more closely in the survey - final chapter.
28. Ibid. p.368.
30. Owen. op. cit. p. 66
31. Houghton. op. cit.
32. V.C.H. Leics's Vol. III. p. 79
33. Based on my own survey measurements.
34. Journal House of Commons xii. 785. Petition for Bill 1737.
35. Ibid.
36. Ibid.
37. Burton. op. cit.
40. Pochin. op. cit. p. 6.
41. Owen. op. cit. p. 236.
42. Ibid. p. 238.
43. Ibid. p. 239. & Fosbrook letters to Coke M/S. collection
B.C.J. Williams.
44. Ibid.
46. Owen. op. cit. p. 240.
49. Ibid.
51. V.C.H. Leic's Vol. III. p. 82.
52. Pochin. op. cit. p. 6.
55. Based on the description in Act, George Ill. for making Soar Navigable. p. 953.
56. Ibid. also see C. Hadfield. Canals East Midlands. p. 36.
4. The Navigation from the River Trent to the Town of Loughborough.

The first act of 1766 and its problems.

The first act of 1766 when passed had built into its clauses, that a body of trustees or Commissioners be appointed to overlook its carrying out, and up to five to act as arbitrators over any disputes that might arise. This would be especially applicable where mill owners rights might arise and in the case of landowners with particular objections seeking compensation because of the navigation affecting their land adjacent to the navigation. (1) No fewer than 125 titled and landed gentlemen, mostly of Leicestershire, but also including South Nottinghamshire, and Derbyshire are listed in the Act for this purpose. The list begins with The Marquis of Granby - commonly called Lord Grey and proceeds through Baronets and Esquires to landed gentlemen, the Mayor, recorder, and six senior Aldermen of Leicester. Included in the list that have a future local significance were William Douglas, John Watkinson, William Cradock, local solicitors, and Robert Bakewell junior of later Dishley Grange pioneer farming and stockbreeding fame. Other townspeople included John Capp a former Bridgemaster and others with relatives in the same service. (2)

The first meeting was called on 24th June 1766 at the Bulls Head in Loughborough. There were some 29 trustees or Commissioners present, many of whom doubtless anticipated being future shareholders. Also present was John Watkinson the solicitor whose efforts had brought the whole matter to this stage so far. (3) Leonard and Henry Fosbrook were present from Shardlow and already had navigational interests on the Trent. Present also was John Beaumont and his son from Coleorton Hall who had coal mining interests in west Leicestershire. Some present would indeed become shareholders but ten years later than anticipated. These were Leonard Fosbrook already mentioned, Charles Packe of Prestwold Hall, Edward Dawson of Castle Donington Park, Thomas Beaumont of Barrow on Soar, and George Thompson also of Barrow. Future Loughborough shareholders present were Thomas Allsop, and John Watkinson. Samuel Phillips of Garendon Hall would not live to have a share but his widow did.

- 55 -
Also Thomas King was not to survive but his son Henry a tallow chandler in the town was to take the opportunity. (4)

Two main issues occupied matters at the meeting. John Watkinson was ordered to - 'treat with such workmen and others for stone, wood, and other materials for making locks, staunches, etc'. The question also arose about the employment of a surveyor. The name of the best and most famous surveyor known in the country was raised and James Watkinson was directed - 'That Mr. Brindley or his agent or some other able Surveyor be employed to survey and make report at the next meeting'. (5)

The next meeting had been fixed for the 5th August, but so few turned up to make a 'proper number of Commissioners', the meeting was adjourned until the 26th August. When that meeting was held John Watkinson had to report that he had as yet been unable to get James Brindley's services for the survey. Undeterred, John Watkinson was ordered to make - 'immediate further application to him to make such a survey and Calculations' - on or before 9th September following. Failing this he was to apply to anyone he thought proper.

On the 9th September John Watkinson was able to report progress. It was that Mr. Brindley although able to do the survey could not do it before the 11th. Sept. and the meeting was then adjourned to the 16th to hear the results at 11 am. in the forenoon at the Bulls Head. (6)

James Brindley the Buxton born son of a farm labourer was 50 when he made his survey of the river Soar. He was nearly at the peak of a career that had just seen his plans for the Trent/Mersey canal authorised earlier in the same year. (7) He took his 'view of the river Soar' on the 9th September 1766 no doubt with John Watkinson and the plans obtained through the act. His report was relatively brief and to the point, but its result must have been devastating to the subsequent 6 days later in the Bulls Head.

Brindley considered a route - 'much more to the advantage - to the town of Loughborough - if brought to the town side to the place called the Rushes'... than to the Hermitage Pool'. - see Map 6. He estimated a sum of £6,500 if it were brought to the Rushes and £6,600 if brought to the Hermitage Pool.
does not give his precise reasons in the report but his route to the Rushes contours quickly into rising ground which although necessitating locks would avoid all the flood banking needed to protect the Hermitage Pool route across the Nether Meadow as proposed. Brindley also suggested that the 'Inclosed Meadow Ground on the South side of the River below Normanton ford (viz. opposite the present ferry by St. James Church Normanton) would admit to have the canal brought up the Swamp in that piece of land, and to make the Navigation more Compleat, but would be a saving of more than Six Hundred Pounds.' This suggests a parallel course to the river here. He goes on to suggest a canal cut from 'Zouch Hill dam across Sutton Nether into the River above Hatherne Cliff will not only be more commodius but save a considerable expense'. This canal cut at Zouch was of course to make a bypass of the Zouch watermill instead of coming up the river and having to place a lock adjacent to the mill weir and sluices with all the rancour that could make between millers and navigators. He was happy enough for the course to follow the river down to Kegworth mill dam but from there to the Trent said - 'I think a Canal will be the most proper, and done with the least expense as there are so many shallows' - in the river. This was his concluding observation then signed and written from New Chapel in September.(8)

In effect James Brindley totally revised the scheme with canal cuts that bypassed watermill systems. Although his scheme would not avoid conflict with millers, their circumnavigation avoided a degree of over close physical relationship the original scheme would have had with locks probably having to be built into or very adjacent to watermill weir systems. This is particularly noticeable in the Zouch mill bypass cut Brindley proposed. His schemes also took into account floods and bends, realising in the latter point that a river of the Soar's size needs help to be a successful navigation. The original scheme seems to fail to see these points giving economic weight to using the river channel, until necessity of the more obvious kind required a cut to reach the town. Even the latter effort was to be on level ground regardless of flooding - presumably to avoid lock costs. The meeting must
The 18th century proposed cut routes to make the Loughborough connection to the river.

- Route proposed in the First Act of 1766
- Brindley's alternative adopted in 1777
- Solvay Cocks's four house-keepers, treasurer to the Loughborough Navigation
- Bulls Head Inn, Highgate (street) main meeting point of Committee Shareholders, watermills and windmills.
- F. River Fords.
- Main built-up areas of the town (simplified) in the 19th century.
- Ruins of Coles Park House, former home of the Brownes.
have ended in dejection and disarray when the Commissioners finally minuted that their powers were - 'not sufficient to pursue the recommendations of Mr. Brindley and there would be no further proceedings.' 

With this decision three further points could be drawn. First it was obvious that the whole scheme should have had the services of a canal surveyor like James Brindley involved in the initial planning before it even reached Parliamentary level. It must have been considered that such services were only required for the technical detail of locks and levels with little thought that the route itself would be challenged so extensively. Secondly even to consider the route Brindley proposed with the extra canal cutting, -cost apart would involve a whole series of negotiations and price fixing with landowners who would make the most determined objections possible to the prospect of a canal through their land. The act that had been obtained largely dealt with the conversion of an existing river and simply needed agreements of right of access for a towpath along its banks on one side at a time. The alternative route into the town was made on the basis too, as was admitted in the preamble of the second act later of the dangers of flooding on the Nether Meadow. Those present at the last meeting who would include prospective shareholders had enough faith in Mr. Brindley's report as to suffer withdrawal symptoms since it was again later admitted - 'nor could any Person or Persons be found, who were willing to lend any Sum or Sums of Money upon such Security as the said Commissioners are impowered to give by virtue of the said act.'

If we look at the flooding photograph on plate 2., the reasons for Brindley's alternative route and potential shareholders misgivings are well founded, - the foreground area is in fact the Hermitage Pool - prospective basin area under several feet of water like the Nether Meadow beyond. The final thought might be given to the solicitor John Watkinson and to a lesser degree John Kirkland who between them had on behalf of the supporters for a navigation prepared the petition to Parliament, had the relevant survey and map made and carried proceedings through and up to Brindley's report. They received
Flooding over the Heller House and Hermitage Pool. This early 18th-century photograph, taken from the first set of bridges, shows the level of water and stands normally off 6 ft. (1.8 m.) above the level of the road on the bank edge. The tree crowned moat or moat hill is in the back-ground. The photograph graphically illustrates the problems that would have been faced if the 1766 canal route had been carried out.
no payment for this work and were not to do so for another
ten years, by which time in the case of John Kirkland it was
his widow who had to make the final claim.(11)

**Prevailing local conditions.**

At the time it was attempted to bring this act to fruition
bad winters of the previous two years had brought increased
food prices and trade depression. Subscriptions in Leicester
were raised to give the poor bread for two weeks in the winter
of 1766.(12) In 1766 mobs 4000 strong stopped and looted
cheese wagons near Hinckley and in September further looting
of cheese warehouses and rioting took place in Leicester
despite the presence of the militia and the reading of the riot
act.(13) Further wagon raids were conducted on the Burton
stage wagon, Sleath's Ashby Waggon, and Longman's Derby
Waggon.(14) In the same month a mob attacked a warehouse at
Cavendish bridge. The guard fired grape and small shot at
them, but the crowd returned the fire with muskets. On the
day following the mob had a 'stand up fight' with thirty
farmers mounted on horseback, assisted by footmen in Castle
Donington who eventually drove them back to the bridge and
routed them.(15) Under such circumstances the travellers on
the roads must have felt very uneasy and especially wagons,
but although conditions slowly recovered the prosperity of the
locality remained very static as indicated by Tomchins 'run
down' description of Loughborough in 1770.
Notes on Chapter 4. The Navigation from the River Trent to the town of Loughborough. 1766.

1. 6. Geo III. c 94 (p.956).
2. Ibid. p. 952.
4. Ibid. p.7-8.
5. Ibid. p.1.
6. Ibid. p.2.
8. L.N.M.B. 1. p.4-5
9. Ibid.
10. Act. op.cit. p.3.
11. L.N.M.B.1. p.11.
12. Thompson. op.cit. chap.3. p.128.
13. Ibid.
14. Ibid.
15. Ibid.
5. The Loughborough Navigation: The Early Years 1776-1794.

The formation of a Company and the Act of 1776.

The setback of 1766 and John Watkinson's frustrated efforts led to the Attorney, William Cradock, and the surgeon, William Douglass of Loughborough taking a lead in planning, organising support, and promoting another petition to obtain a reconstituted navigation act. (1) William Cradock who featured so largely in this was born in 1727, the second son of John Cradock with a long family history in Richmond, Yorkshire. At an unknown date William came to Loughborough and at the mature age of 38 married Elizabeth Davys, the daughter of John Davys living at Rempstone and an Attorney in Loughborough. The union was furthered in the same year 1765 by John Davys and William Cradock becoming partners in business that was to last until John Davys died in 1783. (2)

Both John Davys and William Douglass the town surgeon had been present at the meetings of the Commissioners of the abortive 1766 Act. William Cradock, only a year into his new marriage had also been listed as a trustee or commissioner at this time but did not apparently attend the meetings. (3)

The partnership of John Davys and William Cradock had the land with a house and offices now occupied by the General Post Office bordered by Sparrow Hill, The Coneries, Freehold Street and Cradock Street. See also on Map 6. (4) Many future committee meetings were to be held there.

Instead of having trustees or commissioners to go through the procedures of meeting to bring together interested parties the more direct decision was made to form a Company of would be shareholders. The revised or new act was applied for in the Parliamentary sitting between 29th November 1774 to 26th October 1775. Having passed through both Houses it received royal assent on 2nd April 1776. (5)

The people of the Company.

The names of the founding shareholders should be studied on the chart plate 3 - There were 36 who between them raised the first £7000 in £100 shares with powers granted them to raise more money between them or by adding to the shareholder list should it be necessary. (6) By researching into who these
The original thirty-six shareholders who together formed the Company of Proprietors of the Navigation from the River Trent to the town of Loughborough in 1776.

<table>
<thead>
<tr>
<th>Name</th>
<th>Status</th>
<th>Place of Abode</th>
<th>Other Personal Details</th>
<th>Shares in 1776</th>
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<td>Robert Gainsborough</td>
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</tr>
<tr>
<td>Sir Thomas Parker</td>
<td>Clerk</td>
<td>Loughborough</td>
<td>1000</td>
<td>5</td>
</tr>
<tr>
<td>Charles Vyce-Bradshaw</td>
<td>Clerk</td>
<td>Loughborough</td>
<td>1000</td>
<td>5</td>
</tr>
<tr>
<td>Charles James Packe</td>
<td>Calke</td>
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<td>1000</td>
<td>5</td>
</tr>
<tr>
<td>Benjamin Tate</td>
<td>Calke</td>
<td>Loughborough</td>
<td>1000</td>
<td>5</td>
</tr>
<tr>
<td>Nathaniel Barlow Johnson</td>
<td>Calke</td>
<td>Loughborough</td>
<td>1000</td>
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</tr>
<tr>
<td>John Hinchin</td>
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<td>1000</td>
<td>5</td>
</tr>
<tr>
<td>William Tarrant</td>
<td>Clerk</td>
<td>Loughborough</td>
<td>1000</td>
<td>5</td>
</tr>
<tr>
<td>Joseph Bower</td>
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<td>1000</td>
<td>5</td>
</tr>
<tr>
<td>John Watson</td>
<td>Gentleman</td>
<td>Loughborough</td>
<td>1000</td>
<td>5</td>
</tr>
<tr>
<td>John Davys</td>
<td>Gentleman</td>
<td>Loughborough</td>
<td>1000</td>
<td>5</td>
</tr>
<tr>
<td>Thomas Allsopp</td>
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<td>Loughborough</td>
<td>1000</td>
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</tr>
<tr>
<td>Julius Hinchin</td>
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</tr>
<tr>
<td>William Tarrant</td>
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<td>John Watson</td>
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<td>John Davys</td>
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<td>John Gregory</td>
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<td>Henry Hind</td>
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<td>Swinfield</td>
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<td>George Thompson</td>
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<td>Thomas Baumann</td>
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<td>Basford on Trent</td>
<td>100</td>
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<tr>
<td>John Baunard</td>
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<td>Basford on Trent</td>
<td>100</td>
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</tr>
<tr>
<td>John Mills</td>
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<td>Basford on Trent</td>
<td>100</td>
<td>1</td>
</tr>
<tr>
<td>Margaret Garnfirth</td>
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<td>Thomas Batkill</td>
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<td>Michael Ells</td>
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<td>100</td>
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<td>Henry King</td>
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<td>100</td>
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<td>Thomas Jones</td>
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<td>Holborn</td>
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</table>

In this research the status or profession of some is still uncertain. The term 'gentleman' is used for many in the minute book list and the town is retained here where no other detail is known.
people were a number of interesting observations and conclusions may be drawn. First the number of people involved was small, and proportionate to the capital raised. The Erewash Canal begun the following year raised a capital of £21,000 spread initially over 74 shareholders, but they were involved in having to dig almost the entire length of their canal of a little over the same distance as the Soar to Loughborough navigation. Both these enterprises compared to the £300,000 capital raised in 1776-7 for the ambitious Trent and Mersey Canal, have almost at this stage a minor branch quality about them.

There appears to have been no advertising or rally meetings recorded to 'drum up support' we are so used to with later navigations. There are all the aspects here of a close knit community Company of Patrons, business friends, and relations. The main patronage share came from the Earl of Huntingdon whose family had experienced the troubles over the past century of rival watermills trying to break the monopoly of their traditional rights.

The principal family seat had moved to Donington Hall following the spoiling of Ashby de la Zouch Castle in the civil war and later restoration of the monarchy. Their very extensive estates included a great deal of property in Loughborough itself, including the Bulls Head Inn in High Street where most of the important Company meetings took place both in 1766 and from 1776 onward. The ten shares the Earl had is the largest single unit of investment. A clause in the act entitled each shareholder to one vote in the Company business per share up to the number of 7 shares. This could put a curb on the influence any one person could bring to bear swamping the mood of shareholders as a whole. The other landed gentry deriving income from their large estates in the locality included Sir Thomas Parkyns with lands bordering the Soar in Sutton Bonington on the eastern bank. Opposite his holdings Edward Dawson, the Earl of Huntingdon's Steward, who later built Whatton House overlooking the river valley controlled the meadow lands on the west bank. This included the land through which the principal turnpike road from Loughborough to Cavendish Bridge ran through Long Whatton Parish.
Mary Phillips of Garendon Hall controlled estates both in Kegworth and the extensive meadow lands of Dishley and Thorpe running down to the river opposite Normanton on Soar and up into the Bishop Meadow near Loughborough. The canal cut through this meadow up into the town had to pass through a considerable share of her land. Her late husband's interest in the navigation in 1766 which she continued with shareholder interests also largely ensured that expensive negotiation of land purchase or dispute was avoided by bringing in commissioners to arbitrate as some canal companies found to their cost. She was also the daughter of Thomas Allsop another shareholder. (10).

Both Charles Vere Dashwood of Stanford Hall and Charles James Packe of Prestwold Hall near Loughborough had estates with river frontages. In both cases though these largely comprised of holdings along the river course over the Nether Meadow and opposite Loughborough Moors that was never made navigable. They had nevertheless other small property and interest in the town itself, as did Benjamin Tate and William Herrick whose estates border it to the south and west. Taking the first 9 names on the shareholder list, plate 3 - the support given to the navigation given by the total landed gentry holding considerable estates is just over 32 per cent of the total original investment. This percentage increases to well over 1/3 if we include William Farnham, who although a minister came from the landed Farnham family of Quorn with estates in the Soar Valley above Loughborough.

The professional class represented by one surgeon and five known attorneys present some 19 per cent of the total, but this may be greater if the status of some of the other 'gentlemen' were more certain. Within this structure also we have some 15 per cent who constitute an inter family relationship. These were John Davys, his son John Davys Junior, son in law William Cradock, his brother John Cradock, and John Davys' daughter Ann who had married Thomas Allsop. Add to this Thomas Allsop's daughter Mary who had married Samuel Phillips Esquire of Garendon Hall and of course Thomas Allsopp himself.

The trading and craftsmen class of shareholders including the victuallers hold some 23 per cent of the total. Particular
attention should be noted of the master Joseph Boyer with 5 shares, second only in an individual holding to the Earl of Huntingdon. The gentleman John Foster and Carpenter Edward Savage with three shares each lie equal with William Douglass the surgeon and William Cradock whose professional skills were to lead him to administrate two canal companies.

The vested interest and relationship with the Erewash Canal whose act was to be passed one year later can be clearly seen with twenty-two out of thirty-six shareholders having additional shares there also. Other Loughborough people had shares in the Erewash Canal who had possibly been unable to obtain one of the limited Loughborough Navigation shares. Among them were the Reverend James Bickam - Rector of Loughborough Parish Church, Joseph Cropper and Ann Foster. Other names are also known from the Soar Valley area. (11)

Looked at geographically, out of a total of thirty-six shareholders, nineteen lived in Loughborough five on estates surrounding or within four miles of the town and ten within six miles. The printer in Leicester who must have had Loughborough connections lived eleven miles away, and finally the Earl of Huntingdon, Lord of the Manor with very extensive property lived fourteen miles distant.

The interest and support of the local titled landed class is clear but it must be borne in mind here that almost all of them had won their estates in many cases through merchant ventures in the previous century that gave them a closer relationship perhaps in spirit to others in the list than to roots in medieval aristocracy. One or two may claim to be a mixture of both but so far as one can ascertain the overwhelming weight of names on the list represent a cross section of a merchant class from those just setting out to make an invested fortune to those who had inherited wealth from ancestors but had not lost the art of trade investment.

Confusion has arisen in time over the name of the Loughborough Navigation. It is often loosely referred to as the Soar Navigation, but so likewise has the Leicester Navigation that later ran on to connect Loughborough to Leicester. This
By Virtue of an Act made in the Sixteenth Year of the Reign of the Happy King George the Third. For making the River Soar Navigable from the River Trent to Nottingham, thereunto the Lords of grantors in the County of Leicester and for making and maintaining a Navigable Water Canal from thence mentioned, and will be Bounded at Leicestershore in the said County, William Furnham, Esquire, in the said County, which having Submerged to the said Navigation, the Sum of Two Hundred Pounds sterling, declared to be Sufficient to lose charge of the said Navigation and on inspect thereof to become a Proprietor in the said Navigation and that the said two Thousand two hundred Pounds is hereby directed to be paid to the said William Furnham, Esquire, Administrators and representor, to the said purpose and the said Bill was on the 1st day of July in the eighteenth Year of the Reign of our Sovereign Lord George the Third, and in the Year of our Lord One Thousand Seven Hundred and Seventeen.
in turn is sometimes confused with the Leicester and Northamptonshire Union Canal between Leicester and Foxton. All are three quite separate enterprises. The official title recorded in the Navigation Act for this navigation study is:- The Company of the Proprietors of the Navigation from the River Trent to the Town of Loughborough. This generous title has been abbreviated herewith to Loughborough Navigation for reading convenience. The common seal they were granted is illustrated above. The full company title is concluded with the date 1776 in Roman numerals, surrounded by a crown of leaves and an outer leaf beaded border. The seal is almost 1½" (4.5 cms) diameter. Two original steel dies and one matrix are now in the Stoke Bruerne museum. The seal was used on all known share certificates and major legal documents of the company. A fine example of one of the original shares to William Parnham of Quorn is illustrated on plate 4. The seal of the Erewash Canal Company is significantly almost identical in design and size and dated one year later 1777. (12)


The act begins with the repeal of the former act of 1776 with reasons of flood and lack of financial support already referred to. The new schemes route needs to be studied with maps 6. and 7. Brindley's revised proposals had obviously been seriously looked at. The original survey plans that would have been needed for the 1776 Act of Parliament have not apparently survived, and the surveyor who would have made them is uncertain. John Brindley had already died in 1772. Quite possibly a revised survey was made by John Smith the engineer to the Loughborough Navigation in 1776 using some of Brindley's recommendations — certainly the scheme was better prepared than the one of 1766.

Route. — see also Map 7.

The route was a compromise on James Brindley's proposals ten
The development of the lower Soar and the Loughborough Navigation from 1776.
years earlier. From the Trent to Kegworth his idea of a canal was still rejected in favour of using the natural river still with suitable very short 'cuts' to ease the many bends, and to dredge the shallows. The more major mill bypass cut at Zouch was adopted from his scheme. The river instead of a further canal was reverted to above the mill weirs and past Normanton and its ford. The ford was later replaced by a ferry. Finally the major cut through the Bishop Meadow and into the Rushes area by Loughborough was totally adopted in the revision.\(^{(13)}\)

**Shareholding.**

The company were initially allowed to raise £7000 in 70 shares of £100 each with a clause for another £3,000 that could be raised if the first sum was not sufficient. Loans were to have an annual minimum return of 5% interest.\(^{(14)}\) Shareholders had voting powers of one vote per share up to a limit of 7 shares after 6 months of purchase. Annual general meetings were to be held at the Bulls Head, Loughborough, although ten shareholders or more could call extra meetings.\(^{(15)}\) A committee of seven were to manage the Navigation's business and records kept and protected in locked boxes. Shares could be sold by individuals owning them or by the Company on their behalf.\(^{(16)}\)

**Physical Powers given by the Act and considerations.**

These are very similar to the 1766 act and gave rights of entry on to land to make surveys, make new trenches, dams, locks, bridges, dig for clay and gravel, and make towing paths. Differences over sums involved in land purchase, rents for access, and damages, could be settled by three or more Commissioners drawn from a list of 155. These ranged from the Marquis of Granby, landed and other gentlemen and clerks in Leicestershire, South Nottinghamshire and Derbyshire, but were not to include any receiving interest or profit from the Navigation.\(^{(17)}\)

Consideration was to be given to watermills but likewise millers were to undertake upon 24 hours notice, to 'shut or raise their clou:hs or sluices' to enable any necessary repairs the Company might need to make in return for 'recompence or satisfaction'. Failure to do this would render the miller liable to a sum of twenty pounds.\(^{(18)}\)
Any fords spoiled by dredging rendered the company liable to provide suitable alternatives. Such occasions arose, in some cases repeatedly, at Red Hill, Kegworth and Normanton.

 Provision had to be made by the Company to create watering places for cattle that might be interfered with together with suitable drainage schemes. This element is perfectly illustrated where a deep drainage ditch above Kegworth Mill protected the towpath from the low lying meadow on the east bank and necessitated the construction in stone of cattle drinking bays in the ditch or dyke itself since the cattle could no longer reach the river.

Concerning Boats, Barges, and Vessels.

Masters of vessels had to render an account of their - 'cargoes and lading', in writing to the Company or suffer a £5 fine. Any private road or wharf made by the Company could be used to unload goods from vessels or crossed by horses, cattle, and carriages for the same purpose, but this did not apply to towpaths.

Owners of lands along the navigation or river side had the right to construct their own wharves for unloading or loading vessels with rights to claim for usage, but no more than the rate of 6d. per ton.

Every vessel using the Company navigation was to have the owners name painted on in white capital letters on a black ground at least six inches high and still visible above the water when fully laden. The Company had the right to test each boat with weights and mark laden vessels fore, aft, and amidships on the sides. Any owner refusing could suffer a penalty of £5. Another penalty of £5 could be received for mooring on the wrong side of warning posts set at appropriate distances to Mills, dams, Stones or Bridges. Yet again by creating a navigational hazard by overloading or floating timber. Any vessel that sank was to be 'weighed up without loss of time' at the owners expense. Delays would cause the company to raise the vessel and detain it until suitable payment was made to cover all expenses.

Tonnage Rates.

The first set of tonnage rates for cargo had the additional
provision that they could be subject to alteration - 'if thought necessary' in the future. The figures and subject of cargo were given in the following order:—6d. per quarter charged on wheat, rye, beans and peas travelling on the navigation. 4d. on malt per quarter and 5d. on quarters of barley and other grain. All other goods rated at 2/6d. per ton. (24) This would have included coal which is not specifically mentioned. These rates were very competitive with cartage rates on the turnpike roads and throughout the 18th and early 19th century turnpike revenue losses on road transport are notable wherever a canal ran a similar course. Ironically the Loughborough to Derby road via Cavendish Bridge was made a turnpike road later in the year 1777 but its use for coal and other heavy goods was almost non-existent. (25)

Malicious Damage.

Vandalism received no soft options in the 18th century. Any malicious damage to the new Navigation property upon conviction could result in —‘Seven years transportation to any of His Majesty's Plantations in America’. (26) This warning threat is of interest here since the American War of Independence had broken out just eighteen months previously but its final result was still six years away. This would still leave our West Indies alternative until the discovery of Australia. Significantly this threat is not included in the Erewhon Act of 1777.

The act was typical of its period and many minor Company laws were to be added to it later. Over the following two years, small as the Company might be, any delay was not treated lightly and again by virtue of size, fruition might be achieved quicker than most.

Building the Navigation. 1776-1778.

Following the Royal Assent being given to their navigation act on 2nd April 1776 the proprietors met on the 16th April with Sir Thomas Parkyns of Bunny as Chairman at the Bulls Head. William Cradock was appointed both treasurer and clerk on a yearly salary of £60. (27) It was also agreed that for the time being shareholders were to pay their own expenses at Annual General Meetings except the Committee. Obviously no funds were
to be wasted on refreshment. It was also agreed that John Watkinson's bill and others be paid when details were known for the work involved in the earlier act of 1766. (28)

Two weeks later, on 30th April, the Committee met in the house of Michael Ella to consider proposals — from different workmen for carrying out the Navigation of the River Soar — and particularly the whole expense — by Mr. John Smith the Engineer. No names are mentioned of people putting in tenders except the Engineer John Smith who had obviously by then conducted a survey estimate along the proposed route.

The Committee met again five days later on 4th May and John Smith detailed his estimate for making the Soar navigable from the Trent to the Bishop Meadow but not the canal into the town. This figure was £3,418. He was given the undertaking on the understanding that he would be answerable for all — 'rigours either by floods or any other accidents in performing the said works'. (29)

Mr. John Smith the Engineer.

Unlike James Brindley, the name of this engineer must make one wary of confusion with others of the same name. He appears to have been born around 1727, the son of John Smith of Attercliffe near Sheffield, referred to as a carpenter. His father worked on the River Don navigation and with his son took a contract with York city to build a lock on the Ouse in 1752. By 1758 he obtained contracts to make the River Nene navigable from Thrapston to Northampton and from 1767-1772 was resident engineer on the River Ure and Ripon Canal under Smeaton and Jessop. In 1772 he was elected a member of the Society of Civil Engineers and further involvements included work or surveys and plans on the River Swale, proposed Went Canal, Weighton Drainage Canal and probably the River Bure navigation in Norfolk between 1774 and 1779. In the same year as his Loughborough contract he also printed a report on the River Witham Drainage. (30) Although much travelled in these works multiple engagements may have led to slips in attention to detail since in 1776 the Loughborough navigation seems to be one of three schemes he was involved with, although other engineers are known to have had similar multiple schemes including James Brindley. At the approximate age of 49 like Brindley before him he must have been considered a man of
mature ability to the Loughborough committee.

Continuance of preparation

On 27th May a meeting was held in the house of Robert Owen of Kegworth concerned with the intended cuts and towing paths in the Lordship of Sawley, Lockington, Kegworth, Kingston and Sutton St.Michaels. The reference to Sawley concerned the parcel of land on the west bank of the Trent, Soar junction that was still part of Sawley in Derbyshire across the Trent. All the planning and construction emphasis in the first six months is on making the Soar navigable from the Trent up to the reaches south of Kegworth - see also Map 7.

John Smith made an early start since when the committee met again on 17th June they asked him to level the ground as soon as possible in Kegworth Pastures where he had been digging for clay. Also examined were his estimates and explanation of 'scantlings' of the locks and their plans and sections and plan of a swingbridge. A week later on the 24th June they paid out several bills, one being £2-2-0 to Mr.John Varley for an estimate by him for building a lock they had received the previous May. This engineer was to become also involved on the Erewash Canal.

Other bills met at the meeting were £3,14s.5d, for the late Mr. Brindley's survey and estimates. £46.15s.6d to Mrs.Kirkland widow of Mr.John Kirkland and £56.8s.10½d to Mr.Watkinson for obtaining the act of 1766. This was to be paid within six months or as soon as the treasurer - 'shall have cash in hand for that purpose'. Small reward for the two who had already died!

On 23rd September the committee decided that instead of constructing a major swingbridge over the canal in Kegworth Pastures opposite Ratcliffe village it was to have a ford for carriages and a small swingbridge for 'sheep and flood passengers'. This was in connection with the short cut across the loop of river by Ratcliffe village and made necessary to connect the old river ford crossing on the north side of Ratcliffe village to Long Lane on the Kegworth side. -see also Map 7.

On the 8th October it was decided to build Kegworth Lock (the one by the Mill) in Donington Stone instead of brick which
presumably accounted for John Smith's clay digging efforts the previous June. (35) The Donington stone would be of course from the quarries near Kings Mills and on the Earl of Huntingdon's estate. At the same meeting John Smith estimated it would cost £1,999 to make the canal from Bishop Meadow into the Town. (36)

**The Staunch and Lower Reach Locks.**

With a heavy emphasis, one suspects, in cost cutting John Smith pressed on with works on the lower reaches. In addition to the lock at Kegworth he was constructing another in Kegworth Pastures near Ratcliffe village and a staunch lock at Red Hill near the mouth of the Soar. It is probably during his work on the River Bure in Norfolk that he may have been most aware of the use of staunches on rivers. They were an ancient system that even then was beginning to go out of fashion. They were however an economic alternative to a pound lock with two sets of gates where only a very low water rise, shallow, or weir were to be negotiated. Such was the case at Red Hill on the flood plain meadowland. The system worked on the principle that a suitable chamber was constructed through the change in ground level from the lower river level to that above the weir or shallows. Alternatively it could be set against the lower level of a weir itself. A large beam, paddle or gate could then be removed in the weir itself or at the upper end of the specially made chamber allowing vessels going downstream to literally 'flash' through on the flood of water released over the differential level. Vessels moving upstream had a much more difficult task, having to be literally hauled by a team probably of both horses and men against the flood to reach the upper level. Passage either way was, to say the least, dangerous and subjected both crew and cargo to effects more like a roller coaster at a fair. It was also very wasteful of water and encouraged boats to assemble and try to get through the staunch in one 'flash' before the river level dropped on the upper reach and the ensuing delay of closing the staunch and waiting perhaps an hour or more especially in the summer for the level and pressure to build up again. (37)

By the 6th May 1777 despite a bad winter Mr. Smith reported the Staunch at Red Hill was finished and that boats could be navigated through even though the jam there was not quite.
ready. Also that a windlass was put up to haul boats through the staunch and the banks of the Soar near the staunch secured with stones. The Soar up to Kegworth fields (viz Ratcliffe) lock was reported navigable, and Kegworth lock and cut above it back into the Soar also finished. Also dug out was the Zouch cut and the lock pit was due for completion by the following July. In addition Mr. Smith had provided the timber and bricks for the 'first lock in Thorpe Field'. This lock also known as Top lock or Loughborough Lock was the final lock before the basin was reached in the Rushes. The committee despite this progress ordered at the same meeting that Mr. Smith had to provide fresh lime and mortar for various works on locks and bridges since last seasons materials were now damaged and unfit for such work (winter frosts). They reported too on the need for a Toll house near the Red Hill Staunch and the following day also went ahead to acquire 2 acres of land for the wharf at Loughborough. (39)

The Erewash Connection.

While work on the Soar continued apace at this time, John Smith carried out a survey and made plans for the Erewash Canal over a distance of ten miles from the Trent to Langley Bridge. In January 1777 interested parties from the Loughborough Navigation, Coal-Works and Potteries in the Erewash area together with nobility and gentry sought Parliamentary Sanction for the Canal. The Duke of Rutland at Belvoir Castle headed the shareholder list here with coal mine interests in the Erewash Valley. The treasurer to the enterprise was William Craddock of the Loughborough Navigation. The act received Royal Assent after passing through both Houses on 30th April 1777. (41) The engineer John Varley who had submitted lock estimates to Loughborough the previous year was put in charge. He had formerly been an apprentice of James Brindley but this did not prevent trouble he had in later years with some of his estimates and survey levels. (42) Under John Varley work began on actual construction after April 1777 of the Erewash by the contractors John and James Pinkerton. It was open as far as the first colliery at Ilkeston on 30th April the following year - one year to the day of the receipt of the Royal Assent. (43) Although pottery was also to travel down the Erewash coal was the prime
factor that in all but Company names made the cross link over
the Trent from the coalfields to Loughborough the unifying
strategy of the two seemingly separate navigations.

**Toward Completion of the Loughborough Navigation**

Following the progress report of May 1777, delays were
under discussion on the 25th July. Further problems had
arisen by the meeting of August 22nd when boats already for
the first time are actually recorded using the lower reaches of
the Soar but were having great difficulty passing through the
staunch at Red Hill. Mr. Smith promised proposals for a lock
to replace it and a new Dam near Mr. Chamberlains at Red Hill. (44)
This gentleman lived at Red Hill Farm by the river – see Map 7 –
and was to become High Sherrif of Nottingham in 1789. (45)

In addition Mr. Smith had made the ford too deep at Kegworth
Pastures (Ratcliffe) and was to fill it to a depth of 30 inches.
Hailing gates were to be erected at Company expense in Sutton
Lordship. These are those characteristic, weighted, double
swing gates that open in opposite direction to each other that
prevent cattle pushing them open to gain access to the next
field.

Finally Mr. Richards of Buckby, owner of Zouch Mills and
their tenant miller Mr. Jolley had to be contacted about the
mill flood gates that were in a bad state of repair. (46)

Further delays or 'neglect' as the committee considered it
on 24th September caused a letter to be written to William
Jessop the new outstanding canal engineer of his day to make
a report on their works so far. In the meantime in October
John Smith was ordered to make an arch over the Turnpike road
running from Tempstone to Hatherne, at Zouch where it was cut
by the canal. This was instead of a Swingbridge as first
proposed and to be of such height as - 'will admit boats loaded
with wool to pass thro.' Beccles ford near Kegworth lock
was also to be - 'scoured and made passable for boats of 40 ton
burthen'. (47)

It was probably anticipated that by the autumn of 1777
the navigation could be used at least up to Normanton but bad
weather and floods in November prevented work both on Zouch
canal bridge and Beccles Ford.
At the end of the year on 29th December the Committee sat to hear William Jessop’s report asked for the previous September. (48)

William Jessop and his report.

William Jessop was probably the greatest expert on canal and river navigation in his own lifetime, and was consulted on almost every major scheme. Born in Plymouth his father helped Smeaton build the third Eddystone Lighthouse. It was Smeaton who also trained Jessop as an engineer. He was 32 when he made the Loughborough Navigation report and had already obtained a very extensive reputation for himself. (49) Despite his growing reputation his modest nature is reflected in the courtesy of his report as some of the extracts indicate. He acknowledged that Mr. Smith’s locks were executed in a ‘workmanlike manner’, and defended him against critics who blamed the problems at Red Hill staunch on the ‘Threshold of the Staunch being too high’ and suggested a ‘pen of water’ above it would save twice in collection of water and ensure sufficiency of supply through the staunch. He goes on to say gently – ‘I believe there never was a work executed which upon a review would not exhibit some errors that might have been avoided. And I can readily suppose that if Mr. Smith had this work to do over again he would alter the situation of his locks, and would remember that Millers are sometimes found to be a mischievous lot of people’ –. He concludes this passage with the recommendation of a lock at the proper answer at Red Hill, together with a ‘Dam’ – upon the rock where 70ft. in length and 50ft. high on the other side of the Island of Willows’ at a cost of £260 – 0. The lock would have 3ft. 6inches of water depth with a timber bottom made of half baulks 2ft. 6in. apart. (50) If the ‘island of Willows’ is that formed by the river and lock cut here, it would mean the staunch chamber was where the present Red Hill lock now is.

William Jessop further recommended raising the Bishop Meadow lock 6 inches and the Upper Lock (Thorpe Field or Loughborough Lock) 10 inches at a cost of £65.0.0. Both of these locks must have been partially constructed at the time. Extensive deepening of the canal cuts were recommended especially –
'that cut from Thorpe Brook up to the Basin in Goose Pastures'. Names have changed here but Thorpe Brook is now known as Burleigh Brook and Goose Pastures was a piece of land against the Rushes where the wharf was built. The sum total of all his recommendations and modification amounted to £973,10.0d. William Jessor's report was copied out in full in the minute book of the Navigation Company including what must amount to one of the most delicately written criticisms one might find anywhere of the proprietors themselves which I reproduce here to summarise his report: since I cannot better them.

'One cannot avoid this reflection - what a pity it is that ideas of Frugality should have been so busy at the conception of this Design; but when I am told that when this Design was laid the probability of a Copious Trade was by no means so great as at present and that it was meant only to receive vessels such as now Navigate the River Trent, which in Dry Season cannot draw more than 18 inches of Water I cannot but acknowledge that many liberal ideas would have been stifled in the birth; and from a principle of owing which is too often dwelt upon by those who are to pay, and too much regarded by those who are to expend, I might have laid a design which would have done me no credit, nor have been considered with the interest of my Employers.'(51)

At the conclusion of the report Mr. Smith the engineer was ordered to make a fresh estimate for the Lock in Thorpe Field with either a brick or half baulk timber bottom. He was also to provide an estimate for altering the Staunch at Red Hill into a lock or alternatively making a new lock together with a rubble dam near to Mr. Chamberlains House (viz Red Hill Farm). The cut up to the basin in Goose Pastures was to be made deeper and wider to contain 3ft.6ins.(1.m) water agreeing to pay Mr. Smith at the rate of 2s per foot and yard for cutting. (52)

The change of Engineer and the main phase of Navigation Completion 1778-1779.

Following William Jessor's report the feelings that had led to his being brought in for an appraisal removed all future faith, despite Jessor's courtesy, in their engineer. At a meeting on February 16th 1778 matters had come to a head.
Complaint had again been received concerning the canal ford in Kegworth Fields near Ratcliffe - 'As being seldom passable for horses and carriages and needed adjusting to a depth of 30 inches (75 cm.) The bricks he had made in Kegworth Field for locks and bridges were to -'be wheeled by proper persons employed by us down to the Soar side from the Brick Kiln - and to be boated up to the lock in Thorpe Field and other such places where wanted!' (53) It seems to imply here that brick supplies were being moved by Mr. Smith perhaps on an ad hoc casual labour basis. John Smith had put in a request for more stone from - 'Donnington Quarry' for banking but this was refused on account of money already paid to him. The meeting then resolved that Mr. Smith had -'forfeited both his articles by not finishing his works in our time,' and that the works in hand were to be -'measured by Mr. May' (54) John Smith in effect was dismissed and John May was to see the navigation works through to completion. An entry fifteen months later dated 15th May 1780 reads -'The Clerk shall make a fair copy of the Bill in Chancery against the Company of Proprietors by Mr. John Smith the late engineer.' (55)

Virtually nothing is known about John May and no official appointment recorded beyond his relatively sudden reference to carrying on in Mr. Smith's place in the February of 1778. He may well have been Mr. Smith's second in command allowing for a relatively smooth transition, but the record is silent here.

On March 4th concern was felt about the developments on the final stretch of the canal to the Rushes and that -'Daniel and Eaton the undertakers to get on with their Digging and for John Nock the builder of the Aqueduct and lock for him to get on as quick as possible' (56) The aqueduct is a reference to the crossing of the Burleigh brook between the Loughborough Lock and the basin. See Map 4.

Interesting work rates are revealed on April 1st when the agreement was drawn up with - 'Daniel and Eaton the two undertakers of the Digging' to complete work up to Goose Pastures. Rate of pay being at 'threepence per cubic yard and sixpence per yard all such parts as shall want puddling, and to finish the same in the month from the date hereof.'
Mens subsistence rate was agreed to be one shilling and two pence a day. Agreement was also made with John Nock of Stourbridge, a bricklayer, to build the Lock in Thorpe Field (Loughborough Lock) and to finish the same in one month. John Nock also agreed to build the locks on the Erewash Canal to the same dimensions. Samuel Hide was to do all the woodwork of the lock for a sum of £20. Puddling or clay lining would be needed at the town end of the canal where light porous soil on a gravel base would be met with in this area.

A financial report on 11th April totalled the cost of the Upper Lock, aqueduct, and digging to Goose Pastures or the basin to £842.4.0d. (£842.4.0d)

Bridges totalled the next most costly item in finishing the navigation to a usable state throughout and included a little bridge needed on the towpath over the 'Kettle Brook' (Blackbrook) and 5 gates between that Bridge and Hathern Meadow at £12.0.0. Zouch canal bridge and a bridge at Kegworth Mill cost £20 each—re Mr. Jessop's report' being added here as elsewhere. A more substantial swing bridge was also constructed in Kegworth Pastures to overcome the nuisance of the canal ford at a cost of £70. Finishing such works ran up a grand total of £1195.8.10d, (£1195.8.10d) and funds were becoming critical. But great expectations of an operational canal were now manifest and gave the committee confidence for the Annual General Meeting on April 16th, that gives added significance to the months notice and work rates issued to the 'diggers and builders' on April 1st.

Raising of Further Capital and the Trading prospects of the Tonnage rate table.

The third Annual General Meeting of the 16th April saw a need to raise more capital to cover expenses. Confidence in progress so far seemed to brook no obstacle. To raise more capital it was agreed to add 20% more on every £100 subscribed so far and paid to the treasurer —'That is to say £5 per cent to be paid on 10 days notice'.

Orders for a weighing machine to be erected on the wharf were made and a revised rate of tonnage taken a stage further than the simplified reference in the 1776 Act mentioned earlier, read as follows:-
### Rates per ton.

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<th>Rate</th>
<th>Item</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheese</td>
<td>1s. 6d</td>
<td>Lime</td>
<td>1s. Od</td>
</tr>
<tr>
<td>Porter</td>
<td>1s. 6d</td>
<td>Limestone</td>
<td>1s. Od</td>
</tr>
<tr>
<td>Bark</td>
<td>1s. 6d</td>
<td>Coals</td>
<td>1s. Od</td>
</tr>
<tr>
<td>Seeds</td>
<td>2s. 0d</td>
<td>Wool</td>
<td>1s. Od</td>
</tr>
<tr>
<td>Wheat/grain</td>
<td>0. 3d</td>
<td>Plaster</td>
<td>1s. Od</td>
</tr>
<tr>
<td>Gravel</td>
<td>0. 3d</td>
<td>Lead</td>
<td>1s. Od</td>
</tr>
<tr>
<td>Swithland Slate</td>
<td>1s. 0d</td>
<td>Iron</td>
<td>1s. Od</td>
</tr>
<tr>
<td>Swithland Stone</td>
<td>1s. 0d</td>
<td>Bricks per 1,000</td>
<td>1s. Od</td>
</tr>
</tbody>
</table>

The list gives an excellent idea of the range of goods the navigation was anticipated to carry and the first listing of cheese is reflective of the trade already known on the Trent mentioned in the latter part of the last century. Gravel would come from the Trent area also. Coals, Lead and Iron would come from the Erewash and Derbyshire source and plaster or Gypsum from both Red Hill and other sites in South Nottinghamshire and Derbyshire. Exports would include seeds, wheat and other grains, lime possibly from the Barrow area and Swithland Slate and stone. The slate was used extensively for roofing, troughs, salt troughs, cheese press stones and many other items as well as memorial stones. The latter was particularly good for inscribed elaborate calligraphy and their presence in churchyards in neighbouring counties may well have been helped by canal passage as well as a testimony of their popularity. Swithland stone is probably a reference to rough slate stone and rock that weathering abilities apart in terms of hardness is also waterproof and may have had a demand in early foundation construction. Slate both in building and memorial work remained popular and in high demand until the early 1860's when railway networks brought competition from Wales of their slate that could be cleaved much thinner and lighter. (61)

Concerning wool, Leicestershire had been a prime sheep rearing County since the middle ages, even apart from the activities of the cistercians of the former Garendon Abbey. Robert Bakewell the pioneer stockbreeder and farmer was already busy at the time the canal was under construction breeding new strains to make an eventual world impact at Dishley Grange by...
the Soar - see Map 7. The reference to the allowance at Zouch bridge for barges piled high with wool bales indicates its importance at an early stage in construction. By the 18th century the popular term for any man coming from Leicestershire was known - he was a 'woolleyback'.

The remaining works and problems of canal water supply.
In May 1778 the committee ordered to erect the boundary wall around the wharf. Brick is mentioned but it was subsequently built of stone probably from the Donington quarry. During this time the new lock and dam were built at Red Hill replacing or converting the former staunch. John Smith had previously started this work having 'blown up' the dam higher up at Ratcliffe in preparation. A swing bridge was also placed over the lock to give Mr. Chamberlain of Red Hill access to the River ford beyond.

From July 1778 three more swing bridges were ordered and reported completed by John May by 16th April 1779. These were in Thorpe Fields (the one that gives its name to Swingbridge Lane), Bishop Meadow and Kegworth Mill. In addition stonework at Zouch lock was raised to prevent overflowing and the bridge over the canal at Zouch was rebuilt. It will be noticed that all the bridges recorded are swing bridges at this stage. This is not just a simple economy but it must be remembered that Upper Trent boats as well as barges were intended to use the canal and such bridges avoided constant stepping down of the mast when under sail. One bridge that could not be avoided for this purpose was Kegworth where there was no special cut or canal bridge at this time - the natural river channel being used.

Filling the Canal with water.
Up to the Bishop Meadow lock from the Trent the entire system had the Soar as its water supply. From Bishop Meadow the canal leaves the river and rises through two locks to the basin in the Rushes - see Map 4. The only source of water to maintain supplies with constant loss through these two locks would be the Burleigh or Thorpe Brook and the Woodbrook running through the town and turning the Malt Mill before running northwards parallel for some distance to the new canal. No
writer has previously considered this vital point that was to remain a matter needing vigilance until the Leicester Naviga-
tion brought an upper Soar supply source fifteen years later. In John May's report of what he had done by 16th April 1779
is the specific reference -'and hath also made several cloughs and dams, for taking in the water from the Malt Mill and Thorp
Brooks'. (66) Even this supply could be endangered in a hot
summer and plans were mooted in June 1779 when the following
entry records -'for want of water in dry seasons - order Sammuel
Wyatt of Burton on Trent to take a view of the brook at
Garrington Mill and to take a levee from thence into Thorpe
Brook, near to Captain Wilson's ponds, and to apply for leave
to Sir William Gordon (of Garendon Hall) to make a cut for that
purpose.' At the same meeting it was ordered that Edward Watts
-'be employed at as low a rate per weekm be to overlook the
lock at Bishop Meadow to prevent all persons wasting the water,
and that a brick hut with a fireplace shall be built for him
near to the said lock'. No boat was to pass through this lock
or at Thorp Fields during water scarcity without his presence
under a penalty of 20 shillings. (67) The water supply from the
Garendon or Blackbrook was raised yet again in March 1780 and a
plan is recorded made by John Pinkerton who was digging the
Erewash Canal, but eventually no such extra cut for water
supply seems to have been made. (68) The 'brick hut with a
fireplace' was built and remained the lock-keepers house there
for a century when it was replaced by the present one and its
remaining years saw it relegated to a repair workshop before
demolition.

By 16th April 1779 the works were reported by John May
as -'much now finished', and included in addition to items
already mentioned the completion of the locks at Red Hill
having -'taken up the staunch'. (69) The precise location of
the staunch is now unknown for certain but John May had
previously been ordered to build the lock replacement-on or
near the site'-of it. If it was on the same site it would
explain the curious stepped banks of the lock chamber which
will be seen in the survey later. This stepping may have
better fitted variable water levels and those helping with the
windlass to haul boats through a staunch chamber. Suitable
cuts to ease navigation up to Kegworth are also reported finished, see also picture on frontispiece.

In addition to Red Hill, the final lock in Thorp Field was complete. Incidentally there never was a staunch here as some previous reports have suggested, the minute books make this quite clear and certainly the generous water supply a staunch would need is unthinkable here as we have now seen. (70) Completed also were the dams at Red Hill and Ratcliffe and the banks of the Basin secured with 'Piles and Planks' of Elm from Mr. Cook at one shilling per foot. The weighing machine was in place and John Ella, son of Michael Ella, shareholder and Innkeeper of the Bulls Head had been appointed wharfinger and toll collector for the wharf on the 14th December previous. (71)

These completion expenses up to April 1778 had amounted to a further £1,349. John May was also to get one hundred bricks at Kegworth Brick Kiln made that summer - 'as cheap per thousand as he can'. This brought about a further loan in June of £600 from the Earl of Huntingdon on security of tolls to be taken from the November following. Further loans were needed by 12th October 1799 of £800 and another £600 on the 19th October following from Edward Dawson of Long Whatton the Earl's Steward. (72)

During this time bricks - 'now lying at Red Hill were brought to Loughborough to build the wharfingers house on the wharf itself. The bricks may have been made on site since - 'a convenient carriage road cut into Sawley Cliff out of Mr. Chamberlain's meadow was also ordered in the same context in July 1799. A - 'wing or lean too' was to be placed over the weighing machine with - 'bricks - got at Mr. Robert Bonsars Kiln for that purpose.' The Earl of Huntingdon had leave to build a warehouse on the dividing wall between the public wharf and his own in October 1779 and clearly intended to be more than a shareholder. (73)

The opening and operation of the Canal.

There is no record surviving of the first use of the Loughborough Navigation, or at first glance any special celebration to parallel the opening of the Erewash Canal in 1779. The troubles boats were having with the Red Hill staunch in August 1777 imply the lower reaches were in use by then - perhaps as far as Kegworth.

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On August 11th 1778 the committee decided to place an advertisement in the Leicester/Nottingham Journal and Newspapers of Northamptonshire, Yorkshire, Norwich and Cambridge. In it they stated that their -'Navigation from the River Trent to the Town of Loughborough - is now completed. It went on then to advertise a -'Meeting will be held at Loughborough , - on Friday 25th September, for the sale of CHEESE,- no tolls will be taken for the same, and weights and Scales will be provided free of expense, the principal Factors have promised to attend the said meeting.' This I feel was probably the celebratory form of opening the Loughborough Navigation.

In November the Erewash Committee were invited to share in the expense of a -'Cock Boat to remain on the River Trent for the use of both Navigations.'(74) This provided the essential ferry communication link for the towpaths and horses using it over the broad reaches of the Trent. The lower section of the Erewash canal was open to Ilkeston and its Colliery by the 30th April 1779 but prior even to that in January coal was being ferried on rafts to the -'Trent boats' or 'canal boats' and pottery brought in panniers on pack mules.(75) The Erewash canal was finally completed along its entire length to Langley Mill on December 10th 1779 and the first boat to traverse its length was filled with proprietors, agents and workmen. William Cradock and other Loughborough shareholders must certainly have been with them. There was a band with two french horns, much chorus singing and salutes with cannon -'having a fine effect among the hills', musketry and explosive charges at bridges and coal wharves. Crowds were everywhere. At the general wharf a flag led procession concluded with an elegant dinner for the proprietors and toasts -' drank liberally'. All praise to Mr.Pinkerton for conducting the ceremony.(76)

To summarise here, the Loughborough Navigation when fully operational was 9 miles and 2 furlongs long - see also Map 7. From the Trent to Bishop Meadow this was largely river interspersed with short cuts. The longest single cut from Bishop Meadow Lock to the town basin was 1 mile 1 furlong. The actual canal averages a width up to 30ft(9.1m) and depth of 4ft. (1.2m). Originally there were six broad locks allowing vessels
up to 14ft. (4.3m) wide, 70ft length (21m) and a draught of 3½ft (1m) up the Navigation. This would allow for broad beamed upper Trent boats of up to 40 tons burthen to come through singly or narrow boats or barges to breast up in pairs. The swing bridges originally built allowed the Upper Trent boats to remain under sail for all but Kegworth and Zouch road bridges, (The locks were to require some lengthening in the 1930's.)

The final completion cost by 1779 was £9,000.

The Frewash Canal when fully operational was 11½ miles long (not counting later branches) and totally dug throughout, having fourteen broad locks of a similar pattern to the Loughborough Navigation. The number of locks required were to account for the 1½8ft. (33m) difference in level from Langley Mill to the Trent. (77)

The final completion cost by 1780 was £21,000. The difference in cost of course is accountable for by the eight extra locks and total digging of its length compared to the Loughborough Navigation. (78)

The Loughborough Navigation had been achieved by river use and minimal cuts at a very economic price, aided by its relatively short length of just over nine miles and having no natural physical obstacles of a major nature.

Although costs were not yet over the rewards to come probably exceeded all the shareholders most daring expectations. The years of total independence to 1794.

Trade.

The first fifteen years of the Loughborough Navigation's operational life made it a waterborne trade bridgehead into Leicestershire, with the town as an inland port. This new status was to quickly revitalise development to the envy and at times frustration of Leicester, Melton and elsewhere. Extensive wharves, warehouses, a boatbuilding yard, and boat trading companies were established both by some of the shareholders and other enterprising business people in the town. Such shareholders who profited doubly were the Earl of Huntingdon with his large new warehouse on the wharf boundary wall, and Cradock, Ella, and Company who had boats. Other early boat
owners names include Thomas Turner, John Sutton and John Chapman, probably all of Loughborough. Boats belonging to Messrs.Gordon, Bourne and Woodroffe are also mentioned. (79)

Coal Trade.

Trade was well under way as early as January 1779 despite the Erewash canal being still only partially complete and the Loughborough Navigation still in need of several finishing touches. This is emphasised in a newspaper report of the period that graphically describes the bringing of coal on the new waterway as the obvious priority and illustrates the pressure the shareholders must have brought to see their investment actually working. Several boats are described as being 'solely employed' in bringing coal. It was purchased at 5 shillings a ton from the Ilkeston Pits in Derbyshire and brought by raft to the boats capable of carrying up to 30 tons. These were hauled by rope over the Trent, and up the Soar by three men, a boy and a horse taking 3½ days to make the journey in calm weather. This speed may seem uncommonly slow but there must have been delays on unfinished towpaths, and coming to terms with new lock fittings, etc. The crews wages then totalled 11 or 12 shillings a day. The coals were sold from the wharf at Loughborough initially at 6d. per cwt. which was a reduction of 1½d cwt. on previous overland prices. This was later to differentiate even further with overland costs. A coal wharf was being prepared at Zouch and the prospects of Barrow lime for building and manure are mentioned. (80) Other wharves were to be established at Normanton, above Keyworth and at Kegworth Bridges. - see Map 7.

Already allusions are being made to the profits of the Company amounting in tolls to £16 a week at this early stage. (81) The need to extend the navigation to Leicester and along the Wreake to Melton is voiced with moral judgements on Gentlemen elsewhere in the County to make this priority rather than 'expending it at elections, -fruitless party contests, -dividing people, - and corrupting their morals.' (82)

The trade in coal as was expected probably took a major share in the navigations carrying activity, in the course of one week Mr.Ella reported eight vessels with 250 tons of coal
were laid down on the wharf in January 1799. (83)

The rapid build up in trade is indicated after the first year when a report of 22nd April 1780 states - 'Not less than sixty carriages were loaded from the wharf on Monday last, with coals and other articles of trade brought up the navigation, - the tonnage taken at this wharf amounts to £120 per month.' (84)

By 1785 it was calculated that Leicestershire, Rutland and Northamptonshire were consuming some 60,000 tons annually, fully one half of which was supplied by the Erewash Valley coalmines. (85) It was also noted that the demand was greatest for the 'hard coals' that tended to cause considerable wastage of the softer coal over many years from these mines. The 'hard coal' alternatively known as best house coal, and also steam coal, from later railway use etc. was brought in and is recorded even well over a century later, being unloaded by hand carefully to avoid breakage, and laid like stone in great walls upon the wharf. Land carriage to Leicester in the 1780's averaged 5 shillings per ton but even this addition still represented a saving of up to twopence on every hundredweight bag below the cost the Leicestershire mines could reasonably compete with. (86) Their method of transportation on horses and pack mules led in teams over the forest on rutted tracks, and roads became increasingly desperate throughout the remaining 18th century against this competition. This is graphically described by the antiquarian John Throsby in 1795 - 'All the way on this road (Hugglescote to Leicester) you meet with the greatest slaves, I think in the creation, burdened with coals, whose owners seem possessed of less of the most amiable part of human nature than the beasts they so unmercifully punish, - enfeebled by oppression, - often sinking under their loads, - you find the once famed hackney, the stout hunter, sometimes the worn out racer, and the now contemptible little animal on which the Son of God once rode. - I left here a wretch with much disgust, beating one of these poor blind creatures which had just dropped under its load, any remonstrance to whom would have subjected me to insult.' (87)

But there was to be no stopping the waterborne coal now. If the figure of 60,000 tons is calculated with barges capable
of averaging 30 tons we must consider a total of some 200 barges per year were coming up the Loughborough navigation in the 1780's with coal alone.

Such was the measure of this trade that in 1789 thirteen men drew a wagon from Loughborough, with ten tons of coal, to Carlton House, for the use of the Prince of Wales. The journey of 111 miles took eleven days to perform. They were rewarded by the Prince with a purse of guineas. (88)

Prices fluctuated between summer and winter. Some differences also arose between the Loughborough Navigation Company and the Derbyshire coalowners who had promised to sell coal at 4s.2d a ton initially, but after obtaining their act raised the price to 4s.8d. then 5s.0d., and yet again to 5s.4d in the first four years. This latter price still enabled it to be sold at 6½d cwt. retail. To combat these variations the Loughborough Navigation had introduced a sliding scale of tolls on 16th April 1784, whereby coal sold on their wharf at 6½d cwt. or under, paid 1s.6d per ton toll. Above that price was subject to 2s.6d per ton toll. This action kept the price down until 1789 when prices were to rise to 8d. This had to take into account that the Company toll rates had by then risen to 2s.6d on all coals anyway, but they subsequently lowered these again to a flat rate of 1s.6d with no sliding scale. (89)

Other Trade and the Loughborough Monopoly.

It was not only coal that was boosting the toll figures together with cheese, lime, grain and wool locally, but also goods from London. Because of the state of roads, and despite the turnpike system, coasting brigs converged on Hull from London and East Anglian ports, together with others from Newcastle and other northern ports. These brought goods as variable as Baltic timbers and Swedish iron from Scandinavia, salt fish and herring from the fishing ports, to imported goods from the Port of London. These included tea and spices from East Indiamen clippers, sugar and molasses, and even luxury imports of Persian rugs, chinese porcelains and other exotic wares from abroad. (90)

Such goods destined for the Midlands were transhipped onto Trent boats or keels at Hull and brought down to Nottingham.
Those destined for the Leicester area came then by Upper Trent boats or barge to Loughborough and then went on overland until Leicester eventually achieved her own navigation extension. From the 1780's onwards the Nottingham and Leicester Journal newspapers record in almost every issue the names of these coasting brigs and their arrival or departure dates for the benefit of merchants and tradesmen. Special exotic goods are often separately advertised. Such were the stores of Captain John Strober, commanding the East Indiaman -'Essex' to be sold by auction in the Leicester New Assembly rooms in Sept.1791. This included Nankin Table sets, punch bowls, japanned tea boards, cut and engraved glass, cane floor mats 20ft.long and table mats embellished with gold from India -{(91)} In November that year supplies of -' Salt Butter which the public may be supplied with in the winter season'- was advertised in Leicester. Loughborough advertised her -'First Trade Assembly for Tuesday 1st November 1791, one of the two stewards being James Ella of the Bulls Head, navigation shareholder, and building up his own fleet of boats by now,'(92)

Throughout this period and on into the 1840's not only was Leicestershire exporting grain and malt through the Loughborough and additionally later the Leicester navigation, but also wool. This was being taken by water via Nottingham and thence to the mills in Leeds and the West Riding in a journey that could take 24 days. Machinery was often brought on the return journey. Salt was also brought from Northwich in Cheshire.({93})

The initial waterhead position Loughborough enjoyed in both exporting and importing goods at rates set below the more difficult and costly land carriage seems to have encouraged a distinct sense of greed by the mid 1780's. An attack is made on it in the Leicester Nottingham Journal on the 8th April 1786. The following extract clearly indicates the bitter frustration merchants in Leicester and elsewhere in the County must have felt -'Many of the Loughborough Proprietors are also a trading company, and vend various commodities from their own wharf to the country south and east of them, including the town of Leicester; and in consequence are empowered to use the most oppressive monopoly. - The merchants there impose their own
prices on their different articles, taking care to keep it something lower than would be the price by land carriage; to effect which sinister purpose, as a Company of Proprietors, of the canal there, they refuse or delay to bring any goods, freighted for the tradesmen in Leicester, whilst they have any store by them, that they can compel him to purchase from their own warehouse; a grievance the more horrid, as one tradesman at Leicester receives more goods in the course of the year than all the tradesmen in the same business at Loughborough together. No wonder then that the gentlemen of the county of Leicester are anxious to have the navigation continued to that commercial town. (94)

The situation was yet further aggravated by the actual overland carriers that did operate from Leicester to London, and such is reported as 'divers waggoners and other Carriers who by a combination among themselves have raised the price of the carriage of goods from the City of London to this County to excessive rates to the great prejudice and obstruction of trade.' (95)

Such a combination of trade facility or obstruction both to the north and south was to make a navigation to Leicester and eventually beyond inevitable, but it took fifteen years to achieve.

The shares and their dividend.

Over the 15 years of being the only navigation into Leicestershire the Loughborough navigation dividend record gives some idea of trading prosperity that compensates a little for the lack of any official tonnage accounts. The first recorded dividend of 5% was made on 5th January 1781 (96) some twenty-eight months after the Cheese Sale and Navigation now open announcement in August 1778. The first half of this period must have been one of gradual build-up in traffic. There were a total of 70 shares at this time originally costing £100 and then raised by an extra subscription for fund raising to £120 as mentioned earlier. The table is based on the Minute Book reference and builds up to half-yearly dividends from 1791. With no surviving account book not all figures are known.
Year | Month and Dividend | Year | Month and Dividend
--- | --- | --- | ---
1781 | Jan 5.0 | 1788 | April 20.0
1782 | ? | 1789 | April 20.0
1783 | ? | 1790 | April 20.0
1784 | July 7.0 | 1791 | April 26.0 December 25.0
1785 | April 12.0 | 1792 | April 25.0 December 30.0
1786 | April 12.0 | 1793 | ? December 30.0
1787 | April 15.0 | 1794 | June 30.0 December 30.0

The Erewash canal that had been a more costly enterprise made its first payment in April 1783 of 2½%. This rose to 20 per cent in 1787 and then came on a par with Loughborough in 1794 at 30 per cent. The actual initial value of Erewash shares is unknown but were probably in the vicinity of £100, but like Loughborough extra loans are known. (97)

The figures for the Loughborough Navigation even for this period are among the highest on record. The secret lay in its 'short and sweet' nature with very extensive natural river conversion use. Longer navigations had many more problems of locks, tunnels, more mills to contend with in some cases, and labour costs. The Trent and Mersey Canal started at the same time started paying dividends like Loughborough in 1781 but by 1790 had reached only 6.5 per cent by comparison. (98) Share values for the Loughborough Navigation were reported as standing thirty above par in 1779. (99) In 1794 a share was reported to have changed hands for £1,800 and estimated to make an income of £96 yearly. This was at the threshold of a new era for the Loughborough Navigation, and benefits had a long way to run yet. (100)

The Running of the Navigation, 1778-1794.

Tollhouses and Lock-keepers.

The prosperity of the Loughborough Navigation in this period also saw the completion of most of the remaining buildings the Navigation was to need. By 1780 John Ella the wharfinger and toll collectors house on the Loughborough Wharf was in use by him. It comprised of 'one bay of building with a lean too over the (weighing) machine' - and a lamp set over it on the house
corner. His initial salary of £40 per year was raised to £50 - 'exclusive of 2gns. allowed for Hire and Candle' in 1787 for increased work.\(^{(101)}\)

In April 1780 the committee decided to improve on their original little toll cottage of 1777 at Red Hill, ordering a house - 'near the present building', and not exceeding three rooms.\(^{(102)}\) This in effect became an extension to the original toll cottage and can still be interpreted in the fabric of the present building. John May the engineer who had been retained to oversee the navigation works was evidently living there at the time and an allowance of £40 with materials was made to him for the work. In 1783 a further £16 was paid for completion. John May left the Navigation in that year and William Smith, a matt maker from Ratcliffe on Soar was employed. The house was rent free and his main duty was to look after the lock and collect tolls from all boats - 'that dont come up to Loughborough and all such down gate boats not loaded at Loughborough.\(^{(104)}\) This would be at the wharves established at Kegworth Bridge and above Kegworth, Zouch and Normanton. See Map 7. William Smith resigned two years later in April 1785 and his brother Samuel Smith was given the appointment which he held until 1791.

**The 'Trentlines'.**

The tollhouse at Red Hill together with its Erewash counterpart on the other side of the Trent had the responsibility of maintaining the 'trentlines', which were ropes up to 500ft long or more used to tow the boats downstream into the Trent. From entry into the Trent the rope was increasingly 'played out' as the horse pulled the boat upstream while at the same time the man at the tiller steered the boat progressively over to the far bank until it could slip into the Erewash Canal opening. This was a critical moment when a man on the boat would have to slip or cut the towrope to stop the horse on the opposite bank being dragged into the river. This is best appreciated by studying Map 8. The rope was then pulled in by the man with the horse and brought across on the cock boat or horse ferry. A chain across the river helped control drift when a strong
The use of the 'Trentine' to cross the River Trent from the River Soar to the Erewash Canal.

In reverse, across the line attached to the boat was then taken over with the horse at the Ferry 'lock'. The boat then moved downstream on the Trent current, the horse taking the strain at Soar mouth. Both dogs and logs are known to have also taken a lead to the line swimming from the Erewash mouth to the south bank.

1. Towline normal length. Moving downstream on Soar current.
2. Horse prepares to turn on to the Trent bank facing upstream.
3. Boat draws parallel on downstream current and the line is played out as the boat slips through the Soar mouth.
4. Horse takes the strain as the boat is steered with the rudder to face the bow upstream on the Trent.
5. Moving upstream over the raised causeway passing over an empty depression of an old river course line.
6. Towline prepared to play out as bank turns and boat about to steer across the river.
7. Towline now almost double length and playing out as boat home away and is also semi-brass line on to the current.
8. Towline now at maximum length is slipped on cut at the boat end as she passes under bowpath bridge into the Erewash Canal. The rope is then hauled in and tension over the ferry with the horse.

- 96 -
current was running. The rope was then left at the Erewash tollhouse for use on return journeys. (105) – see also description on Map 8. Before the Trent river level was raised in 1794 along this stretch a ford also existed but use was probably limited to lower summer water with more than one fatality known when boats were swept downstream and over Thrumpton weir (106) – see Map 8. The sensitive issue over these 'trentlines' are well illustrated in November 1790, when a trader made complaint against Mr. Samuel Smith who had lately – 'refused a boatman the use of the rope to convey his boat across the Trent and thereby delayed him on his voyage'. The navigation committee ruled at the hearing that – 'all traders from the Erewash Canal to our navigation – are entitled to use it without fee or reward.' (107) Whatever his reasons in June 1791 the committee were – 'much dissatisfied' with him and he was ordered to quit Red Hill tollhouse, being replaced by Charles Wain a Loughborough cordwainer. His salary of £20 a year was to be increased by a further £10 in 1785 provided he undertook to learn how to gauge boats (108) a means of measuring whereby the tonnage a boat was carrying could be calculated. He obviously learned well since he held the post until resignation in 1807.

The only other house belonging to the navigation along the route at this time was the – 'brick hut with fireplace' at the Bishop Meadow Lock guarding water usage into the town on the canal section. See Map 7. In April 1785 this was ordered to be replaced by a house not exceeding £40 in price. (109) This together with the original hut that had become an outhouse store later, remained in use on the towpath side of the canal until 1888, when in its turn it became a navigation carpenters shop until its eventual demolition in the late 1950's. The later survey deals with it further. Thomas Hardy who had been in the original 'hut' in 1779 had been succeeded by Robert Beck in 1783 and was still there to enjoy the new house at Bishop Meadow Lock later. (110)  

Running repairs and bridges.  

Trade brought heavy wear to the towpaths or hailing paths
and in April 1783 £18.2.6d was paid for £150 tons of Forest stone (from Charnwood) to repair and strengthen the entire length from the Trent to Loughborough. £12.0.0 was needed for 'large stone' to strengthen weirs and £10.2.6d for 'boating the same down the water. Edward Dawson of Long Whatton was given 8/6d per annum on account of towpath damage in 'Bridge Holme' in the liberty of Sutton at this time, and is typical of this form of running repair. Another entry is 2/6d for towpath gates in Hathern parish. (111) The swing bridges too were in need of constant attention. In 1785 Mr.Ellia the wharfinger was asked to make an estimate for a new wooden swing-bridge, or alternatively an arched bridge to replace the ruinous one over the Red Hill Lock. (112) The following year Mr. Ashton Curzon of Kingston Hall accepted £20 to have an arched brick bridge built, - and to keep the same in repair. As owner of the estates here, the bridge was for the benefit of the tenant of nearby Red Hill Farm to cross the canal cut en route for the river ford and farmland on the west bank of the Soar (113) -(see Map 7). Warnings had been issued in 1783 by the navigation company against anyone using it to carry coals or other things over it since it was made for the use of Mr. John Chamberlain - tenant of Red Hill Farm only. This gentleman was complaining in 1787 again about the ruinous state of the swingbridge since his landlord Mr. Curzon despite payment from the navigation had still not built it. (114) It seems to have been resolved by the following year, and this the lowest bridge on the Soar with its unusual if not unique straddling of a lock chamber was built. It is illustrated on the frontispiece title page of this study. At the annual general meeting in April 1791 two further brick arch bridges were ordered to replace the bridges in Bishop Meadow and Thorp Field on the canal section into Loughborough (115) - see Map 7. The Bishop Meadow Bridge and the Red Hill Lock Bridge are almost of identical construction, each with a centre keystone of sandstone set in the brickwork and were almost certainly made by the same builder. The Swingbridge Lane bridge still retaining its old original name was probably similar too before later modifications. They illustrate not only the increasing
confidence with trading wealth the Company were using but also the desire to overcome the abuse horizontal swingbridges could be subject to, and the punishment to the timber floors of them by horses hooves. Boats under sail would probably have their masts 'stepped down' anyway on the canal sections, limiting canvas use to river stretches below the Bishop Meadow. Only one swingbridge at Kegworth deep lock was to survive until the early 20th century.

In November 1787 Mr. William Boyer of Hathern represented others concerning a need for a bridge for foot passengers leading from Mr. Jelley's mill at Zouch to Sutton Bonington referring to an enclosure road laid out in the act of 1777 across the fields. This had been crossed by the Zouch Cut, see Map 7. The end result was the simple stone and timber lintel bridge that remains substantially the same in appearance to this day above Zouch Lock. Another similar structure was built in 1795 at Ratcliffe on the canal cut involving a stoppage on the evening of June 6th to put the lintel over the canal.

Two major road bridges were built over the river in 1785. The first was at Kegworth under an agreement with the Justices of the County of Nottingham and Leicester dated 19th April. John Cheshire a builder from Over Whittacre, Warwick, was the constructor of it, with stone from Castle Donington. It replaced the original medieval bridge here erecting the new bridge on the foundations of four of the old piers of it. In length it totalled then one hundred and ninety-five feet, and had a width of fourteen feet. John Cheshire had undertaken to complete it by November 1st 1786. Five classical arches embellished with decorative Gibb's surround relief roundels were its main design feature, which despite widening in 1937, retains much of this facing today.

The Loughborough Navigation Company expressed concern in April 1785 - 'that boat passage be not interrupted' during its construction. No further word is made on it and presumably no serious delay was felt. At this time the navigation was using the natural course itself under the bridge - the Kegworth wharf being immediately upstream of the bridge. Certainly the new arches gave a headroom clearance greater than the old bridge
was likely to have had.

The second bridge was at Zouch on the Rempstone to Ashby turnpike road. This like Kegworth Bridge linked the two counties and like Kegworth may have been a joint venture in expense. This bridge was built in 1793 over the old ford site which is clearly shown on the Hathern enclosure map of 1777, see detail and bridge Map 4. The original narrow pack horse style bridge lay a little further upstream and was presumably demolished at the same time. Unlike Kegworth bridge, the Zouch bridge did not cross the navigable part of the river and would not have affected boat passage. Built of stone, probably again from Castle Donington it was a Classical three arch structure with decorative finishes very similar to Kegworth. It was to survive until replacement by the present bridge in 1931. – see engraving with Map 4.

At an uncertain date in the 18th century a more modest bridge in brick of canal-like style like that at Red Hill Lock, but having a more cambered effect to the arch was constructed near the main ford site at Stanford on Soar. A sad accident had occurred there on November 13th 1705 when a Miss Palmer from Wanlip together with her coachman and four horses were all drowned trying to cross the ford. (118) Although never part of the navigation an influence on the bridge construction seems to have been made in the period of similar bridges on the canal system.

**Boatmen and Boats. Abuses, damages, and rules.**

Damages caused by boats is an ongoing hazard. The first recorded is Thomas Turner prosecuted in November 1780 for letting his boat run against the brickwork of Bishop Meadow Lock. In the same year John Beeton master of John Sutton the Loughborough shareholders no2 boat damaged the swingbridge at Kegworth Mill. (119) Joseph Woodruffe and John Chapman damaged the lock gates at Bishop Meadow in 1733 and had to pay 63. (120) In November 1794 a boat of Messrs. Coleman Burbridge ran against the wooden tow-path bridge near Zouch Mill with considerable damage. (121) These are typical examples throughout the navigations working history. Such damage is due to human error, but perhaps less excusable is
the attempt to cheat in some boat owners cases.

In 1780 William Douglass the shareholding surgeon in Loughborough complained that he had been charged tonnage for 150 tons of coal more than he had received -'from the Coal owner by his Boats'. (122) John Chapman had to pay a fine of £2.2s.0 for giving -'a false account of his loading' in 1733. (123) John Ella, the toll collector on the wharf was ordered to prosecute -'Several Boats belonging to Messrs. Gordon, Bourne and Woodroffe, or the owners for giving false account of their loading'- in 1785. (124) The accounts of short cargoes and misplaced goods have grown in time into a form of legend equivalent to coastal smuggling and contraband, on inland waterway systems. Its presence is certainly recorded in the Minute Books but its proportion suggests that such abuses were generally small in proportion to the whole trade pattern, or was done with such skill as to remain undetected.

Additional rules had been added to the Loughborough Navigation in 1779, with fines between ten and twenty shillings for leaving towing path gates open, or boatmen letting their horses loose on the towing path. (125) Additionally in 1787 horses also had to remain muzzled and kept off land adjoining towpaths. Poles shod with iron were not to be used for manouvering boats on the Soar and no boat was to pass through a lock, chain or any other form of stoppage before 4 am or after 9 pm. (126)

It is not known how many of the great number of boats using the Loughborough Navigation were actually built on it during this period. A boatbuilding yard is mentioned in a newspaper description of 1780. (127) This is quite likely to have been the yard of William Barnsdall listed as a boatbuilder in Bailey's Universal British Directory in 1782. This family had their house, slipway, dock, yard, and workshops opposite the Chainbridge only some 300m. from the basin and wharf of the town. Vessels built there are referred to later in the 19th century and the family continued to be concerned on this site with boats and repairs right into the early part of the present century. It is possible that both canal boats and upper Trent style boats were being built here in the 18th and
A RECONSTRUCTIVE ANALYSIS OF VESSELS USING THE RIVER SOAR AND LOUGHBOROUGH NAVIGATION IN THE 18th. AND EARLY 19th CENTURY:

Based on contemporary picture detail, written reference, and similar craft known elsewhere.

18th century upper Trent style boat with square keel rigging. It could be additionally towed from near the masthead by men or horse or from a short boom if the mast is down. The mast is near amidships and the vessel is open hold type, the cargo could be canvas covered.

Early 19th century sloop rigging, upper Trent style boat depicted up the River Soar as far as Leicester on early engravings. The mast is set much nearer the bow. Towing arrangements similar to the top illustration. Cargo hold could be open, but also depicted in raised deck style that could be nearly canvas secured.

Early 19th century barge, depicted in use up to at least the early 1840s. Probably the type most commonly used both in the 18th and early 19th century on the localised Erewash Canal and up the Soar to Loughborough run. Open hold with exposed cargo, probably always horse drawn from a towing mast secured to the sides by ropes.
even early 19th century. No drawings or precise data is known, and for the most part only newspaper references and views incorporating vessels elsewhere can give clues over differences. Such a difference is made in a sale of vessels and stock, warehouses, etc., at Cavendish Bridge on 5th May 1781. 

(128) Canal boats were probably up to 70ft (21m) long with a beam of 7ft (2m) completely open with no cabins and goods simply tarpaulin covered. They probably worked in pairs as in the later tradition. Over relatively short distances, families did not travel on the boats at this time. This type of vessel can be seen in my reconstruction sketches on plate 5, together with the broader upper Trent type vessel. These again were up to 70ft (21m.) long, but with a beam of probably 14ft (4.3m). Both a simple square koon rig sail or a sloop rigged sail could be used on masts that could be stepped down to pass under bridges. Engravings of such vessels are seen on the Trent with a single square sail and being pulled upstream by six men or 'halers' in the 18th century (see plate 6) and a similar vessel with a jib sail is seen moored by the old West Bridge in Leicester in an engraving of 1841. This latter engraving indicates the capability of sailing vessels to pass through and up to Leicester, and their continued use even after the traditional cabin style narrow boat came into use. A pair of these are shown moored in the same engraving. Yet another engraving of the 1790's is depicted in Nichols County History of Leicester near the castle (see plate 6). This shows a sailing vessel with the sail down riding midstream while the horse and boatmen take their ease on the bank. Sailing vessels appear to have been either open with tarpaulin covered cargo, or partly decked in. I have no doubt that although I have given some indication of length and beam, provided they drew no more than 3½ft (1m.) of water, other dimensions would vary according to cost. Both clinker and carvel type construction seems to have been used in hull construction, but early engravings must be viewed with caution here and do not always make this very clear. The reconstruction drawings on plate 5 are a tentative attempt to give some idea of appearance. There are no vessels known depicted on the Loughborough Navigation itself.
An upper Trent Bar under sail and being hauled upstream by five 'stokers' past Nottingham Castle on the upper Trent. Taken from an 18th century engraving dated by Dering entitled, A South Prospect of the Town of Nottingham. The original is in the Nottingham Castle Art Gallery Archive Collection.

An engraving dated 1790 from John Harris's County History of Derbyshire. The scene is on the Trent by Longcliffe Dam and St Mary of Castle Church. The sailboat marshalled by boatmen with goods notes materials while the town green and the market hill add to the atmosphere. Such burling would be short until the street low-ride on bad weather and the winters melting.
before 1841 when we see for the first time two canal boats of the open type with canvas covered cargoes and short tow masts being poled into the mouth of the Soar off the Trent while the tow horses wait on the bank. This beautiful lithograph made to celebrate Butterley's Railway Bridge is seen further on in plate 9.

**Concerning Water and Watermills.**

The jealous guarding of water has already been indicated on the upper canal section of the navigation and the rival water usage of watermills was taken into account early. The Loughborough Navigation have three mills that were to receive their attentions. These were Zouch and Kegworth mills on the River Soar, and Dishley Mill on the Blackbrook tributary - see map 7. Long Whatton's tributary mill never seems to have bothered them. The Zouch and Kegworth 'cuts' had been built to minimise damage and interference with the mills on the main lower Soar river course.

Dishley Mill was dealt with early when on 10th January, 1780, John Dexter the tenant miller became a tenant to the Navigation Company and to receive reasonable abatement for any losses by their taking water from the mill dam. Sir William Gordon of Garendon Hall, the owner, was to receive a rent of £20 yearly for this agreement. (129)

Kegworth and Zouch Mills were a more powerful proposition to deal with. In November 1780 William Mee, Thomas Carmichael, and Martha Jelley, widow of Mr. Jelley of Zouch Mill were prosecuted by the Navigation Company for willfully wasting water at both these Mills. (130)

A year later due to water scarcity it was agreed that no boats were to pass the Mills after 8 pm. or sooner than 6 am and that the Company treasurer was to pay them 5/- a day so long as the water scarcity remained in compensation for water use through the locks. (131) Any reasonable feelings about sharing were lost again in May 1785 when the miller at Zouch was reported causing 'great inconvenience to the Soar Navigation - obstructing boats - by willfully turning off the water. (132)

Four of the Loughborough Navigation shareholders - William
Farnham, William Douglass, Thomas Birkhill and Michael Ella held a private meeting together and came to an agreement with John Buckley of Normanton on Soar to buy his half ownership of Zouch Mill. (133) This had an enormous checking effect although it did not stop Thomas Wildey an innkeeper or victualler of Sutton Bonington in December 1785 several exchanges with the Loughborough Navigation in the early 1790's concerning their repair. - 'He did frequently draw the cloghys or shuter and let boats 'run dry or aground'. He was threatened to receive prosecution ' of utmost severity if this was repeated. (134)

The end of any threat Zouch Mill could cause in terms of inconvenience was to be concluded in April 1800 when the Loughborough Navigation purchased the Mills for £1,100 and leased on rent for 21 years to Joseph Paget, his son Joseph, and William Paget of Loughborough. (135)

Kegworth Mill remained independent throughout the 18th century and the weirs there were subject to several exchanges with the Loughborough Navigation in the early 1790's concerning their repair. Matters were not improved when it was reported on 31st January 1792 that further damage was caused to the Navigation both by the Corn Mill and an Iron Forge having made a 'Collatoral or side cut' from the Soar and affecting water supply. (136) The iron forge had been built by a firm Platts and Sons and the forge hammer achieved the nickname 'Tiny Bump', since a following wind could make it heard even in Loughborough. It appears to have had a life of some twenty years. Some consolation to the Navigation may have come with the tolls since scrap iron was brought to it by boat from as far away as Birmingham. (137)

Agricultural Flooding and Robert Bakewell.

A practice much favoured by Robert Bakewell the 18th century pioneer farmer and stockbreeder of Dishley Grange near Loughborough was that of flooding land to not only irrigate it but also bring silt as a natural fertiliser onto the land. Robert Bakewell is known to have made comparative display of his hay crops from land previously flooded. He was not alone in this practice and one incident brought swift action from the Loughborough Navigation in June 1793 when it was reported - 'Mr. John
Bramley of Sheepshead has caused the water above Sheepshead Mill to be dammed up (on the Blackbrook) for the purpose of flooding his land to the great prejudice of the Navigation, and being of the opinion that he has no right whatsoever to do, we order and direct Robert Beck (lock keeper, Bishop Meadow) immediately to take with him sufficient assistance, and destroy such Dams so as to cause the water to flow in the usual course, and to do the same as often it shall be obstructed or diverted, and that the assistance of Robert Beck may find it necessary to employ on the occasion shall be paid by the Company.' (138)

We hear no more concerning John Bramley of Shepshed. We can perhaps assume the lock-keeper and his 'assistance' were amply effective in dealing with the situation!

Robert Bakewell of Dishley developed a tremendous enthusiasm for water usage in this period and his letters speak enthusiastically about his canals or channels cut on Dishley Grange to float his turnips back to the farm - washing them in the process. He also purchased two boats to bring his greens back that were not suitable to float in the water by themselves. (139)

His water supply probably came from a spring filled pool by the house but in April 1795 he approached Mr. Ella of the Loughborough Navigation to seek approval for a floodgate, to tap further water from the Blackbrook - 'only when the company may have occasion for, or can well spare it'. His approach and request were considered by the Committee who politely refused sanction for a floodgate. They were at pains to explain that - 'such privilege may involve disputes with the Leicester Navigation' who by that time were newly created and involved in delicate negotiation over 2 watermills for compensation with the Earl of Moira between Loughborough and Leicester on the Soar. (140)

Both parties obviously respected each other and this hitherto unpublished incident reflects the manners among gentlemen of the age, capable of forceful action as John Bramley had found probably to his cost earlier. Dishley Grange lands actually border the Soar and one cannot help reflecting that Robert Bakewell's private estate navigation scheme may well have been encouraged in Liliput scale by the constant passing up and
down of the boats on the Loughborough Navigation.

Such is the scene of everyday physical developments on the Loughborough Navigation in its independent years. The repairs and maintenance continued as they still do to the present, and only the machinery has changed. Only major structural changes will be recorded from here on in the 19th and 20th century to avoid elements of repetition. The final major change to consider in the 18th century is the struggle by Leicester to achieve her own linking navigation and the improvements on the Trent that eventually made the Loughborough Navigation a major link in a much greater conception of trade and commerce.

The one major rival both the Loughborough and Leicester Navigation had to contend with was watermills in their use of river water. The Loughborough Navigation had made elaborate bypass measures in the form of the Zouch and Kegworth cuts, but this still did not avoid problems when the water ran at a lower level in dry weather spells between millers opening cloughs on weirs and increasing numbers of boats releasing water through locks. The Leicester Navigation had a greater number of mills to contend with and a list of annual water compensation figures survive that had to be accounted for from their profits. The Loughborough Navigation appear to have obtained their act without having to face this issue. Although steam power was beginning to excite the possibilities of development in England toward the close of the century the watermills were to remain a powerful economic force for water use on the Soar into the first third of the 19th century, and only then does their slow decline begin.

The Coming of the Leicester Navigation.

The concept of a navigation on from Loughborough to Leicester was complicated by several obstacles. Summarised these were: 1. Loughborough traders enjoyed their waterhead position and did not want to see it pass them by. 2. The Loughborough Navigation feared a loss in tolls if cargoes bypassed Loughborough en route for Leicester. 3. Leicestershire coal mine owners did not want the river route to Leicester which would effectively kill their trade with Erewash Coal.
floating in enormous tonnage to Leicester. 4. Part of the Leicester navigation scheme was in effect to bring coal from the Leicestershire mines by a 'forest line or canal' to Loughborough to bring it into effective competition with the Erewash coal up to Leicester. 5. The Erewash coal owners knew this and gave every weight to encourage the Loughborough Navigation to object to any extension of their navigation.

6. Mill owners between Loughborough and Leicester felt their interests threatened. 7. Certain land owners with newly created estates near the river feared both flooding and intrusion on privacy. Such an objection was even to cause a diversion at Wanlip.

To counter this formidable opposition the people of Leicester and surrounding area had one basic cause and desire. The prosperity of the city obviously depended on good trade links and the situation as we have seen earlier could only result in a possible slow strangulation and decline. From 1779 a build-up in agitation to build a navigation to Leicester and counter argument developed with lengthy articles in the newspapers of the day. (141)

The detailed conflicts that raged are part of the Leicester Navigation story, but the effects eventually on the Loughborough Navigation are looked at more closely here. By 1780 both William Jessop, the canal engineer, and Christopher Staveley Junior, a brilliant surveyor, had been called in and involved in making various surveys and proposals for navigation links both from the coalfields in West Leicestershire to Loughborough and from there along the Soar to Leicester. The first part of the scheme being to try and win the support of the owners of coal and lime workings in West Leicestershire, to give them reasonable competition with the Erewash coal, and advantages Barrow lime workings would have in the Soar valley. A lull appears to develop probably due to support needed in costing such ventures while observations on the advantages of Loughborough merchants and their 'unfair' grasp of the market were made. In 1785 a subscription was opened in Leicester to promote a bill with the support obtained from the Earl of Harborough who
remained a leading exponent throughout the struggle. He lived at Stapleford Park near Melton Mowbray and had interests in such schemes extending not only to Melton but later to Oakham also.\(^{142}\) The influence he had was largely countered initially by Lord Rawdon, later to become Earl of Moira and Marquess of Hastings. He had colliery interests in west Leicestershire and an improbable scheme of his own to build a canal from them south to Market Harborough, then north again to Leicester and Melton Mowbray. A letter dated 23rd June 1785 was sent from Mr. Gregory of Leicester acting on behalf of the promoters of the Leicester navigation schemes to the Loughborough Navigation. It concerned boats coming up the 'new intended cut', and what reasonable tonnage might be asked in coming first up the Loughborough Navigation. It was not considered until 20th September in Loughborough and a guarded reply seeking more information about such new navigations was returned.\(^{143}\) In January the following year a proposal for 'admitting the intended canal from Coleorton to Leicester into the Soar Navigation' and suitable tonnage rates was raised at a special 'occasional general' meeting of the Loughborough Navigation. Reports in the Leicester newspaper were also raised concerning it and proposed meetings that were to be called in Leicester. This obviously annoyed the Loughborough Navigation and they expressed doubts over the legality of such meetings.\(^{144}\) On the 21st January following Loughborough resolved to support both the Frewash Canal Company and proprietors of various mills and lands in opposition to such navigations to Leicester and Melton Mowbray.\(^{145}\)

The following May a second reading of the promoters of the Leicester Navigation Bill was heard in the House of Commons. The opposition was considerable and included a number of objectors from the Loughborough area. It was said -'That the town of Loughborough would receive a very material diminution of its trade', the property of Lord Huntingdon would be impaired and also the lands of Sir William Gordon of Garendon and those let out by him to Robert Bakewell.\(^{146}\) This was a particular point since the proposed line of the canal from the mines near
The alternative river route that was never undertaken for a navigation to Leicester.
This map drawn actual size is taken from the first half of a survey made by Surveyor
junior sometime in the 1890's showing the possibilities with cuts and locks via
the Bishop Meadow, Stanford, and the mill by West of bypassing Longborough.
The same map also depicts the route ultimately adopted running of the Longborough Navigation near the town basin and out to rejoin the Soar at Barrow bridge. The area
is at scale of 400 feet to an inch. The entire route is taken as far as the Winkle junctions.
On the original manuscript that measures some 10 x 30 inches in its surviving state, see
25.5 x 15.5 cm. (Note: the existing route of the Longborough Navigation leaves the river at A.)
Thringstone Bridge in West Leicestershire were shown on Christopher Staveley's survey of 1785 to come from Shepshed along the Blackbrook valley and turning near Thorpe Acre to enter the Loughborough Navigation some 300 yards from the town basin or wharf. It then cut straight across, circling the Town on the north side and eventually joined the Soar at Barrow on Soar road bridge. Before reaching Loughborough this would mean using the Blackbrook and two other streams that Sir William Gordon and Robert Bakewell depended on for water, to be used to fill such a canal. William Ella's evidence was called for but had to be withdrawn when it was learned that he had a vested interest in the Loughborough Navigation that would not be considered impartial enough.(147) Mr. Jelley the miller from Zouch almost suffered in the same way but his evidence was in support he claimed of up to eleven mills that could be stopped from working by the extension of navigation.(148) There were many others elsewhere giving objecting evidence. In vain the defence pleaded the advantages of trade and an envisaged saving in costs to Melton alone of £9,000 a year. The advantages of trade links with Nottingham, Hull, Manchester, Liverpool, Birmingham, and the Severn were extolled to no avail, and the bill failed.(149)

Over the next four years the contest laboured on, Christopher Staveley produced another map showing not only a route out of Loughborough near the town basin but also an alternative route using the natural river with locks and cuts over the Loughborough Nether Meadow. This is reproduced on Map 9. The effect of this would have been to bypass Loughborough altogether, leaving it on a canal limb on its own. Special cuts would be needed to bypass the Earl of Huntington's upper and lower mills at Totes (see Map 9). The weakness of such a route was the flood dangers that had been expressed by James Brindley with the failed Loughborough Bill of 1766.

After much more negotiation the various oppositions were overcome. The Loughborough Navigation were won over with the Leicester Navigation Company undertaking to make good any tonnage and gross annual income should it ever fall below £3,000.(150) The opposition of Sir William Gordon and Robert Bakewell was avoided by a new survey in 1790 by Christopher
Part of the survey map made in 1790-
by Christopher Staveley Junior for the
Navigation to Leicester via Loughborough.

This detail shows the course of the horse drawn
Rail link from the Forest Line canal terminus at
Nanpantan to the wharf of the Loughborough Navigation together with the Leicester canal leaving
its junction with the Loughborough canal and making
an arc around the town.

Loughborough Navigation
Forest Line Rail Link
Leicester Navigation.

Scale 0 1/4 1/2 mile.
Staveley that produced a canal linked by mine tramroads near Thringstone Bridge and contoured along the fringe of Charnwood Forest to a point above Loughborough now known as Nanpantan. From there to avoid heavy costs in lock building it was designed to descend to Loughborough and the Soar Valley floor by a further tramroad that came down the Forest Road to eventually cross the Derby turnpike road and enter the Loughborough Navigation Wharf at the north end. A cut into the Loughborough Navigation Canal some 300 yards north of the wharf would then circumnavigate the town to eventually enter the River Soar below Barrow on Soar. This had another hitherto unpublished advantage to the Loughborough Navigation. It would fill the Loughborough canal from the top wharf section down to Bishop Meadow lock with an abundant water supply direct from the Soar below Barrow and remove the dependency of bringing water in from the Woodbrook and Thorpe Field or Burleigh Brook that could become critically low in long dry weather.

A clause was also built in to the agreements that no coal was to move from the Erewash source down toward Leicester on the new navigation until the first load had arrived in Loughborough along the 'Forest Line' as the Charnwood Canal and tramway system was known. This was envisaged to make the competition start even, and if anything to the advantage of the Leicester coal owners having only a third of the distance to cover to reach Loughborough. It was also agreed that up to 3,000 tons of Leicestershire mined coal could be stored on the Loughborough wharf.

The act was obtained on 13th May 1791 with William Jessop appointed engineer and Christopher Staveley Junior the Surveyor and work began on the Forest Line connection and the River Line link from Loughborough to Leicester together. The routes and their entry and departure from Loughborough can be studied in the detail from Christopher Staveley's Map no.10.

The cut into the Loughborough Navigation below the Loughborough Wharf also meant the severing of the towpath and the Leicester Navigation act provides for a bridge to be maintained at their own expense for the use and convenience of the Loughborough Navigation. William Jessop made designs for
In winter months which some admire,
The lively well pill o' pantour fire,
For spightily mirth creates desire,
And brightens conversation.
The earth affords of fuel store,
Our stubes run from shore to shore,
And what for Commerce has done more,
Than Inland Navigation!

Adventurous minds who plow the main
From unknown lands to treasure gain,
The name of Cook! antinely stain!
Must hold in veneration:
To distant climes, by choice, went he,
To nobly serve posterity.
And lost his life, ingloriously,
Extending Navigation!

Strike out, ye merchants, nothing spare,
To markets new ship off your ware.
For ever stock of the old ones are.
And cramp'd is expectation:
Let France in air her seats display,
On land the Emperor heart his sway.
Britannia's province is the sea;
Her pride Free Navigation!

To smooth the way from town to town,
Such fondness and such zeal is shown,
A million might be rais'd if and soon
On any good occasion:
If bonfire on his briny way,
The wat'ry god would smile to see.
The Sons of Trade so cheerfully
Promoting Navigation!

Canals to thousands blessings are,
And tis with heart felt joy, we hear,
There's one mark'd out in Leicestershire,
That merits commendation:
And when to Leicester coals we sue
By water brought undoubtedly.
To all the country round 'will be
A joyful Navigation!

To render Commerce more compleat,
Where long the Arts have fix'd their seat,
May plans for general service meet
With public approbation:
With servant zeal the cause to bless
Around the board fill every glass.
And its a brimmer drink success
To inland Navigation—
To Trade and Navigation.

THE WORDS OF THE SONG: INLAND NAVIGATION ABOVE TO THE TUNE, 'NANCY DAWSON' WERE WRITTEN AND PRINTED IN THE LEICESTER AND NOTTINGHAM JOURNAL ON NOVEMBER 26TH, 1785. IT WAS IN HONOUR OF THE EARL OF ARBOROUGH'S BIRTHDAY—THE CHAMPION IN EXTENDING THE NAVIGATION FROM LOUGHBOROUGH TO LEICESTER. ITS JOYFUL OPTIMISM WAS NOT TO BE ACHIEVED FOR A FURTHER FIVE YEARS.
bridges and locks in 1791 and the one at this point marks the start of the Leicester Navigation and conforms to the plans he made for such bridges.\(^{(154)}\) It was to become known as the chainbridge from the later practice of having a chain across the mouth of the bridge to stop vessels passing through before paying their tonnage toll from one navigation to the other. In September 1794, application to the Loughborough Navigation was made by the Leicester Navigation to erect their first toll house here at the junction and this was granted. The house together with stables was to survive until the 1930s when it was demolished. A rare picture of it viewed over the 'chain bridge' is seen later in the field survey.

The Leicester Navigation was finally opened after further problems with the Forest Line on 24th October 1794. Ten tons of coal were brought from Mr. Burslem’s coal pit at Coleorton along the Forest Line Canal and tramroad to Loughborough. Together then with another boat with a cargo from Derbyshire they went on to Leicester to receive celebrations not unlike the opening of the Frewash Canal in 1779.\(^{(155)}\) The Earl of Harborough who had taken such a spirited role in the Leicester Navigation Schemes had a Navigation celebration song written in honour of his birthday in 1785 which was probably sung on more than one occasion.\(^{(156)}\) The tune was the then popular 'Nancy Dawson' which is very similar to 'Here we go round the Mulberry Bush'. The words are reproduced in Plate 7 and make allusion to topical subjects of the day. There are references to Capt. Cook slain in 1779 by Hawaii natives, Montgolfier and others in France with early balloon flights are alluded to and the 'Emperor beast his sway' is of course Napoleon. War with France had broken out in 1793, and had put a distinct brake on some over ambitious canal schemes. No one seems to recall Thomas Skipwith whose ideas of 1634 they had just achieved.

The Trent Connection.

At the same time as the endeavour to make the Leicester Navigation, plans to improve the River Trent also had their effects on the Loughborough Navigation at the northern end of
her system.

After 1773 there had been moves to improve the Trent from Wilden Ferry downstream past the Soar mouth and eventually to Gainsborough. Opposition from 'bow haulers' - men whose livelihood was pulling boats upstream on the Trent thwarted it due to their fear of having to pay tolls through locks and other improvements. In 1782 William Jessop made a survey of all the shoals and other features of the river and it was used to secure an improvement act in 1783 with him as engineer. Sections of the river were improved over a period until 1787. In 1793 he inserted his first lock on the Trent at Sawley with local landowners agreement. Further surveys were made and a further improvement act was obtained in 1794. The eventual effect of this on the Soar and Loughborough Navigation was the cutting of the Cranfleet cut (see Maps 7 and 8) completed in 1797 and the building of a weir across the Trent at the same time just below the Soar mouth at Thrumpton. On 4th February 1794 Mr. Cradock was to 'endeavour to get the proposed weir - to be made some 200 yards or at least 100 yards below the mouth of the Soar Navigation. The obvious fears members of the Loughborough Navigation felt were for the dangers of their boats being easily swept over such a weir in times of the current in the Trent running high and strong as the horses tried to pull them out of the Soar and upstream at this critical point. The weir was suitably distanced from them but such disasters did happen at later times.

The effects of the weir were several to the Loughborough Navigation. The whole river level was raised both on the Trent up and past their horse ferry crossing, and on the River Soar up to the weir by the Red Hill lock. No longer could the ford be used by the horse ferry on the Trent, or the ford link over the Soar to reach Red Hill Lock. The Trent Navigation Company had to build and maintain a timber bridge over the Soar Ford by Red Hill Lock not only for the townsmen horses but also to allow the tenants of Red Hill Farm reach their land on the western Bank. Similarly a ferry capable of carrying 'five horses and a wagon loaded with two tons of hay with posts, chain and windlass were supposed to be provided to give access
over the Trent from the Derbyshire bank to Charles Holden -
as lessee of the Prebendary of the Prebend of Sawley - (157)
This is a reference to the Sawley Cliff Farm now part of
Leicestershire. It is probably the difficulty of maintaining
this communication that eventually led to the desertion and
falling into ruin of this site.

The rise in the river level also explains why the Red
Hill Lock which now has a rise of only about one foot (3
is nevertheless designed to have a drop of trouble this amount
as indicated by its sill level. (160)

Conclusion

By 1794 the Loughborough Navigation was on the threshold
of becoming that vital link in the East Midland system of canals:
at a north-south crossing with the east to west Trent and
Mersey Canal. Over the next few years all the canals illustrated
on Map 11 were operating, and by 1814 the final connections
for waterborne traffic through to London were opened allowing
Frewash coal to travel inland down to the capital. By this
time the proprietors of the Loughborough Navigation must have
become aware of this, and how cheaply they had been able to
achieve their navigation that had originated with such localised
aspirations in mind. Had anyone glimpsed these possibilities
earlier they may well have taken more of James Brindley's
advice back in 1766. Despite this their compromise, with
extensive use of the river Soar had given them a navigation
quite capable of coping with the new horizons of trade they had
entered. The locks had fortunately been broad ones from the
start in order to cope with the upper Trent craft - their good
efforts had avoided the problems experienced later on the
Leicester, Northampton Union Canal from Foxton southward in
reduced lock width.

The enterprise had been undertaken by a very small group
of local people when compared to other navigations. They had
driven their engineers hard and fast, watching every penny of
wastage. Advantage of local materials: in wood, brick and stone
had been taken throughout, and in addition to helping to make
some of their own bricks, had the advantages of stone from
their chief shareholders quarry.
The relationship of the Loughborough Navigation to the other river navigations and canals in the East Midlands. It is the essential southern arm of a north-south link meeting the east-west Trent and Mersey route at Trentlock.
The frustration and envy that Leicester felt in the 1780's concerning trade must not let us see the advantages taken by the Loughborough Company and traders in too dark a light. Others saw their enterprise differently, like John Throsby in 1790 who wrote - 'The people of Loughborough, be it recorded to their credit, are remarkably studious for the interest of prosperity of the town. The navigation they procured with ease, and it has enriched its inhabitants, aided the population of the place, and continues a source of multiplying blessings to almost every individual therein. With a foresight which does their judgement credit, they have struggled hard to prevent its extension to Leicester, where its inhabitants, with an equal degree of industry but with less enterprising spirit, are, now their eyes are open to its utility, labouring and have been so for some years, to obtain an advantageous navigation, which they might have had when the people of Loughborough obtained theirs'.

It must have been the vision of what could yet be to come on such a greater scale that won them over in 1780. The shareholders had many roots in a merchant class of people that should give them that ability, and their navigation achievement so far had proved just what a small determined group could do with an initial working capital of just £9,200.

1. C. Hadfield. Canals of the East Midlands, p. 37
3. L.N.M.B. I.p.3. (Public Record Office, Rail 1849/1).
4. Op. cit (2)
5. Act 16 Geo III. c. 65. For making the River Soar navigable from the River Trent, and into the Rushes at Loughborough.
6. Ibid. p. 20.
9. 16 Geo III. c. 65. p. 21.
10. She later married Sir William Gordon and continued to live at Garendon Hall. - Nichols Vol. III. Pt. 11. p. 302.
13. 16 Geo III. c. 65 op cit. (5) p. 2.
15. Ibid. p. 25.
16. Ibid. p. 29.
17. Ibid. p. 8-9.
18. Ibid. p. 37.
19. Ibid. p. 6.
20. Ibid. p. 33-34.
21. Ibid. p. 35.
22. Ibid. p. 36.
23. Ibid. p. 38.
24. Ibid. p. 52.
25. 17 Geo III. c. 108. Amending the Road from the South East End of the Town of Loughborough to Goldsmith Bridge.
26. 16 Geo III. c. 65 p. 19.
27. He paid £500 in security for faithful discharge of the same in 1783. op. cit. L.N.M.B. p. 148.
28. Ibid. p. 3.
29. Ibid. p. 6.
30. Based on research notes of Prof. A.W. Skempton in correspondence to me.

31. L.N.M. B.l. op. cit. p.10.

32. Ibid. p.10.

33. Ibid. p.11.

34. Ibid. p.14.

35. Ibid. p.16.

36. Ibid.


39. Ibid.


41. Erewash. V. Geo. III. c.69.


44. L.N.M. B.l. op. cit. p.31.


46. L.N.M. B.l. op. cit. p.32.

47. Ibid. p.33.

48. Ibid. p.47.

49. Tomlinson. op. cit. p.343.

50. L.N.M. B.l. op. cit. p.47.

51. Ibid. p.49.

52. Ibid.

53. Ibid. p.54.

54. Ibid.

55. Ibid. p.109.

56. Ibid. p.56.

57. Ibid. p.57.

58. Ibid. p.58

59. Ibid.

60. Ibid. p.63.

61. Personal field observation.

62. L.N.M. B.l. op. cit. p.67.

63. Ibid.

64. Ibid.
65. Ibid. p.85.
66. Ibid.
67. Ibid.
68. Ibid. p.103.
69. Ibid. p.85.
70. Hadfield, op.cit. p.38. A lock not a staunch at Thorpe Field is spoken of in the same ref.
71. He paid £150 security for the post in 1783, L.N.M. B..l. op.cit. p.148.
72. Ibid. p.91.
73. Ibid.
74. Ibid. p.78.
76. Ibid. 18th.Dec.1799.
78. Ibid.
79. L.N.M. B..l. op.cit. various refs.1779 to 1783.
81. Ibid.
82. Ibid.
83. Ibid.
84. Ibid. 22.April 1780.
85. Ibid. 10 Dec.1785.
86. Ibid.
89. L.N.M. B..l.op.cit. . extracts from relevant dates. 1784-1791.
90. Leicester Journal. Sept.9,1791.
91. Ibid.
92. Ibid. 4th.Nov.1791.
94. Ibid. 8th April 1786.
95. Ibid. 22 April 1780.
96. L.N.M. B..l.op.cit. p.118.
98. Ibid. p.28.
100. Nichols. op.cit. p.890.
101. L.N.M. B. l.op.cit. p.97 & 203.
102. Ibid. p.107.
103. Ibid. p.122.
104. Ibid. p.131.
105. Descriptions based on recordings from former boatmen
     Jack Monk, Jack Meredith, Mrs. R. Fletcher.
106. Ibid.
107. L.N.M. B. l.op.cit. p.312.
108. Ibid. p.259.
109. Ibid. p.175.
110. Ibid. p.131.
111. Ibid. p.146.
112. Ibid. p.171.
113. Ibid. p.199.
114. Ibid. p.207.
115. Ibid. p.255.
117. Ibid. p.175.
118. Nichols op.cit. p.894.
120. Ibid. p.155.
121. Ibid. p.312.
122. Ibid. p.101.
123. Ibid. p.158.
124. Ibid. p.171.
125. Ibid. p.91.
126. Ibid. p.203.
128. Ibid.
130. Ibid.p.116.
131. Ibid. p.126.
132. Ibid. p.151.
133. Ibid. p.161.
134. Ibid. p.184.

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135. Ibid. Bk.2.p.29.
   p.7. Article on Kegworth Mill.
138. L.N.M. B.1. op.cit.., p.296.
139. Nichols.op.cit.  p.758-767, gives an extensive resume' 
of his methods.
140. L.N.M. B .1.op.cit.  p.307.
141. Typical arguments are listed in the Leicester & Nottingham
142. A.Temple Patterson. 'Making of Leic's Canals 1776-1814'
144. Ibid. p.184.
145. Ibid. p.187.
147. Ibid.
148. Ibid.
149. Ibid.
150. L.N.M. B .1.op.cit.  p.245.
152. Ibid. p.3.
154. Originals in the County Record Office,Leicester.
155. Patterson. op.cit.  . p.86.
158. L.N.M. B:1.op.cit.  , p.301.
159. 34 Geo.W. c. 9 Amendment Improving Navigation on the River
   Trent'. p.11-12.
160. From field survey observation.
161. Throsby. op.cit. '  p.47.
6. Prosperity and development 1794-1850.

The opening of the Leicester Navigation and the Wreake branch to Melton Mowbray brought a swift change of heart from merchants operating boats on the Loughborough Navigation who sought to extend their trade on a navigation they had previously resisted. The extent of their trade potential is revealed in an advertisement in the Leicester Journal on the 31st October 1794 as follows, -

'Ella, Douglas, and Poynton present their grateful respects to their friends, for their kindness, and beg to inform them and the Public generally, that in addition to Timber, Deal, Fir-Laths, Iron, etc. they shall constantly keep an assortment of the most approved Leicestershire, Derbyshire, and Sea Coal for which they solicit the orders of their friends, whose favours will be immediately executed on the lowest terms. The conveyance of wool, cheese, groceries, etc., to and from Gainsborough and Shardlow, is regular by their boats, and they assure their friends particularly, and the Trade in general, that every possible attention will be given to the expedition and careful carriage of whatever they may please to consign to them.'

The effect of the Leicester Navigation.

What had started with a little southern branch off the Trent to improve coal supply and trade to a county town and its neighbourhodd passed into a category whose future was ensured for so long as the demand for long distance inland navigation was needed. Had the Proprietors of the Loughborough Navigation been able to visualise such possibilities beyond their immediate and localised interests they would have aided rather than resisted their initial development.

The close relationship the Loughborough Navigation had with the Frewash Canal to the north, had originally seen a resistance to any waterborne trade sharing, especially of coal south to Leicester. The attitude reflects a similar one that had been adopted by Nottingham a century earlier on navigation attempts upstream from Nottingham Bridge. From 1794 the Loughborough Navigation found itself in the position of being the essential centre link in a triple canal system bringing coal in ever increasing quantities together with other goods to
Leicester. The ensuing recovery and development of the County town beside that of Loughborough could only mean ever fatter returns on the Loughborough Navigation toll revenue returns. This was to be reflected very obviously in the prodigious rise in dividend payments. With the extensions south beyond Leicester after 1814 an internal water highway was achieved from London to the Trent and its links north, east and west.

The ensuing trade developed similar close links with the Leicester Navigation that the Loughborough Company had with the Erewash. Altogether it is not without significance that over the next 140 years they closely conferred on trade together, fought the railways in unison of representation, and eventually fell together all on the same day.

The Forest Line.

The Charnwood Forest Canal and its attendant tram roads were not to enjoy in the prosperity of the Leicester Navigations - 'River Line' from Loughborough to Leicester. Following the initial ten tons of coal from Mr. Burslem's Collieries at Coleorton delivered to Loughborough on 24th October 1794 along its canal to Nanpantan and tramway to Loughborough Basin it ran into continual difficulty.\(^{(1)}\) The cost of loading coal onto the boats at the colliery tramway terminals at Thringstone bridge, offloading again onto trucks at Nanpantan for the 2 1/2 mile horse drawn journey to the Loughborough basin and subsequent re-loading onto boats to complete the journey to Leicester outweighed the advantage in distance they had in competition with Erewash Coal from Derbyshire. Arguments had arisen over the Leicester Navigation charging 1s.6d. a ton for transportation of coal over the Forest Canal which the Colliery owners of Leicestershire said was too high. One -George Beaumont of Coleorton said coal could not be delivered to Thringstone Wharf for less than 8s.4d. a ton. The Leicester Navigation said it - 'will be an absolute bar on their coming to Loughborough Market' - unless it was reduced to 7s.6d. enabling it to be sold in Leicester at 9d. a cwt. Even then it would be competing with - 'Derby coal (which) is sold at 8d. and even 7½d. instead of the former one shilling a cwt. and as it is more durable will always be considered better by 1d. a cwt.\(^{(2)}\) Later in 1798 the Leicester Navigation were to reduce their tonnage rates.
first by 6d. and later a further 2d. making it 10d. on the Forest Line to encourage use, but quantities brought along it remained very small together with token quantities of Breedon lime that were never in any sense a threat to the near monopoly of Derbyshire Coal coming to Loughborough basin and on to Leicester. In January 1797 the Leicester Navigation accounted for three boats costing £70, three railway waggons at £6 and ten barrows at £3 and 15d. on the Forest Line. In September the following year it was stated that Coleorton Coal would be available at Loughborough Lane End - viz. Nanpantan at 5d. cwt. This was an obvious attempt to cut transportation costs and re-loading at Loughborough basin, but only five guineas for tonnages are recorded in the following December.

Another major problem that had bedevilled the line was the inadequacy of the streams to keep the canal filled with water and the shallow nature of the canal making winter freezing more difficult than on the River route. Christopher Staveley the Company Surveyor was ordered to design a reservoir virtually where the present Blackbrook reservoir now lies. This was completed in June 1797 but disaster struck following a severe winter in February 1799 when the dam burst. A graphic description was written by I.Herrick of Beaumanor to his sister on 21st February 1799 that speaks of - 'Loughborough the town in consternation', and - 'The Telegraph coach saw it coming (the water) and was obliged to gallop with the coach to save their lives'. Further on he describes, 'Ellis's horse was up to the top of his saddle in water on the Turnpike road'. - The catastrophe although drowning cattle and destroying crops around Shepshed and Loughborough took no human life. The Leicester Navigation had to pay £2,025 in compensation for damages and no dividends were paid that year to their shareholders. Despite this they repaired the reservoir and canal across the Forest by the end of 1800. On 3rd Jan. 1803 consideration was even given to make the "railway nearest to Loughborough navigable for boats" presumably with a flight of locks, but support was totalling lacking now for the Forest Line of the Leicester Navigation and on January 7th 1805 they ordered - 'That the reservoir is taken down in such manner as to
preclude all apprehensions of danger by floods injuring adjacent lands.' (10) Cutting one's costs on this venture did not end until 1809 when the Leicester Navigation shareholders lost another half years dividend after paying out another £1,900 due to the Enclosure Act for Charnwood Forest, 'for lands on the Forest taken and used for their reservoir and other works.' (11) All these events effectively removed any competition or trade development into Loughborough from the Leicestershire Coalfields until the beginning of the Railway era in 1830, but the Loughborough Navigation coupled to the Leicester Navigation's 'River Line' went on to much greater prosperity. The Forest Line' must have seemed to the proprietors of the Loughborough Navigation as a development that through its short life they increasingly felt was hardly to be taken seriously despite the token gesture of the tramroad rails coming onto the far end of their basin wharf and a clause to store 3,000 tons of coal coming from it that remained but a dream.

The Watermills.

The prosperity of the navigation enabled eventual outright control to be achieved over Zouch and Kegworth watermills. A half share had already been obtained on Zouch Mill in 1785. Total purchase in 1800 with its lease to the Paget family of Loughborough saw a quiet continuation with no further troubles apart from minor repairs through the first half of the 19th century. Control and ownership also extended over the millers house, cottages and Inn there which together with the wharf situated between the Inn and the Miller's House virtually made the original watermill hamlet a Loughborough Navigation preserve on an island formed by the river on the south and the Zouch cut on the north - see Map 12 from the 1855 survey by Charles Tebbutt.

Kegworth Mill (see Map 13) is first noted again in the 19th century on the 18th November 1822, when the Loughborough Navigation Committee ordered Mr. Cradock to offer £5,000 for it. (12) Nothing more is recorded which suggests the offer was refused. Nine years later on 17th May 1831, Mr. Cradock reported that Mr. Rich the owner of the mill was inclined to sell. (13) On 13th March the following year £6,000 is mentioned as the asking price and on May 15th 1832 Mr. Rich communicated a
Detail from Charles Tebbutt's Loughborough Navigation Survey of 1833 showing the Mill and hamlet of Zouch.

Detail from Charles Todd's Leicestershire Navigational Survey of 1835 showing the Kegworth Mill complex.
A: Watermill B: Mill Race C: Main River Weir and other Weirs beyond D: The Lock
willingness to go ahead with the sale. (14) This time it seems the Navigation Company had second thoughts about the price and matters lapse for another six years when Mr. William Paget, who already had the lease on Zouch Mill, offered a loan of £3,300 toward a total of £4,000 which was by then the asking price at a rate of £5 interest. This was accepted by the Loughborough Navigation on the 12th September 1838, (15) and the purchase was made. On the 28th April 1845 Mr. Paget reported the water wheel was in a dangerous state and it was resolved to have a millwright put it in order. (16)

The two water mills at Cotes never affected, or were of any concern to the Loughborough Navigation, but because of the Leicester Navigation's cut into Loughborough and the Loughborough Navigation from the river above them at Barrow on Soar £17.10.0d per annum had to be paid by Leicester. These water rights were re-confirmed as late as 1970 in the Water Resource Act, the mill being allowed 12,000 million gallons of water a year which alas it no longer needs. (17)

Land Sale and Development.

In 1808 the right honourable Francis Rawdon, Earl of Moira and Lord of the manor of Loughborough, obtained royal permission to exchange part of his estates for those of his wife in Scotland. His mother who died in that year was sister and heir to the 10th Earl of Huntingdon the principal shareholder in the Loughborough Navigation. (18) In 1809 and 1810 the Earl of Moira sold his Loughborough manor rights and extensive property in Loughborough in a total of 252 lots. These included the three watermills, the Bull's Head Inn, the Ram Inn near the wharf in the Rushes together with much other property in the town and meadows by the River Soar. Included in the 1810 sale were lots 45 to 49 each comprising of land with frontages of between 57 and 66ft onto the canal and Derby Road beyond the main wharf and basin. Each were in the occupation of the Loughborough Navigation Company and described as - 'well situated for wharf or building ground'. (19) Lot 50 similarly situated and occupied by Messrs. Ella-Coleman and Co. had a waterside frontage of 94ft - 'in a most eligible situation for a wharf'.

Lot 23 was Barnsdales' boatyard opposite the Chainbridge and
described as having a -'brick and slate shed - good garden and parcel of ground used as a Dock Yard for Building Boats - extending to the Loughborough Navigation'. Adjoining it was another plot including on it a Counting House and Timber Yard to the Loughborough Navigation and on lease to William Barnsdale for 16 years at a reserved rent of £8.10.0d yearly. William Barnsdale also held in rent lot 21 nearby with a brick and slate barn on it.\(^{(20)}\) The sale enabled several with vested interest in the Navigation to buy their rented property outright. William Barnsdale built his house by his boatyard. The map for the lots is unfortunately lost but the property listed covered virtually all the ground alongside the canal opposite the towpath from the main wharf to opposite the junction of the Leicester Navigation at the Chainbridge. The lengths of water frontages would each enable a vessel to moor alongside it and some of it must already have been serving as wharfage at this time. Additional lots 16 and 17 were on the towpath side of the canal -'between the brook (Woodbrook) and Navigation.\(^{(21)}\) Interestingly also Christopher Staveley, the canal surveyor, held plots of land in rent in the Tatmarsh area not far from the Navigation whose maps are used extensively in this survey.\(^{(22)}\)

A smaller but equally interesting purchase of land by the towpath now occupied by the Albion Inn, the house called 'Brooklands' and a former row of cottages to the north of the Chainbridge was made by John Jennings, the younger, of Loughborough, a coal merchant, with his own boats, on the 18th November, 1819. A total of £42 was paid for it. Formerly it had belonged in part to Edward Carter of Scrattoft and the Leicester Navigation.\(^{(23)}\) Other canalside property on the towpath side running into the wharf and basin at the Rushes in Loughborough is known to have been held by the local Paget family. Until after 1850 all this property had an integral link with the Navigation and afterwards in the long waterway decline a progressive development for other purposes takes place. Navigation Improvement.

Among the listing of general fabric repairs to towpaths, weirs, locks and bridges are two more major navigation improvements in the first half of the 19th century. The first
significant reference is on June 26th 1820, when the engineer John Kiddy estimated a cost of £577.18s.0d for putting a cut in a river loop between Kegworth and Zouch called -'Devil's Elbow Cut' which he was ordered to put into effect. (24) The name is descriptive enough of what boatmen must have thought of the tight bend here -(see Map 7). The effect of the cut was to create an island referred to later as Gadds Island. (See Map 14). The second improvement followed a meeting on the 22nd February 1822 over the large river loop by Kegworth Bridge.- 'the traders there during the last winter have experienced considerable inconvenience and sustained losses'. (25) An inspection resulted in a new cut, a flood control lock, and a stone built canal bridge extension to the existing Kegworth Bridge on the east side in the Lordship of Kingston (see Map 7) and detail on Map 15. (Both maps 14 and 15 are taken from an original navigation survey done by Christopher Staveley in 1795 and updated by Charles Tebbutt in 1855). By April 17th 1826 John Kiddy's work was reported completed to the great satisfaction of the Committee -'in a very efficient and workmanlike manner.' (26)

Some of the people involved.

The master organiser William Cradock who became clerk and treasurer in 1776 finally died in 1805 at the age of 78. His son John Cradock another attorney was appointed to succeed him. He was 39 at the time and was to enjoy those years when the Navigation reached the peak of its success. He was also Secretary of the Quorn Hunt from 1802 to 1833 which itself enjoyed nationwide fame in this period. Other offices included being Master Extraordinary in Chancery and Under Sheriff for Leicestershire. Later he acquired the title of Lord of the Manor of Walton on the Wolds. A painting of him depicts a top hat and very upright stance astride a white hunter with a cropped tail (see Plate 8). John Cradock died in 1833 at the age of 67 and was succeeded yet again in the Office of Clerk to the Navigation by his eldest son, another John Cradock, Attorney. His time with the Navigation was only to last five years.

The successor to the Navigation Clerk's office on John Cradocks early death was to be his second brother Thomas, again
Detail from Charles Tebbutt's Loughborough Navigation Survey of 1835 showing the island created by John Kibsey's improved canal cut on the River Soar at Devil's Elbow in 1820-1826, later to be known as Gaddes Island.

A = Devil's Elbow, B = Anker Bed, C = New Cut and Trench.
Detail from Charles Tabb's Loughborough Navigation Survey of 1855 showing the new cut, lock, and bridge extension made by John Kidley in 1822-1826 at Kegworth Bridge on the River Soar.

JOHN CRADOCK 1766-1833, Attorney, Master Extraordinary in Chancery, Under Sheriff for Leicestershire, Secretary to the Quorn Hunt 1802-1823, Lord of the Manor of Walton on the Wolds. He was the second member of the Cradock family to become Clerk to the Loughborough Navigation from 1805 to 1833 when the navigation reached the peak of its financial success. The illustration is based on a photocopy I was given access to by Mr E. Beardsley based on an oil painting original-in private hands.
an attorney in the family business. Thomas Cradock acquired Quorn Court as a residence in Quorn. He held the office until 1863 and lived through the period of bitter struggle against the railways. Thomas was the last of the family to have this unbroken line of office in the Navigation lasting 87 years, and even then it was to pass on to Thomas Cradock's attorney partner, William John Woolley. (27)

The responsible office of toll collector in Loughborough was John Ella who held the office and house on the wharf in the town during most of the 18th century, finally resigning in 1807. His family not only ran the Bulls Head in the town at the time but had their own wharf and boats just below the main town wharf in the basin.

In 1819 John Kiddey, superintendent of works and repairs, was responsible for the cut at 'Devils Elbow' together with the new lock, bridge and cut at Kegworth. In June 1834 he built a new toll house at the Loughborough Lock to replace the original one on the main town wharf. This was to overcome the problem the Leicester Navigation had inadvertently created by their entry into the navigation above the town wharf. This allowed some boats to slip off the Loughborough Navigation without paying the tolls due.

The Loughborough Navigation seems to have shared the services of a boat gauging inspector with the Leicester Navigation at least from 16th April 1805 when William Gabb, who had succeeded a Mr. Swinburne for the Loughborough Navigation in 1802 was recorded as gauger of boats for the company as well as collector of tonnages for the Leicester Navigation - presumably from the Leicester Navigation toll house by the Chainbridge in Loughborough. (28)

Boats.

Actual boat construction must have gone on apace over this period not only on the Barnsdall Boatyard on the Loughborough Navigation but on the Trent and Leicester Navigation also. This would also have included repairs, raising sunken craft, and maintenance boats. As early as 31st January 1794 Richard Braithwaite was advertising himself as a boatbuilder in Leicester offering either clinker or carvel bottom type construction.
drawing no more than $3\frac{1}{2}$ feet loaded and capable of carrying between 30 and 50 tons. Another reference on the 2nd February 1798 was for two "Capital Boats with rigging - complete for the coal trade built by Barnsdaill of Loughborough Dock, one only two years past, and the other but one. They were to be sold by auction and described as "Well calculated for the Gainsborough or any Inland Navigation having worked on the Grantham, Melton and Union Lines."(29) A set of Trent Navigation boat gauging tables published between 1799 and 1800 lists 290 boats. Out of the total 108 are listed trading to Leicester, 63 to Loughborough and one to Melton.(30)

On April 17th 1797 Mr. John Smith, then surveyor to the works on the Loughborough Navigation was allowed 10 guineas to purchase a new maintenance boat.(31) Two years later he had to report that "on 31st January last William Blatherwick, Thos. Withney, and Samuel Ward, three of Messrs. Ella, Douglas, Poynton, and Co's servants forcibly took away the Company Ice Boat from her moorings, and afterwards when locked up, broke the lock and committed other violence - apparently under the direction of Mr. Foster who is to appear and give satisfaction to the Committee.' Since the incident took place in January they may well have seized it without request to break ice on the frozen canal. This type of open boat with a centrally aligned handrail at chest height along its length would be used by a team of men rocking it back and forth to crack the ice and create a channel of free water. This is the first mention of one on the Loughborough Navigation. It was ordered to be fresh shod (with iron) in November 1814.(32) Boats are reported sunk in the navigation in 1815 with warnings for their removal or to suffer expenses for the same.(33)

Hints of possible bankside disputes over priority of passage necessitated further Loughborough Navigation by-laws in 1803 ordering boats within 100 yards of a lock going in opposite directions to give priority to the one moving upstream when the lock was empty, and priority to the one moving downstream when it was full - under penalty of two pounds.(34) Again in 1808 boats were ordered to allow "plates put on and staples driven into the gunnel", at the weighhouse on the Erewash Canal -"as a
proper mark for the company agents to gauge by' — with a
threat of a £5 fine if gravel was put into the boat at the
time of gauging to defraud. (35) This work was done in the dry
dock at Trent lock for both the Loughborough and Erewash
Navigation.

Throughout the first half of the 19th century and especially
after 1814 the local trade and passage of boats is heavily
supplemented by long distance 'fly boats' passing through and
are listed in almost every Nottingham and Leicester trade
directory of the period. Typical examples are Pigots 1822
directory for Nottingham advertising Conveyance by Water to
Loughborough, Leicester, London, by T. & M. Pickford and Co. on
Mondays, Wednesdays, and Fridays, and by 1829 daily in addition
by then of John Simpson, and Robert Masham, three times a week.
Similar services went northward via Leicester and Loughborough.
In addition by 1830 fly boat services from Birmingham included
eighteen boats a week to Leicester, nine to Loughborough, and
six to Melton Mowbray. An image is created of cargo laden
boats passing along the Loughborough Navigation at least as
thickly as pleasure craft still do in the Summer season, Mr. Sale
of the Grand Union Co. proposed a barge with a steam engine that
could have a boat attached either side to speed services to
Leicester — to operate across the Trent ferry crossing in
November 1814 but nothing ever came of this. (36)

Amidst developing trade the year 1797 also saw the intro­
duction of passenger traffic. Vessels for such purposes had
been used on navigable rivers like the lower Trent and elsewhere
for possibly centuries and was certainly not a Victorian or
modern idea. The first 'packet-boat' between Leicester and
Nottingham in 1797 ran into financial problems and was discontinued
early in 1798. But a successor was being advertised in the
Leicester Journal on the 27th July that year with repeat
notifications on December 21st and March 22nd 1799. Among the
attractors advertised were the availability on board of — 'tea,
coffee, ale, porter' — and food. (37) Permission to pass along
the Loughborough Navigation had been granted on the 16th April
1798 and recorded as — 'permitted to pass four times a week until
Midsummer Day next on payment of ½ guinea a week'. (38)
With no precise figures surviving for goods being delivered to Loughborough itself or export details from the town one has to rely on other, again incomplete tonnage records for goods passing in both directions along the Leicester Navigation.

**Trade and Economic Development.**

The trade along the Loughborough Navigation almost certainly had a heavy emphasis on a southward movement especially of coal toward Leicester, Melton and beyond.

The Leicester Navigation Statement of Account for the 4th January 1796 gives tolls taken on tonnages totalling £3,948.10.10d. This covered a period of fourteen months previous from the 27th October 1794. By 1797 goods recorded on the Leicester Navigation had grown to 78,617 tons. Of this from the toll records some 60,487 tons were in the form of coal products passing south from the Loughborough Navigation or basin. Altogether some 82% of the traffic was moving south from Loughborough - mostly for Leicester with small offloadings at Barrow, Mountsorrel, Sileby, Cossington, and Thurcaston en route and some 20% destined for the Wreake Navigation and points to Melton Mowbray. In the surviving 1796-7 tonnage account from the Leicester Navigation tollhouse record at Loughborough, other goods passing south that are specified beyond the enigmatic term 'goods' together with the owners and boatmen is of interest in trade movement.

In a sample period between May 30th and June 12th 1796, ninety three boats passed from Loughborough along the Leicester Navigation over fourteen days. Eighty one carried coal in the following proportions, 47 to Leicester, 18 to the Wreake Navigation, 6 to Barrow on Soar, 4 to Mountsorrel, 2 to Thurcaston and one boat each only to Syston, Sileby, a Paper Mill, and Nottingham Basin, which may have been the wharf established by the Duke of York bridge on the Nottingham Road in Loughborough itself but on the actual Leicester Navigation. Twelve of the boats carried mixed goods mostly comprising of coal listed above and including smaller additional quantities of deals and timber, and one of iron hoops. One boat carried timber only to the Wreake, and two Leicester. Another single cargo of 8 tons of Barley and 14 tons of Wheat were recorded to Mountsorrel, - a cargo one
might have thought supplied nearer to home but it may have come from mills on the Lower Soar. Two boats are recorded carrying lime in addition to coals, one with 6 tons and another of 2 tons bound for Syston, and the Wreake. This almost certainly would have come from Breedon via the Charnwood Forest Canal and line into Loughborough. It would have had to pass through Barrow on Soar en route, a much nearer source of supply to the Wreake Valley for such material.\(^{(41)}\) This is illustrated in one of only two boats that is recorded carrying cargo in the opposite direction over the period of study and is for 25 tons of Lime from Barrow on Soar delivered to Loughborough.\(^{(42)}\)

The second entry for June 6th is for a boat owned by W. Sutton who having passed through Loughborough on June 3rd with 32 tons of coal for the Wreake returned and picked up 5 tons of rails from the Nottingham Road Bridge in Loughborough and delivered them to the Loughborough Wharf or Basin. The distance was rated at one mile and two pence per ton toll was taken totalling ten pence in all.\(^{(43)}\) It is very tempting to consider that these 'rails' were a delivery of the three foot long fish bellied rails cast by Butterley and Co. and Smith and Co. of Chesterfield, to complete the 2½ mile tram road from the Nanpantan end of the Leicester Navigation's Charnwood Canal to the basin in Loughborough. Since the order in this case may have been for the Leicester Navigation the delivery to the wharf at Nottingham Road Bridge in the town entailing a one mile return journey to the main Loughborough Navigation Wharf may be accounted for as a case of slight initial mis-delivery. Alternatively the rails may have been delivered by road from Chesterfield but I would have thought this less likely unless total toll dues on the canal systems made this expedient.

Although the toll record only has two entries of cargo coming from the Leicester direction to Loughborough many unrecorded boats must have passed northward empty. Later in the year large quantities of wool came from Leicester to Loughborough together with smaller quantities from the Wreake Navigation together with oats and barley. In 1797 the wool coming from Leicester totalled over 1,200 tons and another 200 tons came from the Wreake Navigation,\(^{(44)}\) much of it feeding the developing worsted spinning
industry in Loughborough, while coal was used instead of charcoal in the comb-pots of the woolcombers and hand-spinners and also the dyers among the growing Loughborough industries. (45) Other Leicestershire products that were coming through to Loughborough as well as Leicester itself in this period were 880 tons of granite and 133 tons of slate from the Mountsorrel Wharf, and 782 tons of lime together with 1,421 tons of limestone from Barrow on Soar. (46) A notable import via Loughborough to Leicester were 675 tons of timber in 1797 much of it listed as 'deal's' probably coming from Scandinavia via Hull. (47)

From the end of the 18th century through to 1831 share figures, recorded tonnages on the Leicester and Erewash Navigations, works on the Loughborough Navigation itself all indicate a continuing expansion in trade, reaching unprecedented levels and reflected in the growth of the town itself.

By 1809 the Leicestershire and Northamptonshire Union Canal had finally reached Market Harborough from Leicester. By 1814 the Foxton lock flight was completed by the (old) Grand Union that extended the system from Foxton near Market Harborough southward to Long Buckby, and the Grand Junction canal down to London. The Loughborough Navigation now formed a key link in a chain of canals from London to the Humber and Yorkshire. This cross linked the east-west Trent and Mersey canal and had connections also to Birmingham.

With a much safer internal system of transport the earlier system of coasting brigs from London to Hull faded considerably and their arrival and departure is no longer advertised in the Leicester Journal after 1819. Within weeks Pickfords and others fly-boats were coming from London up through the system and Derbyshire coal was passing to points all the way down to London. (48)

New trade developments on such an enlarged scale led to a reduction in tonnage rates to fit in with the other linking canal systems and indicate the near monopoly impact and confidence the Navigations felt. On 16th April 1816 the Loughborough Navigation Minute Book inserted their new table below:

- 143 -
<table>
<thead>
<tr>
<th>Goods</th>
<th>Rate they could charge by Act.</th>
<th>New Reduced Rate.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabaster</td>
<td>2/6d</td>
<td>1/-</td>
</tr>
<tr>
<td>Pottery</td>
<td>&quot;</td>
<td>1/-</td>
</tr>
<tr>
<td>Iron Castings</td>
<td>&quot;</td>
<td>1/6d.</td>
</tr>
<tr>
<td>Iron Bars</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Iron Stone</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Lead Tigs</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Pipes</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Sheets</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Paint</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Tin</td>
<td>&quot;</td>
<td>2/-</td>
</tr>
<tr>
<td>Timber</td>
<td>1/6d</td>
<td>1/-</td>
</tr>
</tbody>
</table>

By 1820 the Leicester Navigation record suggests 56,000 tons of coal was passing through for consumption in Leicester and its vicinity with a further 59,000 tons passing on beyond. In addition there were 11,500 tons of other goods. By 1831 the quantity of coal passing down the Erewash Canal from the Collieries is recorded as 255,759 tons in that year. The proportion passing south through the Loughborough Navigation is not known but it must have been a high percentage of this. Pig iron and cast iron are also recorded from 1809 coming from Derbyshire and being delivered both to the Britannia Iron Works in Leicester and Loughborough, both situated by the canal. The foundry in Loughborough, now Demolished, was by the Meadow Lane Canal Bridge on the Leicester Navigation.

In addition to the worsted industry already mentioned in Loughborough and dye works - again situated along the Leicester Navigation section of the canal in the town there was an important development in lace manufacture and the hosiery industry. All were to be dependent on good coal supplies and raw materials and apart from the significant geographical location to the canal system many of them had, all the important coal merchants were based in and around the canal basin and wharf in the Rushes, and remained so until 1840's and the coming of the railways. A significant although less extensive wharf and boat building basin was constructed on the Leicester Navigation in Loughborough by the Nottingham Road or Duke of
York bridge and in the ownership of a William Henson. The
canal was specially widened to make a turning point or 'windall'
here. Later it was used as a depot by Messrs. Pickfords the
great early 19th century canal carriers, before being built
over by the I & R Morley Hosiery Factory. Its location and
detail is clearly shown on the 1849 Loughborough Tithe Map. (53)

The reflective effect of canal born trade on Loughborough
and the encouragement it gave to industry is seen in its
population growth. By 1801 the population had grown to 4,603
from a listed 463 heads of household in 1761 that probably
represented a population of some 1,500 people. By 1821 the
census records 7,494 people representing a town growth of some
63% in the first twenty years of the 19th century when the canal
systems were all in their ascendancy. (54)
The Shares and their dividends.

The table set out below for the period of 1795 to 1850
represents the actual sums of money paid out each half year in
June and December on the shares held and is drawn from references
in the Loughborough Navigation minute books. Over this period
some shares were to change hands and were reported to stand at
an almost incredible £4,950 in September 1824. Percentage wise
they had climbed from an initial 5% in 1781 to a peak of 154%
in 1827-9 before beginning their long decline. (55) The advent
of the railways especially the coming of the Midland Line brought
the share valuation down sharply to £1,400 in 1841. (56)

The table gives some indication of seasonal rise and fall
and December payments tend to be higher than those in June.
The mildness or severity of the previous winter with the delaying
effects of ice, snow, and floods after the thaw could noticeably
affect trade.

The Loughborough Navigation Share Dividends 1795-1840 based on
actual sums paid out and recorded in the Minute Books. Figures
in brackets are estimated figures not listed in these records.

<table>
<thead>
<tr>
<th>Year</th>
<th>June £</th>
<th>Dec £</th>
<th>Year</th>
<th>June £</th>
<th>Dec £</th>
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<td>30</td>
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<td>(30)</td>
<td>(30)</td>
<td>1825</td>
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- 145 -
<table>
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<tr>
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<td>75</td>
<td>88</td>
<td>1850</td>
<td>28</td>
<td>36</td>
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</table>

The Railways and their effects.

The figures in the Share Dividend table bear a close relationship to the anticipation and realisation of the coming of the railways, from 1830 onwards becoming more dramatic from 1840. This is first recorded in the Loughborough Navigation Minute Books on 19th April 1825 when a meeting prophetically recorded -'That there are Railways proposed that will to all probability most materially affect the interests of this navigation. It is ordered - that the Committee have full powers to adopt such measures and take such steps in opposition to - with the parties concerned.' The reference is in connection with the Leicester to Swannington line that was to
revive the competitive interests of the Leicestershire coalfields west of Charnwood together with the granite quarries around Bardon. Such a venture would also have an effect on the coal trade coming down the Erewash Canal and Loughborough Navigation. At a meeting on 30th October 1827 at the Bulls Head and Anchor in the town representatives of the Loughborough, Leicester, and Erewash Navigation met representatives from the coalmasters who urged greater facilities in payment of drawbacks or reductions on tonnage. This was to be the first of a long series of eventually crippling pressures for tonnage toll reduction in the competition with the railways through the 19th century. Both George Stephenson and his son Robert involved themselves with this railway and not only had coal shares but were to purchase Alton Grange near Ashby de la Zouch for Robert to be near these interests. The Loughborough Navigation appears to have avoided expense in fighting the proposed railway until 25th March 1830 when it is recorded -'No expense be incurred in presenting a petition to the House of Commons against the Swannington Railway Bill.' All such efforts were to fail and the Swannington Railway obtained its Act on May 29th 1830. The first locomotive called the 'Comet' was built in George Stephenson's Railway Works at Newcastle and then dispatched by sea to Hull and then in what must seem a grim irony by barge up the Trent, Loughborough, and Leicester Navigations to the County town to have its opening run from Leicester to Bagworth on July 17th 1832. Share values in the Loughborough Navigation fell from £2,300 to £1,670 in the same year. The Loughborough Navigation dividend table notes a drop of nearly £40 between 1832 and 1837 but then recovers itself until 1840. A similar pattern is reflected in the Leicester Navigation toll receipts dropping from £11,788 to £8,882 in the same period before recovery. Coal passing down the Erewash Canal dropped by 20,714 tons in 1834 from the previous years figure of 316,187 tons but then goes on to climb to a record 420,418 tons by 1840. This high figure is even exceeded in 1847 and only begins its notable drop in 1850 to 380,641 tons in a long decline against railway competition. The reason for these initially improved figures is not a winning back of trade from the railway but the ever increasing demand for coal.
Population was rising and new industry was turning substantially now to steam driven mills and other works. Watermills could no longer keep pace with new industrial power demands. Steam power created independence from waterways from which led industry further away from them. With the railway network growing larger year by year so their share of the coal trade increased at the expense of the canals.

The Swannington Railway experience was but a taste of the eclipse in the Loughborough Navigation's fortunes like those of other canals to come. Coal from Swannington in 1832 was being sold at less than ten shillings a ton in Leicester and was eventually to represent a saving of £40,000 a year in fuel costs. There were fears of unemployment in Eastwood and other Derbyshire pits and the coal owners endeavoured to get a reduction of 3/6d ton on coal delivered to Leicester. The Erewash and Loughborough Navigation would only agree to a reduction of 1/6d suggesting the coal owners reduce their own prices by 2/- a ton. This meant a reduction of 6d. on the Erewash, Loughborough, and Leicester Navigations. Disagreement followed and some coal-owners established a committee afterwards resolving to lay a railway from Pinxton to Leicester, and approaching Mr. Jessop the engineer with such plans. To further trouble the Loughborough Navigations prospects in 1832 was an idea by the Leicester Navigation to rebuild their Charnwood Forest Canal and line to bring more competition against Derbyshire coal with a loss of tonnage rates to them. Neither of these particular schemes were to be achieved but in the new railway mania dawning they joined in opposition with the Erewash Canal in December 1833 to oppose the Midland Counties Railway Bill after previous months of agitated meetings concerning proposals for it reported to them and in newspaper reports. This line linking Derby and Nottingham would cross the Trent within very sight of the horse ferry crossing at Trent lock, and cutting through Red Hill run up the Soar Valley to Loughborough and Leicester. In 1874 on December 16th the Loughborough Navigation faced yet another proposal for a railway from Swannington to Zouch on the river Soar. The intended company proposed to pay the Loughborough Navigation 6d a ton for all coals and lime passing up from Zouch
to Loughborough.\(^{(68)}\) This was a scheme proposed by the Leicester Navigation Company to bring local Leicestershire coal on to their canal system and counter the threat of increased supplies of Derbyshire coal being brought on the proposed Midland Counties Railway. This they rightly saw as a definite issue in the future prosperity of their navigation. But the Loughborough Navigation rejected the scheme since it was hardly likely to help their own navigation by cutting back on Derbyshire coal, that still came by canal from the Erewash Valley.

Further south the Union Canal was forced to make drawbacks on tolls in competition with the London and Birmingham Railway and the Loughborough Navigation coal tonnage rate was reduced to 7d to try and counter it also. Surrounded by threats to trade the Loughborough Navigation fought back over the next twelve years opposing every railway scheme that came near them or adjacent canals. Representations to Parliament, meetings, and anti railway publications were issued. In 1834 they paid Mr. Richard Cort £5 for his pamphlets, 'in shewing the fallacy of railways.'\(^{(69)}\) Feelings must have been incensed on August 12th 1836 when the first meeting of the Midland Counties Railway Proposers was held at the Bulls Head Hotel in Loughborough.\(^{(70)}\) In December that year the Loughborough Navigation resolved to join the Erewash and Leicester Navigation in opposing the Midland Counties Railway Bill in Parliament.\(^{(71)}\) Their efforts were to fail and on May 5th 1840 the section over the Trent to Loughborough and Leicester was opened. The dramatic significance of it is illustrated in the 1841 lithograph (see Plate 9) showing Butterley's new railway bridge over the Trent and the barges turning into the mouth of the Soar in the foreground with the horses waiting to take up their towlines.

The railway link from Leicester to Rugby was completed two months later but the extension to St. Pancras in London was to wait until 1868.\(^{(72)}\) This meant that long distance traffic of goods and especially coal, remained a viable proposition from Derbyshire through the Loughborough Navigation toward London.

In a letter written by Thomas Cradock, clerk to the Loughborough Navigation, to William Addam a shareholder in Harmsworth, near Doncaster, on May 20th 1841, he made the
The lithograph above was made sometime before 1846. In the foreground open barges coming downstream on the River Trent are poled round into the mouth of the River Saar on the right. On the bank the horses wait to take up their towlines to proceed up the Loughborough Navigation.
following observation. - 'As respects the prospects of the canal I regret to say I consider them very gloomy. The railway company have already succeeded in obtaining the greater part of the traffic in merchandise and are making great preparations for the carrying of coal, which during the last fortnight they have done to some extent, and to counteract this the canal company's must reduce their tonnage which will consequently lower the dividends. - I am not aware of a share having been sold during the last 12 months. I have lately heard of £1,400 being offered and refused. -'

The enclosure also contained a rare surviving abstract of account from the previous March showing £8,550.16.10d taken in tonnages at Loughborough toll house and £367.1.9d at the Red Hill Lock. This left after expenses a balance of £12,431.13.0d in the treasurers hands. (73)

In March 1845 the Erewash, Cromford, Nottingham, and Loughborough Navigation Company's jointly opposed the Erewash Valley Railway scheme. Again in November 1846 they opposed the sale of the Cromford Canal to the Manchester and Buxton Railway. In December the same year the Loughborough Navigation had to pay £285.7.7½d as a fourth share incurred in opposing the sale of the Cromford and Oakham Canals and other measures in the session of Parliament for 1846. (74)

Significantly on 1st January 1847 the Loughborough Navigation resolved to allow trading boats carrying goods be 'allowed to pass through locks at all hours on paying in advance for such licence' -, such was the competitive pressure now. (75)

If most of the railway schemes were to succeed one curious one was stopped successfully in 1846. It was in effect a proposal by George Stephenson the engineer for a mineral railway from Derby to Rugby and on to London passing through the Soar Valley. The Loughborough, Leicester and Oxford Canal Companies were to be invited to join him in the undertaking, and a letter from Mr. Adcock of the Leicester Navigation mentioned that £24,000 to £30,000 had been mentioned in valuation. The reply from the Loughborough Navigation was to be as spirited as ever resolving - 'that this committee without offering our
opinion on Mr. Stephenson's proposition (possibly unprintable) consider that they ought not to entertain any question likely to prove detrimental to the interests of those Canals with which they have hitherto acted in Union." (76)
Notes on Chapter 6. Prosperity & Development. 1794-1850.

5. Leic.N.M.B. op.cit p.374-5.
8. Leic.N.M.B. op.cit p.404-5
10. Ibid. 7 Jan.1805
11. Ibid. 30 June 1809.
13. Ibid. p.216.
15. Ibid. p.278.
19. From the Sale Catalogue.Loughborough Public Library. Local History Collection.
20. Ibid.
21. Ibid.
22. Ibid.
23. Original deeds now property of Mrs.MacNamara,Brooklands, Canal Bank, who allowed examination.
26. Ibid. p.190.
27. Cradock historical data kindly supplied by Woolley, Beardsley & Bosworth. Solicitors. Also Miss P.White from will studies Record Office and Loughborough burial records. Dates also cross reference with L.N.M.B.\(^2\). refs. op.cit.
28. L.N.M.B. 2. op.cit under all relevant dates.


32. Ibid. p. 15 & 119.

33. Ibid. p. 121 & 126.

34. Ibid. p. 55-56.

35. Ibid. p. 85.


38. L.N.M.B. 2 op. cit. p. 11.

39. Leic. N.M.B. op. cit. ef. 3D42"4 -7/4.


42. Ibid.

43. Ibid.

44. Ibid.


46. Chandler. op. cit. p. 33.

47. Ibid.


51. Chandler. op. cit. p. 34.

52. Ibid.

53. Original in Leicester Record Office, T1/207/2.


55. Hadfield. op. cit. p. 84.

56. Ibid. p. 85.

57. L.N.M.B. 2 op. cit. p. 187.

58. Ibid. p. 197.

59. Ibid. p. 207.

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64. Ibid. p.6.
65. Ibid. p.6-7.
66. Hadfield. op.cit. p.84.
68. Ibid. p.253.
69. Ibid. p.253-4.
70. Deakin. op.cit. p.43.
71. L.N.M.B. 2. op.cit. p.265.
72. Deakin. op.cit. p.43.
74. L.N.M.B. 2. op.cit. p.356-357.
75. Ibid. p.358.
76. Ibid. p.354.
7. The Loughborough Navigation and changing transport systems.  
1850-1932.

The share Dividends and tonnage income 1851-1895.

The sums paid out in shares recorded below are derived from the Loughborough Navigation Minute Books and help to illustrate the changing fortune of the Company after 1850.

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The figures in brackets are estimated for lack of minute book reference. In 1864 no half year dividend was paid out due to expenses incurred in rebuilding Zouch Mill which was burned down on the night of 9th February 1863. In the first half of 1879 the dividend was again notably low which was explained in a letter by the Navigation Clerk "W.J. Oolley to the shareholder William Aldam as due to 'serious long continued interruption of traffic - by frost and floods, and to the heavy outlay at Kegworth Mill and Ratcliffe Weir (that had burst)
amounting to nearly £400, which sum has been entirely defrayed out of revenue. (2)

Decline in Trade.

To try and counter the threat of the railways the canals generally including the Loughborough Navigation increasingly practiced a policy of reducing tonnage rates in an attempt to retain their trading custom. At times these endeavours reduced any profit to little more than 'break even' level. The effects on good canal maintenance and the necessary reduction in share dividends brought about the closure of many branch canals.

The share dividend figures derived from the Loughborough Navigation Minute books tell their own story of the decline in trade. Comparative figures for actual tolls taken and tonnages passing through can only be directly derived here by the survival of a few references to the shareholder William Aldam and later his son in the Goodchild Collection, Wakefield. (3)

In 1841 the total tonnage revenue had amounted to £8,917.18.7d. By 1855 the Clerk Mr. Cradock was writing regretfully that -'the Leicester Navigation Committee have just raised their tonnage on Coal to their highest Parliamentary Rate from 4d. to 1s.0d. a ton with the intention of compelling the Loughborough Company to adopt a scale of tonnages dictated by them, this step must entirely stop the Coal Traffic.' (4) This had been a belated attempt by the Leicester Navigation to prevent losses in dividend but it quickly failed when canals in general tried to compete by actually cutting rates to compete with the railways. By 1882 the tonnages taken by Mr. Henshall at Loughborough Lock came to £1,590.2.9d. and Mr. Jabez Lewin's at Red Hill to £381.4d. (5) In some 40 years the difference between totals of £8,917.18.7d. and £1,678.4.1d in 1882 is dramatic, by 1895-6 the tonnage figure had dropped to make the figure £1,204.14.2d. in toll income. By 1882 it was decided to make financial dividend payments in May and November instead of June and December. (6) After this date payments on dividends declined again to £6 and under. The lower figures that occur on the left of the share payment list may again be accounted for by traffic delay and expenses caused by the previous winter.
Some attempt to hold in check the effect the railways had on canals was made in the Governments Regulations of Railways Act of 1873, and the Railway and Canal Traffic Act of 1888 which took measures to prevent outright control of railways over canals except under careful safeguards that gave some protection to tonnage traffic rates and livelihood. (7) In a series of hearings for objections and amendments from various interested parties some interesting detail emerges for trade on the Erewash and Loughborough Navigation in 1894. Trade in Ammoniacal liquor is mentioned. (8) This waste product produced by town gas works was taken to near Derby for conversion to tar products, creosote, etc. A pipe from the Loughborough Gasworks ran to the towpath side of the wharf and supplied tanker barges with the product for taking away and up the Erewash Navigation. Mr. Blunt, Managing Director of the Mountsorrel Granite Company mentioned supplies of Granite amounting to 13,651 tons being supplied by boats to points up the Erewash for Highway Authorities of Langley Mill, Ilkeston, and Nottingham. (9) Mr. Frank Bridal Harris, Deputy Town Clerk for Nottingham quoted orders of Mountsorrel Granite in the form of 'sets' and chippings sometimes reaching a total of 20,000 tons a year. (10) In addition such supplies were also known to come to Loughborough and were offloaded just below the wharf on the towpath side and over a bridge crossing the Woodbrook into the Corporation Yard from the canal. Later an overhead crane was installed. (11)

Manure from Nottingham is also mentioned, but this product from stables and middens does not seem to normally go more than three or four miles up the Soar from the Trent due to high toll charges for supply to farms. Coal supplies, pig iron, and castings still coming from the Frewash, together with 'all sorts of goods from Nottingham.' (12) Cargoes of gypsum or alabaster were also making runs along the Loughborough Navigation from the Kingston on Soar mines not only to the Trent but also the plaster grinding works established in the watermills at Kegworth, Zouch, and Barrow on Soar.

In figures given in a Royal Commission Enquiry on Canals in 1905, the Loughborough Navigation is still commanding a
respectable trade in 1888 with a record of dealing with 79,630 tons of goods bringing in a toll revenue of £1,431. This together with other income from mill, land and property lease rents gave a total of £1,953 income for that year. By 1898 toll revenue had fallen to £1,083 and total income to £1,592. The Commission reported that the main income was derived from the transportation of coal goods, road stone, plaster stone, and ammonia liquor. (13)

**Navigation Decline.**

From the 1840's the decline in the fortunes of the Loughborough Navigation were marked not only locally by the opening of the Midland Line through the Soar Valley to Leicester and Rugby in 1840, but by the development of railways over the whole country and their buying up first smaller, and later large canals leaving only main artery systems. Reflectively the pattern was repeated one hundred years later under Dr. Beeching's cuts and the development of heavy road haulage systems, and the social revolution of individual car ownership changing the transport economy.

Locally the loss in tolls to the Loughborough Navigation increased their slide a little in April 1845 when the Oakham Canal (see Map 11) agreed to sell its business to the Midland Railway which completed its line from Leicester to Melton Mowbray and Oakham in May 1848. (14) This also badly affected the Wreake Navigation and in June that year their Clerk wrote to the Loughborough Navigation saying that, 'unless something is done to compete with our Rivals this canal will not receive sufficient to keep it open,' (15) tolls were drastically reduced to 6d per ton on coals in 1849 which was the lowest they could go with the threat of no dividend. But the Loughborough Navigation had problems enough and could offer no help. In 1851 they made drawbacks themselves of 3d per ton on coal passing to the Leicester Navigation, that helped the Wreake Navigation a little. (16) A further 1d on the 4d tonnage rate was taken from coal coming down on the Cromford Canal which was already under the control of the Manchester, Buxton and Matlock Railway Co. (17) In 1852 they had to pay out £144.18.2d expenses as their share with the Leicester and Wreake Navigation's
petition in Parliament against the lease of the Cromford canal -see Map 11- being leased to the larger London and North Western Railway. This was to fail for the canal companies. (18) Later that year a further drawback of 1d was allowed by the Loughborough Navigation on coal entering the Wreake on the provision that the Erewash Navigation gave aid by doing the same. (19)

In 1853 the Clerk Thomas Cradock was in London with other Canal delegates trying to induce the Committee of the House of Commons to protect minimum toll rates in relation to Railway amalgamation and takeover of canals, with seemingly little effect. (20)

In 1854 further tonnage rate reductions were made reducing the figure by 1d. from 6d to 5d on goods to Leicester.

The rate for Northampton was reduced from 6d to 4d, Aylesbury, Bucks. and Wendover from 5d to 4d, and Paddington from 7s. 6d to 5s. 4d. (21)

On 22nd July 1856 a major meeting took place in the Kings Head Hotel, Loughborough, with the Erewash, Leicester and Union Canal representatives and it was agreed to make a reduction on coals navigated on the Erewash and Loughborough Navigation to 4d a ton. (22) A more localised reduction on coals delivered to Kegworth of 2d per ton was made in 1858. (23)

On December 29th 1858 the Loughborough Navigation Committee had a further sobering Christmas letter read to them, -'Our Clerk informed us that notice has been given for an intended application to Parliament for making a railway from the Midland Railway in the Parish of Barrow on Soar to Mountsorrel Hills crossing the Leicester Navigation near that place. The Committee received an application from Mr. Joseph Cuffling, the agent to the Mountsorrel Granite Co. for a reduction of tonnage on stone sent by that Company.' (24) The threat was clear because for most of the 19th century considerable quantities had been used not only to maintain towpaths on the Loughborough Navigation, but also came through by the boatload in the form of granite sets or paving stones for Nottingham, Newark and elsewhere. This was as well as the considerable cargo that passed south on the Leicester
Navigation for London where one can walk on them still about St. Pancras and Covent Garden. Yet again crushed granite was being increasingly used in tar macadam for road making from the early 19th century. The effect at the meeting was to order a reduction of 2d on a ton on all broken, rough, and road stone navigated on the Loughborough Navigation to commence on 1st January next. *(25)* Even this swift response did not prevent the Midland Line throwing a mineral branch line across the Soar Valley with an impressive brick arch proudly bearing the date of 1860 in the spandrels over the Leicester Navigation and into the granite quarry. The great days of the granite trade by barge were now numbered, although a small localised traffic did continue.

By 1862 the Wreake Navigation Company were desperate and a letter from them was read on June 27th in Loughborough from their Clerk Mr. Latham stating their intention to get rid of their canal and whether the Erewash or Loughborough Navigation would purchase it or if not - 'they must try what they could with the Midland Railway Company.' *(26)* The offer had to be declined in the economic circumstances and such was the confidence now of the Midland Railway that they expressed no interest either. They were to struggle on for a few more years paying a ½ per cent on their shares in 1868 from tonnage receipts down now to £327. The navigation on the Wreake finally closed on 1st August 1877. *(27)*

In the meantime despite an overture from the Midland Railway in 1860 to cut out the price war and to raise coal tolls on both rail and canal to an economic level the ever growing railway network and speed of delivery with ever more powerful engines left the Leicestershire canals generally little joy.

The transfer of coal transportation to the railways in increasing quantity is also indicated in local trade directories after the 1860's. This takes the form of listed coal merchants who originally were heavily named in canal vicinities like the Rushes and Bridge Street in Loughborough and then go nearer to railway yards. In Loughborough the station yard and Nottingham road area sees this increase.
In April 1863 the Loughborough Navigation Company joined others in an abortive Parliamentary fight against the Newport Pagnell Canal's proposed conversion into a railway. The Bill was passed in June and they had to face a bill of £591.10.1d. as their part of the expenses incurred the following October. (28)

By 1868 the Midland Railway completed its southward link from Rugby to St. Pancras and coal and other goods gradually became the near monopoly of the railway system. By the time the London and North Eastern Railway completed their last great main line system through the Soar Valley, cutting across the Loughborough Meadows on its viaduct and landscape changing embankment in 1898, its coming was of more concern to the Midland Line than the Loughborough Navigation. Only one mention of it is made in their Minute books: the fighting days were over.

In 1915 Charles Kelsey boasted - 'There is not a village in Leicestershire today that is more than five miles from a railway', (29) which is economic epitaph enough.

The Grand Junction Proposals. 1863-1901.

As early as 1863 the Grand Junction and Canal Company had proposed a scheme of waterway amalgamation in the Birmingham, Coventry and Leicester area to combat railway competition but nothing ever came of this. In 1894 further attempts were made to link up the systems from London to the Trent. The Loughborough Navigation Company heard a letter written to them by Mr. Herbert Thomas of the Grand Junction Canal Company on the 17th October asking if they would either sell their property or agree to a uniform load toll on through traffic. A sale was rejected but 2d toll on all traffic would be considered provided a guaranteed minimum sum of £200 was ensured. (30) With no firm decision made matters dragged on until 1896 when a traffic agreement was finally made to commence on the 1st January 1897 which also gave the Grand Junction Canal Company an option to purchase the Loughborough Navigation within three years for £25,000. (31) At the Loughborough Navigation's annual general meeting on April 24th 1900 a long letter from the Grand Junction Canal Company outlined reasons why by then they were in no financial state to make an outright purchase and the scheme was abandoned. The desire was expressed that further meetings with some form of amalgamation take place,
and in December 1901 Loughborough share holders recommended a proposal to accept £200 per share with representatives of the Grand Junction Council. In the end this price could not be agreed to and the whole scheme fell through. (32)

The Final Independent Phase. 1895-1932.

The income derived from toll tonnages has survived in two treasurers account books for 1895 to 1916 and 1916 to 1927. These together with the share pay outs by the Loughborough Navigation derived from their last two minute books show the final declining years of the company in the following table. Toll trade figures steadily decline until 1908 when there is some recovery to 1890's levels until the outbreak of the first world war.

In the first two years of the war tolls and receipt figures came under the control of Government Port Offices of the Board of Trade who gave no receipts. This led to no share dividends until the end of the war in 1919 since the Government action only allowed the canals to revert back to private control on 31st August 1920 with £3 million paid out to all the companies and carriers since 1st March 1917. The Government seems to have belatedly realised during the war that canals could still play an economic role in the carrying of heavy freight like coal.

Rises in labour and material costs made recommendations of the pre-war Royal Commissions on the canals difficult. A Government committee under Mr. Neville Chamberlain set up after the war suggested improvement to the Trent in 1921, but also voted against nationalisation since the liabilities of all the waterways would be greater than the Country would want to face. Seven regional groups of waterways were suggested each under public trust with the Ministry of Transport, local stockholders, users and public bodies represented on them. The first of these listed was the River Trent and its connections. The idea too was to prevent the railways, now formed into four main companies, from uneconomic competition with them. They too however were feeling the pressure now from the ever increasing competition of the motor lorry. Nothing ever really came of these ideas or those of further Royal Commission reports in 1930. (33)
To make ends meet - the post war years.

The financial situation in the post war years of the Loughborough Navigation became increasingly critical. With reimbursement by 1920 the figures appear to improve to 1890 levels again until 1922 with even a bonus of £5 in that year. But post war payments were only being paid out once per year effectively halving the dividend that had been paid out until 1915. Furthermore the purchasing power of the £ was lower and labour costs higher. The pre war term in the accounts to dividends 'inclusive of income tax' was now also changed to the term -'less income tax'.

Every endeavour was made by the Company to survive. Applications were made in July 1920 to the Ministry of Transport to secure increased toll rates as - 'absolutely necessary'. (34) Coal to the Electric Power Station at Leicester was established at a minimum of 6½d ton provided a minimum of 14,000 tons were carried - presumably from the Erewash in 1922. A rebate of ½d. ton was offered to all trades carrying goods in excess of 5,000 tons in the same year. (35)

In 1924 an agreement was made to rebate 1d ton to Messrs. Harrison and Company on all coals carried to the Power Station in Leicester (and possibly Loughborough) from Shipley Wharf on the Erewash. (36)

The Loughborough Navigation Clerk also reported that traffic to Loughborough Coal Wharf -'had disappeared altogether' and the committee resolved to make a nominal charge of 6d a ton for boats to proceed from the Trent to Loughborough Wharf to attract custom - which it later did to some extent. (37)

Tonnage toll income and share dividends 1895 to 1931.

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<td></td>
<td>Nil</td>
</tr>
<tr>
<td>1928</td>
<td></td>
<td>Nil</td>
</tr>
<tr>
<td>1929</td>
<td></td>
<td>Nil</td>
</tr>
<tr>
<td>1930</td>
<td></td>
<td>£2</td>
</tr>
<tr>
<td>1931</td>
<td></td>
<td>£3</td>
</tr>
</tbody>
</table>

TONNAGE TOLL after 1927 is not accurately known. Share pay out was suspended 1916-1918 due to hostilities. £3 in 1919 was made in anticipation of return to normality. No payment can be found for 1924 or 1926-1929. (References Lough. Nav. Min. Eks. 3 & 4-Pail 849 & Treasurers Account Books 1895-1916 & 1916-1927-Pail 849/9/10.)
A small financial relief is noted in the same year when in payment of £16.11.0 per annum the Trent Navigation Company undertook to make no charge on boats crossing the Trent from the Erewash Canal to the Soar for a period of ten years from 1st January 1926. The tile works of Hathernware near Zouch and G. Tucker and Sons, brickworks near the Leicester Navigation in Loughborough brought further small respites by making some use of canal transport. The rate of 2d. per ton was fixed on bricks going from Zouch wharf to the Trent and 6d. per ton for bricks from Loughborough to Long Eaton. A 1d. toll on traffic was fixed for goods coming off the Leicester Navigation down the 300 yards to the Loughborough Basin. In November 1926 further toll negotiations went on with Loughborough Corporation. In effect they wanted to reduce their expenditure by having any annual payment surplus credited to the following year if deliveries of gravels and ash for road works etc. did not reach the tonnage delivery they themselves might estimate for at the start of a financial year. The Trent Navigation Company also negotiated a through toll from Nottingham to Leicester for spirit in locked tanker barges. The coal trade came into limited existence again with supplies for the Power Station and Gasworks. The Erewash Canal Company took a lease on the main Loughborough Wharf with a rental of one shilling a square yard per annum on land having sixty feet of water frontage. Tonnage was to be paid on a guaranteed 5,000 tons per annum at the rate of 5d. per ton from Shipley Wharf on the Erewash Canal. Any deficiency in this figure was to be paid at the rate of 6d. per ton.

This trade saw a small rise in tonnage income over 9 months ending 30th September 1926. The figure of £539.6.4d. was quoted compared to £789.15.9d for the whole previous year. The Clerk to the Loughborough Navigation noted that six boats had been purchased by the Erewash Canal Company to try and encourage this coal trade. This led to the purchase of a pair by the Loughborough Navigation for £200 by December 1926. Also at this time it was agreed to reduce tolls from 6d. to 4d on goods from Humber Ports - probably Scandinavian timbers, provided the Leicester Navigation agreed.
In July 1927 the Loughborough Navigation decided to look for a second hand steam crane to help offloading facilities on their main wharf. By September they rallied their resources to purchase a -'New Electric Locomotive Crane' - from Messrs. Taylor and Hubbard of Leicester. This ran the length of the main wharf on rails with a large grab to unload coals. The cost of the crane was £533, the grab £100, cable £28, and a cable coiling drum £32. (46) See also plate 10.

All these efforts were a series of last ditch stands to try and win back trade to the navigation. Despite tiles, bricks, and coal to the power stations their revenue alone could not sustain the costs of maintaining the navigation without many other firms being prepared to use it for goods transport. The coal trade did not expand because by now coal firms were running their own lorries direct to pit heads to pick up supplies, or to railway siding depots and saw no advantage in using canals.

Inevitably this forced the Loughborough Navigation to consider selling off some of its property assets to meet their expenses. The first of these came about almost coincidentally when Leicester County Council were proposing to rebuild Zouch river bridge in 1929. They purchased 2170 square yards of land just downstream from the 18th century bridge site belonging to the Navigation Company for £100 plus costs. (47)

A more major sale was that proposed at Zouch with Mr. R. Sutton Clifford acting on behalf of Worthington Brewers Ltd. for property and the Rose and Crown Inn against the wharf and canal there for £5,000. (48) This transaction was not to be finalised until later in 1937.

Despite their efforts the Loughborough Navigation Company were only just surviving by themselves and on 14th March 1930 the last Clerk Mr. M. J. Woolley reported on a meeting with Mr. Curtis, chairman of the Grand Union Canal Company in London following an enquiry as to whether the Loughborough Navigation would sell its undertakings. (49) This company formed in 1929 saw a possible future in streamlined long distance canal systems carrying heavy traffic, especially timbers and coals. "What had to be swept away to achieve this was the independent small systems on canals, each with their own tonnage rates to negotiate and locks"
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CRANAGE FOR
GENERAL CANAL USE
A SPECIALITY

Standard Pattern
3-Ton Single Motor
Electric Crane
Single chain rise discharging Grab

Advertisement for Taylor & Hubbard Ltd. Cranes showing the precise model purchased by the Loughborough Navigation Co complete with its grab.

The crane on the Loughborough Wharf in November 1963 prior to being cut up by the British Waterways Mechanical Dept. The materials were bought by Tricks of Nottingham. The large barn like structure beneath the jib in the background stored granite chippings for the Corporation offloaded from boats with an overhead crane running on a girder track at the roof level. Photo J.R. Felstead.
or other equipment with no standardised replacement units. With much of their revenue derived from the surviving long distance canal traffic, they had invested capital in obtaining control over the route from the Regents Canal Dock at Limehouse in London through to Leicester in 1929. Their ultimate aim was to link through to the Trent system and the Derbyshire coalfields. Only the three small companies stood in their way now, the Leicester, Loughborough and Erewash. Unlike the times in the late 19th century when the Grand Junction Company had tried amalgamation, these remaining small navigations no longer held much in the way of future prospects for themselves. In May 1929 the Loughborough Navigation had only a balance of £279.0.1d after expenses. Negotiations went on and a final agreement was made on 12th February 1931 for purchase as follows - 'In respect of waterway £2,168, crane and weighing machine of £1,027, property £8,400, - total £11,595.' To be deducted was Compensation to the Clerk for loss of Office £750. Compensation to the Committee for loss of Office £500, leaving a residue to the shareholders of £10,345.

This 'knock down' price reflects the bleak alternative the Loughborough Navigation were faced with - a price little more regardless of monetary values than the navigation had cost to build in the 18th century. Certainly again it is a figure far removed from the option purchase price of £25,000 made by the Grand Junction in 1897.

On the 1st January 1932 the Leicester Mail and Leicester Mercury simultaneously announced the handing over of control to the Grand Union Canal Co. in a grand merger, the Leicester, Loughborough and Erewash Navigation Companies ending the existence of what were probably the last three small but major canal companies surviving into the 20th century in totally independent form.

In the offices of Messrs Woolley and Noel in Rectory Place Loughborough on the 31st October 1932 the final act took place in the presence of shareholders, C.H.Martin, Walter Mountenay, M.J.Woolley the Clerk, H.H.Speight, and Herbert Godkin, joint liquidator. Accounts were submitted and winding up concluded. The Company of the Proprietors of the Navigation from the River Trent to the Town of Loughborough founded in 1776 passed into history.

- 169 -
What must be stressed here though is that the Grand Union Canal Company were able in the years that followed to bring about much needed improvements bridging the gap in the pre-second world war years leading to survival and a new social future.

_Some people of the Loughborough Navigation Company._

The Clerk to the Company from 1838 to 1863 was Thomas Cradock, the last of the family to succeed to the office since its foundation as we have already noted. (53) He was succeeded by his partner William John Woolley, and at about this time a move of offices was made from the original property where the town General Post Office now stands in the Coneries to the Georgian Style house in Rectory Place, now the solicitors offices of Woolley, Beardsley's and Bosworth. W.J.Woolley served for 33 years and following his death was succeeded on the 26th October 1896 by his son George Henry Woolley. The last Clerk to the Navigation was Mr. Maurice Theodore Woolley who took office in April 1923. Throughout 146 years two families and a single professional partnership had administered to the affairs of the Loughborough Navigation. (54)

On the navigation itself they were in apparent need of a good surveyor and engineer for maintenance again by 1860 and enquired of the services of Mr. Henry Giles of Fradley Junction near Lichfield, surveyor of the Trent and Mersey Canal. Together with his son Nicholas Giles he checked both the Erewash and Loughborough Navigation noting the bad state of the Erewash bridges. He offered his services for eight years at the rate of £46 per mile for the Erewash, and £49 per mile for the Loughborough Navigation annually. The price obviously did not please for it was resolved to keep maintenance in the respective Companies own hands, loss of revenue to the railways may have influenced decisions here. (55)

In 1879 Mr. Lewin at Red Hill tollhouse was reporting on - 'a great falling off in the quantity of manure formerly brought by Nottingham Corporation', which he attributed to the boat charge or toll being 6d a ton more than the railway. His report resulted in a uniform toll of 3d a ton being made to
come in line with the railway charge. His abilities attracted the Erewash Navigation Company who by arrangement with Loughborough obtained his exclusive services in May 1885 on their navigation.

It was resolved to replace him at Red Hill by a 'married man' whose only duties would be to take the boat gauging necessary and keep toll accounts on an annual salary of £20. On October 28th 1885 Mr. William Mills, a basket maker of East Leake, Nottinghamshire, was appointed, that was to lead to an additional thriving basket works at the Red Hill Lock. Basket making, using young willows or osiers as they are known is recorded in the Soar valley at least up to Leicester since the 18th century in trade directories and elsewhere with several names recorded in Leicester and Loughborough. The quality of work produced eventually gave pre-eminence in England to the industry developed in Castle Donington, Kegworth, and South Nottinghamshire. Many osier beds were established in the lower Soar valley especially near the watermills and many boats returning empty from delivering coal to Leicester were loaded with osiers near Loughborough and elsewhere and delivered them to Red Hill and later to the mill at Kegworth that became a centre for the craft. William Mills came from a family who had been basket makers since at least the 18th century and his income was well supplemented by his trade.

The Watermills and the Gypsum Line.

The watermills at Zouch and Kegworth owned by the Loughborough Navigation experienced variable fortunes over this period and suffered eventually the fate of so many others with the rise of steam, gas, and electric power that made reliance on them redundant for new industry. On the night of the 9th February 1863 Zouch Mill caught fire and burnt down. It had been on lease to Mr. William Paget, a navigation shareholder, and a Mr. William White. Negotiations over their liability to rebuild - 'allowing for age and condition' seems to have ended in a compromise. Certainly in June 1864 no dividend was paid on shares to help cover the cost of
Mr. Thomas Barker, a Loughborough Builder, made a tender of £466 to rebuild it and Samuel Ride of Leicester, a millwright, quoted £840 for the machinery in October 1863. The total bill eventually came to £1,327. Mr. Warner checked its efficiency and they insured it for £1,000 in June 1864. Mr. Paget no longer wished to continue his tenancy - giving up the lease on Kegworth Mill at the same time. Zouch Mill together with seven acres of land, stables, two cottages, and the fishery were let to Mr. Samuel Goodacre of 'Sheepshead' for £140 per annum who named Mr. William Tomlinson of Beacon Cottage near Loughborough as his surety for rent. In April 1867 he was allowed to 'build over the water wheel and enclose the space between the flour mill and the old Worsted Mill as his Garners and storing room were much contracted' - at a cost not exceeding £100. Even today one can distinguish the two separate structures. Each had its own waterwheel originally. In April 1870 Mr. Goodacre received permission to convert Zouch Mill into a Flaster Mill on the undertaking to make the machinery good if strained by use.

In the same relative period Kegworth Mill, which was run by Page and White, corn millers, was taken over by Henry Winser on lease from the Loughborough Navigation in 1868. He was born in 1834 at the riverside 'Hermitage' just above the mill and had established himself in the local directories by 1870 as 'Winser and Co.' plaster manufacturers. The change in use of both mills needs a little background information.

Locally found Gypsum or Alabaster had been used in Roman times in mosaic work, and for fine religious carvings and tomb making principally by the Nottingham school of carvers since the middle ages. In the 18th century ground Gypsum from South Nottinghamshire including Red Hill was sent to London to form paint foundations by artists colourmen. It was even advertised as a good fertiliser in the Leicester Journal in 1787. Columns of it were used from the Kingston on Soar Mines to form the great marbled entrance hall of Kedleston Hall in Derbyshire, and fireplaces nearer to hand at Stanford on Soar Hall. Most commonly from the 18th century was its use for
decorative plaster ceilings, pargetting or plastering house exteriors and plaster floors. William Sheppard associated with Red Hill Farm near the lock and tollhouse had a mining business at Redhill up until about 1850 when operations were transferred to nearby Gotham. The stone was taken to the two mills by regular teams of horse and cart. (68)

In August 1879 following negotiations with Earl Howe of Kingston on Soar Hall to open a new mine there in the Crownend Wood, an approach was made to the Loughborough Navigation by Mr. Franklyn Winser for a wharf adjacent to the entrance of the Kingston Brook into the river Soar. Tonnage charges for water transport were also asked - 'taking into account competition the firm had to contend with on the Trent side of the Hills a large quantity of stone going to Lincoln and Newark'. The wharf was agreed to, but no expense for its construction was allowed and 1½d a ton charge was to be made for barge transportation to Kegworth Mill and 2d per ton to go onto the Trent below Red Hill Lock. (69) Mr. Goodacre at Zouch also took advantage of this and had a small fleet of horse drawn barges bringing the material to Zouch Wharf and turning down the mill race off the navigation for delivery. In January 1885 he caused damage to the towpath timber horsebridge with his boats at Zouch in this-'very liable and trying' manoeuvre and he promised more supervision and care in future. (70) The names of his barges are recorded as 'Royal Standard; Pride of the Soar; Two Sisters; Alice; Jumbo; and Ashton'. (71) Mr. Goodacre also had a lease on the watermill at Barrow on Soar which was used for plaster grinding as well. Recollections of Mrs. R. Fletcher and others of the last generation of those on the working boats or barges speak of the practice of taking the odd lump of gypsum and carving it with a knife. Small translucent pots were also made by them and mine workers from both Red Hill and Kingston stone. (72)

A mineral railway line was completed in 1873 from the mine to the river wharf with a branch also to Kegworth railway station by Oliver Durham. Horse drawn wagons which experienced
several accidents were replaced in 1885 by a steam locomotive. This was an 0-4-0 Saddle Tank engine number 81 built by the Falcon Engineering Company at Loughborough and named 'Lady Margaret' after the second Lady Belper of Kingston Hall. Meanwhile traction engines also supplemented horses and waggons in taking supplies to Kegworth Mill. The 'Lady Margaret' locomotive remained in service until 1926 and is illustrated in plate 11. In 1926 she was replaced by 'Lady Angela' named after the third Lady Belper and purchased from Peckett Brothers of Bristol. \(^{(73)}\)

In April 1898 Mr. Goodacre was applying for rent and tonnage rate reduction because of the serious competition he was facing from new mines and machinery at East Leake and Gotham and the opening of the Great Central Railway about to take place. He could foresee Zouch Mill's future in serious danger. He obtained a rent reduction on the mill from £190 to £170 and tonnage on the navigation reduced to 3d. per ton. \(^{(74)}\)

By 1904 Winser and Co. gave up Kegworth Mill under the mounting competition - Mr. Winser being allowed 'temporarily to leave his pleasure boat on the premises.' In 1906 the mill machinery and boilers were sold to John Jones and Sons, iron founders, by the Leicester Navigation in Loughborough for £190. \(^{(75)}\)

It appears then to have remained empty until 1910 when the Loughborough Navigation Company had Mr. Kendrick arrange for part of it to be leased as a miniature rifle range to the Kegworth rifle club and another part for a football club dressing room. \(^{(76)}\) In 1918 both mills were visited by the Clerk Mr. M.J. Woolley with a Captain Martin in a motor boat, and as a result it was decided to dismantle part of Kegworth Mill and realise the materials. In April 1920 Mr. F.W. Mills and his son Mr. B. Mills the basket makers associated also with the Red Hill tollhouse leased the remains of the Mill for £25 a year from the Navigation Company to give it a further lease of life. \(^{(77)}\)

Zouch Mill continued as a plaster stone mill being listed as under lease to Smith Stone and Knight Ltd., in 1912, being required by the Loughborough Navigation to ensure it for £1,000. Directory listings from this time until the 1930's
The 04.0 saddle tank engine 'Lady Margaret' built by the Falcon Engineering Company, Loughborough - locomotive no 81. This was the first engine to run from 1885 on the gypsum mineral line from Kingston (Crowrend Wood) to the navigation wharf and Midland Railway, replacing horse drawn wagons. Photo kindly loaned by Mr. O.A. Evans, British Gypsum Ltd. Technical data: Mr. G. Toms & Mr. B. Smith.
refer to it as the 'Zouch Mills Co.' with Mr. Edgar Taylor as
the proprietor from 1925. Over this period also the mill is
recalled as being used in an enterprising way to generate
hydro-electric power from the waterwheels to run a small
generator giving both the Mill, Inn, and cottages in Zouch
hamlet electric lighting until the national grid stepped in. (78)

Cotes Lower mill by the bridge continued as a corn grinding
mill throughout this period. After the large sale of the
Loughborough Manor estates in 1810 it had passed to the Packe
family of Prestwold Hall, transferring to Mr. Goodacre who held
Zouch and Barrow Mill in 1884. Following Mr. Goodacre's death
in 1910 it passed into the control of Mr. G. O. Everard who had
previously managed Lucy and Nephews flour mill at Stratford on
Avon. The Upper Mill half-a-mile upstream was dismantled in
1898 following the blowing up of the weir there, which for some
years had been considered a prime cause of flooding to the
neighbouring fields.

In conclusion here the watermills had all but Cotes, come
to the end of their role in harnessing the Soar for power.
Their place was taken over by first steam mills and later
electricity. Even Cotes was to have an auxiliary generator
in case water levels prevented the wheels turning. But water
was still needed for purposes other than watermills and
navigation.

Health and Social improvements.

By 1849 sanitary conditions left much to be desired in
Loughborough. The Woodbrook running through the town and
passing out of it alongside the Loughborough Navigation Basin
and Canal Bank off Bridge Street was treated like an open sewer.
The effects on boatmen in the basin and cottages down the
canal bank, especially in the summer, must have required a
strong constitution. In 1849 William Lee, a superintending
inspector for health gave a very damning report for large
sections of the town still then using polluted wells for water.
Comment in the canal area included - 'in Bridge Street several
yards are without drainage at all and with open cesspools.
Thence onto Canal Bank to houses situate between the canal and
the brook.' The brook in Mill Street - now Market Street -
contained in its filthy state in the summer time - 'considerable lodgements of animal and vegetable matter'. Mr. Goodman, the Inspector of Nuisances referred especially to the Bridge Street and Canal Bank area. Mortality among children was notable in the Rushes, Bridge Street and Canal Bank. The Woodbrook was recorded in Bridge Street by the canal being cleaned out by 22 men at twelve shillings a week average wages, complaints were general of its abominable stench. It was reported as not having previously been cleaned out since 1832, just before the outbreak of Cholera. (79) Matters certainly improved later in the 19th century with fresh water supplies coming first from Nanpantan and later the Blackbrook Reservoir. The Loughborough Navigation were approached in March 1894 in respect to altering and strengthening the Swingbridge over the canal on the outskirts of the town by Loughborough Corporation. (80) This was in conjunction with traffic to the new town sewage plant near the canal there. Earlier in December 1885 counsel was taken over the Navigation Company rights over the Blackbrook Stream in view of the proposed Blackbrook Reservoir. No further action seems to have been taken. (81) The principal architect of the Blackbrook reservoir scheme lived for a time in Regent House on the Derby Road opposite the Regent Wharf on the Loughborough Navigation. He also designed a new canal bridge over the Leicester Navigation on the Nottingham Road in Loughborough, complete with ornamental cast iron lamps. Because of its steep approach it was known as 'Hodsons Folly' and it can still take the unwary speeding motorist by surprise passing over the crown.

In a letter of the 10th September 1905 the Town Clerk initiated arrangements with the Loughborough Navigation to take or pump water from the canal basin for cooling purposes supplying the new power station built by the Corporation in Bridge Street on an annual payment of 10 guineas a year. A small pumping station and office was built on the corner of Bridge Street and the Canal Bank towpath or road which now the power station has been superseded and gone is used as offices for British Waterways. (82)
An improvement in Leicester affected the Loughborough Navigation. The first was in June 1874 when as part of city drainage schemes the bed of the Leicester Navigation was lowered there and contributions toward the scheme were agreed by the Leicester, Loughborough, Union, Erewash, and Grand Union Navigation Companies. Loughborough's contribution was £111.2.4d, one penny less than the Leicester Navigation itself. (83)

In 1881 Mr. B. S. Brundell, Engineer to the Dun Drainage Commissioners submitted a report to 'The Soar Valley Flood Committee' that had been established in Leicestershire to see if Leicester's drainage scheme could be furthered throughout the whole of the Lower Soar Valley from Leicester to the Trent. In many respects it anticipated the scheme being undertaken one hundred years later by the Severn Trent Water Authority and the mixed feelings between those interested in flood alleviation and navigational interests. Abolition of main watermills and the navigation itself was not advocated but their weirs and locks were accused of holding water levels up too near to bank level that made flooding after heavy rainfall more liable. Mill owners were accused of being 'so jealous of the loss of a little water that they will not use their flood gates even to the extent they might do.' Recommendations included the altering of lock sills on certain locks and lowering water level on some reaches of the navigation, wider weirs and flood gates. Also it was proposed to 'embank the River Soar throughout on both sides, and in places widen, straighten, and deepen the river.' Mills on tributary streams were also to be altered - 'and doing away with the mill where it is inconsistent with adequate drainage.' The area of the Soar Valley affected by floods was estimated at 24,000 acres or 1/14th of the whole area of the watershed. The very sweeping scheme was again estimated would cost some £256,000 including Parliamentary, Engineering, and legal charges. The report then went on to discuss recovery of financial expenditure and maintenance costs through an increase in public rates. Nothing ever came of the scheme, one imagines the attitude of Mill owners and Navigation Companies struggling
against falling revenue returns would have been to say the least - hostile. (84)

A final postscript on improvements affecting the Loughborough Navigation Company was a seven day stoppage of all boat traffic in Leicester due to the rebuilding of the West Bridge for which they received £30 compensation for toll losses in September 1890. (85)

In conclusion social improvements saw a desirable change away from using the Woodbrook and the Lower Soar as an open sewer after the 1849 Loughborough sanitary report. The major 'Sewage Farm' for Loughborough completed at the end of the 19th century was followed later by extensions as the population grew, and others related to the Lower Soar villages.

Abuse of the river from chemicals emerging from field drain sources and industrial units still had to come to more recent times for better control - and can still be subject to lapses.

Watermills harnessing water for power were later replaced by the modern suppliers to industry and social need starting with the first electric generating station in Bridge Street, Loughborough, drawing water to cool its turbines from the canal basin in Loughborough. This was but a small forerunner to the coal fired power station at Ratcliffe on Soar, which despite its name takes water out of the River Trent just downstream from the Soar Mouth.

The 1881 flood scheme had to wait a further one hundred years though before the pressures of a much denser population and its needs were to bring it about. The emerging use of the river for social recreation is a factor dealt with at the end of the next section.

**Boats and Boatpeople.**

From 1850 most of the boats using the Loughborough Navigation were taking the form of the familiar narrow boat with its stern living cabin, although open Upper Trent or 'wide boats' as they were known with no living quarters, also continued in use throughout the commercial life of the canal into the middle of the following century. Horse drawn barges often
working in pairs were in regular use until a little after the end of the second world war in this century. Then there were the 'steamers' engines', larger firms were able to introduce from the 1840's and toward the end of the 19th century the diesel driven craft or 'motors' as they were known with their 'butty' or living cabin barge in tow. Ownership ranged from large powerful companies employing hundreds in their fleets, to small concerns and coal merchants and so called 'number ones' where individual families may own a pair of boats or perhaps a few more picking up variable cargo and custom where they could. (86)

Boat people did not all live on their boats or keep their families on them. The 'fly boat' services of firms like Fellows Morton and Clayton had all male crews with families in cottages at terminal towns. Many small firms on localised runs and number ones also had their own cottages and houses notably locally in Sutton Bonington and Loughborough, even if this entailed their standing empty at times with sporadic school attendance while the family were away on business. Often though the house would remain occupied by the retired elderly or infirm family members or the extremely young. The boat people who lived entirely on boats were often those working for others who apart from the 'crack' fly boat service crews had few personal resources. (87)

It was these who probably gave that ardent reformer George Smith of Coalville such concern bringing about the Canal Boat Act of 1877 and its further amendment passed in 1887. Although he does not mention Loughborough with his harrowing examples of wretched conditions one is tempted to think that his relative nearness for parts of his life caused some visits along the Loughborough Navigation. No one would dispute the truth of all George Smith's stories but from what I have already indicated there was a class structure among boat people. (88)

A study of the census returns are also revealing in this respect. The two main centres of 'boatmen' in local residence in the 19th century were Loughborough and Sutton Bonington. Other villages have little significant attraction. Normanton on Soar lists two in 1861, and Kegworth perhaps surprisingly due
to its river location and size again only averages similar low figure numbers between 1841 and 1881. Ratcliffe on Soar, Lockington, and Hathern appear to have none at all. None of them are very conveniently located to the navigation - Ratcliffe being then only a small farming community. The figures I have been able to find for Sutton Bonington and Loughborough are as follow:

<table>
<thead>
<tr>
<th>Year</th>
<th>Loughborough</th>
<th>Sutton Bonington</th>
</tr>
</thead>
<tbody>
<tr>
<td>1841</td>
<td>61</td>
<td>26</td>
</tr>
<tr>
<td>1851</td>
<td>45</td>
<td>16</td>
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<tr>
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<td>38</td>
<td>6</td>
</tr>
<tr>
<td>1871</td>
<td>33</td>
<td>4</td>
</tr>
<tr>
<td>1881</td>
<td>31</td>
<td>0 (89)</td>
</tr>
</tbody>
</table>

These figures reflect the decline in boat traffic from 1841 to 1881. Significantly the employees on the railway climb steadily over the same period.

In Loughborough the distribution of residence is spread as one might expect over cottages on the Canal Bank, Bridge Street, and neighbouring streets in the following ratio for 1841 when there are the most figures recorded. - Canal Bank 15; Navigation Side 9; (off Meadow Lane), Bridge Street 14; Rushes 3; John Street 4; Dead Lane 3; Meadow Lane 6; Nottingham Road 1; Sparrow Hill 6; Ashby Square 2; Buck Horn Square (location uncertain) 1. A high percentage are married, family sizes are no different to the general average in the population which is 2. The oldest boatman I have found recorded was William Ward age 79 in Sutton Bonington - listed as 'former boatman'. The youngest in 1841 was James Draper aged 13 son of a boatman in Ashby Square. In 1881 two are described as 'Boatman engineer' staying at the 'common lodging house, No. 34, The Rushes. These were very likely to have been working on the 'steamer' fly boat long distance services. Another interesting reference is to James Gadd - 'Boatman Master employing men' in Sutton Bonington in 1851 and 1861. It was James Gadd who contracted to do the actual digging to improve the navigation by the 'Devils' Elbow' for the Loughborough Navigation engineer
John Kiddey in circa 1826 (he would then have been 25 years old). The island that was made as a result was always known as 'Gadds Island) after its creator. The memory of it was no doubt perpetuated in the Rose and Crown Inn at Zouch which he became innkeeper to in old age.

Local Boat Traffic.

Boat traffic itself seems to fall into two main groups, localised and long distance. Many smaller boat owners were of course flexible enough to fall into either category. Localised traffic comprised mainly of barges bringing coal from the Erewash Canal like those of the Simmons, a number one family operating from at least the 1870's. Cargoes of osiers were sometimes collected at Mountsorrel and Loughborough osier beds for delivery to Kegworth Mill or Red Hill on return. Alternatively Mountsorrel granite chippings for road repairs were loaded at Mountsorrel for Loughborough or taken back to the Erewash Canal, Nottingham, or to various wharf points along the Vale of Belvoir section of the Grantham canal. This family lived initially at Langley Mill on the Erewash canal and later in a cottage by the Chainbridge in Loughborough.

Other cargoes coming from the Erewash Canal were iron castings of various sorts together with crushed slag from the ironworks. The latter was delivered for road surfacing to the town corporation depot who had a special overhead crane to off-load it over the Canal Bank road near the basin. Residue ammoniacal liquid piped from the town gas works was taken by tanker narrow boats to Clutson and Kemp for tar and creosote conversion at Pye Bridge up the Erewash Canal. A pair of such boats run by a Mr. Whitehouse and his son attempted to make the Trent crossing in flood time in the early 20th century. The butty boat parted from the motor barge and was carried on to Thrumpton Weir drowning the father. From Nottingham came various mixed cargoes and offloaded timbers up from Hull and the Baltic ports. City manure was also delivered up as far as Kegworth. The gypsum deliveries from Kingston wharf to Kegworth, Zouch, and Barrow on Soar mills has already alluded to. Mixed cargoes including hosiery goods also travelled north from
Leicester and Loughborough. Cargoes of natural river gravels dredged usually from the Trent below Thrumpton were brought up to Loughborough wharf mainly for the building trade in concrete mixing. (90)

A Royal Commission on Canals in 1910 lists the following wharf points on the Loughborough Navigation: Kingston Plaster Wharf, Kegworth Dakins Wharf, Kegworth Bridge, Zouch Mill Wharf, Zouch, Normanton and Loughborough town wharf. The wharf at Normanton was reported then as not having been used for about twenty years. (91) Another earlier wharf was also known by the main road between Hathern and Kegworth by the Navigation Inn now renamed 'The White House'. (See distribution on Map 7).

Significantly waterside Inns were often located by these points often with stabling facilities for the horses, and innkeepers themselves played a dual role as local coal merchants. These again can be referred to with Map 7, and were 'The Anchor' at Kegworth Bridge; 'The Navigation' south of Kegworth rebuilt and renamed 'The White House' circa 1928; 'The Bulls Head' at Zouch renamed 'The Rose and Crown' later in the 19th century; the 'Plough' at Normanton; the "Albion Inn" running into Loughborough situated by a winding hole or turning point for boats originally, and a coal yard opposite. Beyond the Loughborough basin on the corner of Bridge Street and the Rushes was the former 'Ram Inn' - now part of a freezer centre - that had stabling facilities.

Another Inn on the Derby Road was known as the 'Regent Wharf Inn' named after one of the old former coal wharves below the main town wharf. Other Inns were nearby in the Rushes which have no particular relation to the Navigation itself although some boatmen may have contributed to the early noisy reputation they had. More particularly is the recollection of Mr. Dakin, formerly associated with the 'Anchor' at Kegworth. Bridge of the 'clog or broom' dance boat people performed with much heavy stamping of boots.

One of the major early long distance carriers were Pickfords who had a wharf in Loughborough opposite Henson's boatyard by the Nottingham Road Bridge on the Leicester Navigation. Their boats with a large diamond recognition mark on the side were
active until 1847 when they became goods agents to the L.& N.W.Railway and boats were gradually withdrawn from service. Their place as major carriers was quickly taken by the Grand Junction Company fleet and later by the Midland and Counties Carrying Company. This in turn was absorbed by Fellows Morton and Co. in 1887 becoming two years later the Fellows Morton and Clayton Company. Both Mr. Fellows Senior and Mr. Fellows junior attended a meeting with the committee of the Loughborough Navigation and arranged a uniform rate of 4d per ton on all traffic carried by them over the navigation as from 1st January 1896. Dispute over non payment of toll arose in 1902, and arrears are also recorded in 1908 although generally things seem to run smoothly. Such a Company as Fellows Morton and Clayton ran the 'fly boat' services with their coke burning 'steamers' running both through the day and night with all male crews on the engine boat and butty. Their main run locally was from London to Nottingham with bunkering or refuelling points at Leicester, Loughborough if necessary, and Nottingham. Local craft only normally ran in the day time and the bottom gates of Loughborough lock were chained open and locked overnight to prevent boats slipping through without paying a toll in the night hours at the tollhouse. Fellows Morton Clayton boats carried special licence papers. On arrival in the night hours at Loughborough lock Mr. Kendrick is recorded as pulling the papers up through his bedroom window in a linen bag in return for the key to unchain the lock. These were returned after a ticket charge had been made out only after the return of the key and the lock had been re-chained after use - again in the linen bag. From 1904 the Trent Navigation Company also had wharf space in Loughborough for their boats. Steamers were very silent running boats and their night time passing were often only noticed by lock keepers' children by the clink of a lock paddle ratchet being raised and the reflective light from the double burner oil lamp on the bow as it moved across the dark bedroom ceiling. In 1929 the fleet of the Grand Union Canal Company had
also come into being in a bold effort to win back more trade to the waterways together with its subsidiary, the Erewash Canal Carrying Company in 1932, all of which used the waters of the Loughborough Navigation. (One of the last boat tonnage tickets to be printed by the Loughborough Navigation is reproduced in Plate 12.)

From time to time families who lived full time on some company boats or those owned by small fleet running number one families left the boat life altogether. The replacement family would invariably refuse to move in '-before its bin cleaned out after them dirty b- as lived in it'. Such cleaning operations often took place in the Loughborough basin. The procedure was to empty the cabin, open all drawers, cupboards, and loosen floor boards a little, two sulphur candles were lit and placed on a table or shelf inside and the hatches and doors closed. These were further sealed with brown sticky tape and the boat then left in this state for twenty-four hours or so to exterminate all the lice and other bugs that might be present. The job was often done by the maintenance men who might be on hand for the Loughborough Navigation on the wharf at the time '-just one of them everyday jobs you took in your stride.' (96)

Pleasure Craft and other Pleasures.

Throughout this period the Loughborough Navigation still had a priority to being a working concern but canoes, punts and rowing boats were in use at least at Normanton and Zouch toward the end of the 19th century loaned out from the Plough, and Rose and Crown. In the post world war years the Rose and Crown at Zouch had established a timber tea room and dance hall with punts also available alongside the mill race stream known unofficially as the 'Moulin Rouge'. (97) By 1881 the Loughborough and District Boating Club was formed. Their boats were stored at Mr. Edward Barnsdale's boatbuilding yard which by now saw more barge repairs than actual barge building. Pleasure boats were also now being built here and he ran a steam passenger boat named 'Glenrosa' that often towed another


Debited to: the Loughborough Navigation Agent, Loughborough.

A few days' notice of the Navigation Company within seven days.

Plate 12.
boat for extra passengers. Parties were often arranged with Mr. Pickworth (furnishing dealers in the Town) who had a canal side bungalow next door. Mr. T. Cartwright and Warners (now Towles Hosiery) kept a pleasure launch called 'Blue Rose' in a boathouse next to the boatyard. The local Paget family also ran a steam launch.

In the early 20th century the Rice family from Trent Lock ran a steam launch up to Loughborough to take trips along the lower Soar to Trent lock and return. From 1898 a Mr. Beck ran an excursion barge from Loughborough to Normanton, complete with Borough Band on at least one occasion or alternatively the band of the 5th Leicestershire Regiment. Regattas were known since at least the 1880's and by 1894 a Soar Challenge Vase was being competed for by crews also from Leicester, Nottingham, and the Derwent at Normanton - 'ladies provided the keenest racing of the day' in 1898. Such events continued throughout the period with a lull in the war years 1914-1919. In May 1909 the Loughborough Navigation Company produced a new scale of Pleasure Boat Tolls, Steam or Petrol launches paid 7/6d a day or £3.3.0d a season. House Boats rated a 5/- day ticket or 10/- season. Canoes, Rowing Boats and Punts had a 2/6d day ticket or up to £1.10.0 per season. If they used more than three locks in a day Kegworth flood lock not counted the day ticket was 5/-. In April 1921 all these charges were doubled.

The chain ferry by Normanton Soar church became increasingly used by walking picnic and excursion parties crossing the footpaths or walking the towpath from Loughborough and also Hathern. Henry Mee is listed as ferryman - and church sexton in Wrights Directory of 1889 and Tom Peberdy in the same dual role in 1898. By 1922 Henry Gaze is recorded in Kelly's directory and Mrs. Lizzie Gaze in 1932. The ferry seems to have been provided over the years by the local Paget Family of Loughborough, an average three year overhaul being carried out in the late 1920's and 1930's by Mr. R. and A. Felstead, sons of the Loughborough tollhouse keeper working on the navigation maintenance. The ¼d crossing charge was doubled to 1d after the first world war.
Near the Swingbridge on the outskirts of Loughborough lay the entrance and grandstand of the Loughborough Race Course, that was complete with hedge jumps and water ditches, for such events as the Quorn Hunt Steeple Chase. A post first world war record of 20,000 spectators in 1922 after a seven year lapse was supplemented by at least another 1,000 people watching from the Derby Road and the canal towpath who had not paid for the 1/-d admission entry ticket. Loughborough people in their hundreds walked from the town along the towpath for this event. Often when the towpath was in need of levelling up tons of slag and ash were laid on it prior to a steeplechase meet which ensured a free 'bedding or treading in' by those going to the races. These races were to continue until 1938. (100)

The final section of this chapter gives but a series of fleeting images of the hybrid role the Loughborough Navigation began to play from the late 19th century between trade and leisure. The emphasis and priority throughout this time was still on the working boats, but socially it was increasingly found to be an attractive outlet not only for the wealthy but also working class people. Pleasure boat outings were major holiday events for ordinary working people difficult to keep in perspective in such a materialistically rich period as our own. Such events anticipated the new role the Lower Soar was to play almost exclusively a few years after the second world war, and still being developed today.

1. Loughborough Navigation Minute Books. 2. p. 460
2. John Goodchild collection. Local History Library Wakefield. m/s. letter 1879.
3. Ibid.
4. Ibid. letter of 1841.
5. Ibid. letter of 1882.
9. Field Notes with Mr. A. Felstead retired maintenance British Waterways.
10. Ibid.
12. Ibid.
15. L.N.M.B. 2. op. cit. p. 370.
17. Ibid.
18. Ibid. p. 389.
20. Ibid. p. 394.
22. Ibid. p. 419.
23. Ibid. p. 425.
24. Ibid. p. 429.
25. Ibid.
27. Miller & Fletcher. op. cit. p. 17.
31. Ibid. p.200
32. Ibid. p.251.
33. See also Hadfield. op.cit. (7) p.259-261.
34. L.N.M.B.4. op.cit. p.69.
35. Ibid. p.81
36. Ibid. p.119
37. Ibid.
38. Ibid. p.122.
40. Ibid.
41. Ibid. p.130.
42. Ibid.
43. Ibid. p.131 & 132.
44. Ibid.
45. Ibid. p.138.
46. Ibid. p.144 & 146.
47. Ibid. p.166.
48. Ibid. p.168.
50. Ibid. p.175.
51. Ibid. p.184.
52. Ibid. p.195.
53. A John Davy's Cradock survived on the Committee until 1922.
54. Dates recorded in L.N.M.B.'s 2, 3, & 4.
55. L.N.M.B.2. op.cit. p.437.
56. Ibid. p.32
57. Ibid. p.82.
58. Ibid.
59. Ibid. p.85.
62. Ibid. p.470.
63. Ibid.
64. Ibid. p.477.

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65. Ibid. p.489.
66. Ibid. p.504.
67. Ibid. p.500.
68. Personal local knowledge/guide Kedleston Hall/"This is Gypsum" - British Plasterboard booklet/Nottm. Cas. Mus. collection.
69. L.N.M.B.3. op.cit. p.31.
70. Ibid. p.80.
72. Examples in my possession.
73. From correspondence research notes of Mr. G. Toms and Mr. E. Smith (of New Kingston).
74. L.N.M.B.3. op.cit. p.232.
75. Ibid. p.330.
76. Ibid. p.381.
77. Ibid. Bk. 4. p. 42 & 64.
80. L.N.M.B.3. op.cit. p.162.
81. Ibid. p.94.
82. Ibid. p.293.
83. Ibid. p.9.
84. Copy of original m/s. British Waterways Estates Office. Leeds.
85. L.N.M.B.3. op.cit. p.130.
87. Field notes with former boatmen.
89. Census return microfilm records County Record Office, Leicester and Central Library Nottingham.
90. Information. Mr. R. & A. Felstead, Mrs. R. Fletcher cross referenced with Navigation Minute Books & 1910 Royal Commission on Canals.
94. Ibid. p.278.
95. Information recorded from Mr.R. & A. Felstead.
96. Ibid.
97. Information recorded from Mr. B. Randon.
100. Felstead. op.cit.
8. **Into the 1980's, a review of the last fifty years.**

With the passing of control and ownership to the Grand Union Canal Company of the Loughborough, Leicester, and Erewash Navigations the individual economic development becomes but a part of a much larger waterway scheme, later to embrace the whole surviving network of waterways. This chapter continues now to concern itself to most of the references and works that directly affected lower Soar and the former Loughborough Navigation itself without involving itself too much in waterways in general.

**Boosting trade in the 20's and 30's.**

In the years that preceded the sale of the Loughborough Navigation various efforts were being made to seek a new renaissance in waterway traffic. This took the form of Canal carrying Company advertising, popular newspaper articles stressing initially the use the canals had been in the previous war, City councils like Nottingham and Leicester seeking to improve trade and growth over and after the post war depression, and a Royal Commission on Waterways in 1909 supporting their viability. (1)

The River Trent had a series of new locks built following the reversion back to private control of waterways after the war in August 1920. The cost of this and other improvements were met by the Trent Navigation Company and Nottingham City Corporation backed by an act passed in 1915 and helped in turn by the Government Development Commissioners helping provide work for the unemployed. (2) The situation on many waterways though was still one of shrinking trade and by 1929 the Grantham canal had closed in the local network. The Loughborough and Leicester Navigations left necessary repairs longer and longer and locks had to be used with great care to avoid damage. (3)

Improvements on the Trent had not gone unnoticed. On June 30th 1926 the Leicester Mail reported -'The Mayor and Mayor elect of Leicester are heartily in favour of Soar development to link this city with the sea', going on with similar articles of the period to note Nottingham's capacity to receive cargoes from Hull in larger boats since lock and navigation improvement on the Trent.
The actual physical state of the lower Soar is touched on in a report of May 17th 1927 in the Nottingham Guardian. This covered the A.G.M. of the Soar Angling Society at the Corporation Hotel in the town with Mr. W. Bosomworth presiding. Depletion in fish was blamed on 'otters and pollution' and a promise was recorded from the Leicester water works manager that within three years the destruction of fish by pollution would end, to much applause by the audience. A more conservative estimate would have been 50 years!

The Nottingham Journal on 19th August 1929 reported on a 'Huge Canalising Project for the Midlands', which hoped with Government Assistance to develop the area for canal trade, initiating the proposals was the Mayor of Nottingham with Mr. Woolley, the clerk to the Loughborough Navigation now involving himself with the Trent Navigation to tour the route from Nottingham to Newark. Two days later the same paper headed an article 'Beautiful Trent and Sluggish Soar' with suggestions in conjunction with the proposed 'Central Waterways Board of Great Britain' of lock and depth improvement on the Soar. Similar articles followed with no improvements realised on the Soar until we read in the Nottingham Journal 16th Feb. 1931 the headline 'Important Canal Scheme - Notts. to London Waterway.' The news that followed might well have been written over a century before in 1814 when it went on to say 'The Grand Union Canal Company have arranged to buy the Leicester Navigation, the Loughborough Navigation and the Erewash Canal, and thus link up to London, Birmingham and Leicester, the Birmingham system and the Trent Navigation. The immediate results will be to give the coalfields of Derbyshire a direct waterway to London, Leicestershire granite is already in great demand for road construction and repairs in the Home Counties and South of England.' Following the actual canal merger the Leicester Mail on the 1st January 1932 reported on how new improvements would tap the following industrial centres for trade quoting - 'Leicester, - Boots, shoes, hosiery, boot and shoe machinery, engineering, granite. Loughborough. - Electrical Engineering, granite. Nottingham. - Coal, bricks, earthenware, hosiery. Frewash Valley. - Iron and Coal. This optimistic list was further reported being facilitated by the Grand Union Canal.
A report in the newspaper dated 1st January 1937 from a British Waterways newsreel album originally belonging to the Trent Navigation Company at Nottingham. It is listed under the Retford - Isle of Axholme and Gainsborough News but may well have appeared in the Loughborough Press.

**CUT YOUR Transport Costs**

By Using the TRENT

FOR RATES APPLY TO

TRENT NAVIGATION COMPANY

DERBY ROAD, Loughborough

PHONE 2745.
£1,000,000 improvement scheme for passage of larger and speedier craft from the East Midlands to London.

In addition to the main fleets of the Grand Union Canal Company, The Erewash Carrying Company and Fellows Morton and Clayton Company, the Trent Navigation Company now started seriously trying to use the Soar again. Advertisements began appearing in the Loughborough Echo for 'Quick Delivery' like the example illustrated on Plate 13 on the 12th March 1937, together with the photographic article of over 30 tons of Russian deal being delivered. This was being delivered to Mr. Wootton’s timber yard by the Meadow Lane bridge after transfer at Nottingham into a smaller Trent Navigation Boat. This in its broad beam followed in steel and motorised form the tradition of the old upper Trent boats or 'wide boats' as they were known. These could just squeeze through the old Loughborough Navigation locks in the same space occupied by a pair of narrow boats or barges. (See also Plate 13)

With Grand Union Canal improvements the former Loughborough Navigation continued to see commercial life although the scale of it was to die right away after another world war. Losses and improvements in the 1930s

When the Grand Union Canal Company took over the Loughborough Navigation several measures were taken to upgrade what had started to become a decaying system. On the 1st January 1932 the Leicester Mail reported a smart start with the sending of one of the modern dredgers from Tring to commence 'dredging the newly acquired concerns forthwith'. Such operations took place on various stretches over the following years. Extensive repairs were made to the timber 'horse' bridges, weirs, and locks, replacing many of the gates, using a new standardised series of Grand Union Canal lock fittings which are recorded in a special manual the company produced on them. (4) Two major lock extensions were also made at Ratcliffe and Zouch lock from plans produced in 1935 and 1936. (see also Map 7) Both these locks had been the shortest on the old Loughborough navigation with effective lengths of 74 ft. and 73 ft. respectively. The new plans and operation gave them an effective length of 86 ft 6 inches and 91 ft 6 inches completed in 1936. (5) Bishop
Extending Ratcliffe on Soar Lock 1935. The view is taken below the bottom gate looking over the river toward Red Hill. Timber piles seal off the river from the lock entrance being prepared in the foreground. A canvas hose pumps out the unwanted water, run by a steam engine on board the narrow boat or repair barge beyond the piles. A 'butty' barge is also moored on the extreme right. Photo J. E. Felshay, Navigation Manager of Works.
Meadow Lock also had some lengthening modification. Prior to this some narrow boats had to remove their fender off the bow and the tiller to squeeze through as boats tended to get progressively longer in the late 19th century. Rare photographs of these major repair and extension works are shown in Plates 14, 15 and 16. In 1935 the 'horse' bridge over the river Soar to the Red Hill Lock on the downstream or Trent end of the towpath approach was actually re-sited in its rebuilding to a point where the Red Hill cut leaves the river, rather than using its former site due west from the Lock itself. A basic record was made of the locks giving them numbers to fit in with their lock record along the whole Grand Union System. Bridges were also detailed off - probably for the first time since they were built.

In 1939 concrete mileage posts were cast at Loughborough Wharf and starting at Soar mouth with '0' were placed every ½ mile alongside the towpath. Mile posts have previously been known on other navigations but this is the first record I have ever found for the Loughborough Navigation.

In addition to all their improvements they were involved as plans in 1934 and 1935 show in the widening of the canal road bridge at Kegworth as part of the general County Council Schemes for widening the whole of the Kegworth river bridge. These schemes were completed in 1937 retaining the use of stone and keeping the original graceful 18th century appearance. The bridge was formerly re-opened by Lady Belper of Kingston Hall. The County bridge at Zouch, again a joint County Council Venture did not affect the navigation itself since it crosses the river arm only. This was rebuilt in 1931 in the new cast concrete style of its day. The graceful stone 18th century bridge was taken down leaving us with a no doubt stronger bridge. The aesthetic appeal may improve given another century or so, certainly it is better than post war efforts on the Soar.

Improvement in the 1930's also involved the loss of the late 18th century toll house of the Leicester Navigation standing to face Loughborough over the Chainbridge in the town - see site Map 7. All but the little stable block with
Extending the lower end of Zouch Lock. 1936. Behind the foreground workmen the timber shuttering houses the new concrete sill base. The new brickwork extension to the lock chamber can be seen beyond. The pipe pumps surplus water out of the chamber seeping from the upper gate in the background. Photo: J.E. Felstead, Navigation Manager of Works.

The steam pump mounted on the maintenance repair barge, keeping the lock chamber drained during the Zouch lock extension. A simple hand operated jib crane can also be seen in use in the extreme left background. Photo: J.E. Felstead, Navigation Manager of Works living at the former toll house, Loughborough Lock—employed originally by the Loughborough Navigation Co.
its hayloft were demolished -(see photo later survey plate 31). By 1937 the sale of the former Navigation property at Zouch was completed. This on the bill of sale dated 10th February 1938 was completed and signed by the purchaser Edgar Taylor. Some fourteen lots were involved and included the Zouch Mill, Upper Mill and Lower Holmes (or islands), the Pingle and Osier Bed, Wharf, Offices and storesheds, The Rose and Crown public house and garden, Zouch Bridge Meadow and sundry other gardens and stables. The sum realised was £9,010, almost as much as the Grand Union had purchased the whole of the Loughborough Navigation for six years earlier. (8)

_The war years. 1939-1945._

The canals generally saw a continued use through the period of hostilities coming under the Government Central and Regional Canal Committees given new powers at the beginning of the war under the chairmanship of the Parliamentary Secretary to the Ministry of War. By 1942 some eighteen canal carrying firms were also under Government control. (9) On the lower Soar an A.A. gun emplacement and observation post was established on Red Hill. Concrete drums with a central stainless steel pin for a Lewis gun mount were set down by Kegworth Shallow Lock, Zouch Bridge, and near the Great Central Railway Viaduct at Stanford on Soar. These could give defensive and raking fire presumably in the event of invasion - over and between the bridges they were placed by. Early in the war new R.A.F. landing ground bases were urgently needed, in which the old navigation played no small part. A fleet of barges worked continuously both day and night loaded with Trent gravels from the vicinity of Thrumpton, bringing it into the Loughborough Wharf. Here five ton Bedford trucks were loaded directly by the wharf crane and sent to the runways under construction at Wymeswold, Loughborough, and some to Castle Donington. It was used both for hard core and concrete mixing. Few might associate the dependance of locally based Wellingtons and Lancasters with transport rooted in another age. (10) Throughout this period both horse drawn and motor barges were observed in use. On one occasion a barge horse
A section of new timber 'horse' or towpath bridge being taken along the Soar circa 1938. Made probably on the Loughborough Wharf at Bishop Meadow lock this section was destined for repair on the former Leicester Navigation at Thurmaston. The boat is also the 'ice boat' for breaking the ice in wintertime on the canal. The maintenance men are Arthur Kirk, Freddy Furse, Bob Ogden and Fred Stocks. Photo: J.E. Feistead. Navigation Section Manager of Works (a.).

Repairing the towpath 'horse' bridge over the mill race at Zouch circa 1934. The maintenance boat 'Soar' can be partly seen on the left with a hand operated jib crane on board. The smaller boat under the bridge itself was also used for maintenance—known simply as 'the little boat'. Photo: J.E. Feistead.
had to be re-shod and temporary smithy facilities were made in the surviving tollhouse stable by the Chainbridge in Loughborough. Women were also often noticed in total control of barges as part of the war effort and covering the absence of men serving in the armed services. (11)

The Post War Years. 1945 - 1960.

Despite the war effort some further 200 miles of British Canals had been abandoned in that time and transport use was at a low ebb at the end of the war. Relatively little reference was made to them during the passing of the Transport Act in 1947 and subsequent Nationalisation and the taking over of most of them on January 1st 1948 by the British Transport Commission. (12)

Locally the post war years saw a quiet semi stagnation in transport use with most of the carrying fleets laid up for want of work, Nationalisation or passing into voluntary liquidation like the former great Fellows, Morton and Clayton Company on the 1st January 1949. British Waterways boats were in use early on the local navigation with canary yellow cabins and blue lettering and frames. This offensive combination by an artistic illiterate changed for the better in 1949 to deep blue with yellow lettering and neat piped framing. Despite this much improved colour use much of the character given by former individual castle and roses type design and the bold shadowed gill sans lettering used by many different firms and individuals was lost. The new economy had less time or finances to support the master signwriters who produced this work although a few were to survive. (13)

On the former Loughborough Navigation and Lower Soar the post war years saw few changes to start with. Towpaths tended to become more overgrown and combined with spots like the Bishop Meadow lock with its half sunken old barges and piles of lock balance beams on the banks side to become a naturalistic paradise. (14) Maintenance did go on especially to locks and bridges. Loughborough Lock had new top gates installed in 1951 to the traditional standard timber Grand Union Canal Pattern. In 1953 though the top gates of Zouch lock were replaced using -'the new all welded steel balance arm' as the plan records. These steel balance arms filled
with concrete gradually replaced the former substantial timber balance arms to the locks over the years. The last timber balance arms actually survived on the former Loughborough Navigation at Loughborough Lock until November 1984 when the bottom gates were renewed. Lock gate repairs went on in the 1950's with new upper gates at Ratcliffe Lock in 1957, the top gates of Kegworth deep lock and the Zouch flood gates by the road bridge in 1959. In 1960 the bottom gates at Red Hill lock were replaced followed by both top and bottom gates to Kegworth flood or shallow lock the following year.

The traditional timber bridges on the towpath at Zouch, Kegworth, and Red Hill were all to be replaced by concrete structures with a rigidity that lacked the graceful arched curves and angle pitched supporting stays of the original timber ones. Zouch main weir bridge was the first to be replaced in 1953 followed later by the one over the mill stream.
The accommodation bridges at Zouch and Ratcliffe built of stone with railed timber lintel style crossings over the canal itself also had the timbers replaced with concrete. The maintenance crew still used a small former ice boat for repair work and a traditional narrow boat with a hand crane and tools called 'The Soar' or 'Pride of the Soar' from pre-war days (see Plate 16) until the 1970's.

Visually too in the 1950's Loughborough Lock lost a fine stand of elm trees opposite the toll house purportedly because they were a danger and caused light interference to houses of a new estate built behind them. More trees came down on the stretch opposite the Albion Inn up to the former Barnsdale boatyard replacing the naturalistic effects with extensions to the pharmaceutical works of steel, pipes, and corrugated asbestos of incredible ugliness. The willow lined banks were sealed behind walls and steel shuttering and the smells emanating in the early years matched the visual cataclysm, including one was told at the time concentrated penguin dung in the ingredients.

During this time there was a steady return to the canal and river of small pleasure craft, punts and rowing boats were in use again at the Plough Inn, Normanton on Soar. In 1947
there had been terrible floods following a hard winter and on the natural river by the Bishop Meadow a small island was created out of a former ox bow loop. A natural history sanctuary was created on it by Mr. Percy Dutton, a Limehurst schoolmaster in Loughborough who developed further a natural history society. Two motorboats - The Owl and Zenith, were later acquired to give children an early post war educational experience on the waterway using the island as a study base. This was to be a forerunner to the Loughborough Naturalists' Club founded in 1960. (16)

To the present, 1960-1985.

By the 1960's commercial traffic on the former Loughborough Navigation had all but ceased. The materials like Mountsorrel chippings and slag from the Stanton ironworks no longer came by barge to the Corporation depot in the town and their overhead crane was dismantled. An engineering report on the Grand Union Canal Section 6. Leicester to the River Trent dated August 1965 reported - 'a few consignments of timber have been carried to Leicester in recent months, normally in a narrow boat, but one lot ex-Manchester was conveyed in barges via Wigan and the Leeds and Liverpool Canal to Leeds, Keadby, and the Trent. Revenue from tolls (on section 6) over recent years have been, 1961 nil, 1962 £2, 1963 nil, 1964 £85. This fleeting rise in revenue coincided with consideration being given in the same report to whether to carry out dredging for commercial or pleasure traffic. Commercial traffic required dredging to 4ft 6ins depth at an estimated cost of £63,000, and pleasure traffic could be undertaken to a depth of 3ft 6ins depth costing £48,000. (17) Commercial traffic did not receive serious consideration and the navigations sections requiring dredging were to be maintained at pleasure traffic levels. Earlier in January that year no fewer than twelve narrow boats - that is six motors and six butlys' were recorded moored along the canal bank by the Albion Inn. They were held up there on returning north from Leicester due to bad flooding on the Soar and Trent. I suspect they were the returning fleet recorded in the report above that had helped build the toll revenue up
January 1965. Narrow Boats held up by flooding on the lower Soar, moored by the Albion Inn, Loughborough. Photo: J.R. Felstead.
to £85 in 1964. The Loughborough Echo reported at the time that so many commercial boats had not been seen for some ten years past. (see Plate 17)

To the Present Time.

The 1960's was an age developing further a new design conscience with ever tighter planning permissions stopping ribbon development and visually unsuitable materials being used. All these concepts seemed to have applied everywhere except the canal that suffered a 'backyard where nobody looks' mixture of changes especially in Loughborough that robbed it of its former 'canal age' character. Fortunately beyond the Bishop Meadow Bridge (see Map 7) the rural nature of its beauty has survived largely intact for the present.

Architectural iconoclasm began in earnest in 1960 when several former bargee cottages, yards, and a shop were demolished in Bridge Street, together with a row of five cottages by the Chain Bridge and a further row between the Albion Inn and the Loughborough Lock. The Albion Inn had its former horse stables and hayloft attached to the Inn itself demolished. At about this time the original little lock house on the towpath side at Bishop Meadow lock was also demolished. In the same year the road bridge over the canal at Zouch, - a stone and cast iron structure was demolished in part and engulfed in a road widening project and concrete extensions of little architectural pretension. In the early 60's work began on the Ratcliffe Power Station that became the country's largest coal fired power station dwarfing the Red Hill river cliff line. Its size at least makes it impressive. In 1966 a link road, now the A453, was completed across the lower Soar Valley from the A6 and M1 north of Keyworth to Clifton near Nottingham providing also better road communication to the power station. The embankment and bridges have again radically changed the meadowland landscape - the bridges over the canal and river being in pure una-dulterated concrete that nature finds difficult to come to terms with. In the same year work began on the Belton Road Bridge in Loughborough crossing the canal between the Loughborough Lock and Albion Inn, its stark concrete
walls now heavily embellished with grafitti. Between 1966 and 1967 road widening in Loughborough at the junction of Bridge Street and the Derby Road reduced the former Loughborough Navigation "wharf yard by a good third of its former area. The massive Derbyshire millstone grit boundary wall was completely demolished - some of the stone being offered to the Parish Church for restoration purposes. Demolished also were many former workshops including one that had window frames taken from the engine house of the former boat inclined plane lift at Foxton. Also demolished was the original tollhouse cottage, weighbridge cottage and a little shop. The new boundary wall was rebuilt in brick. Three years previously the electric wharf crane supplied by Taylor and Hubbard in 1927 that had worked up and down its little wharfside rail track was dismantled and sold for scrap. Over these and the succeeding years the fields, paddocks, orchards, cottage sites, and former Barnsdale Boat Yard were all covered over between the Swingbridge and the town wharf with a chequered mixture mostly fitting the phrase, 'light industrial development'.

Two nearby former inns also ceased to function. The Ram near the town wharf is now part of a freezer centre, and the Regent Wharf Inn on Derby Road was closed in the early 1980's.

This catalogue of dubious blessings on the local scene has a counterbalance of new interests in the navigation. Inland waterway holidays and the revenue they produce to British Waterways together with individual boat ownership and clubs has done much to enable the former Loughborough Navigation and Lower Soar survive in a very good state of navigable use. Efforts by the Severn Trent water Authority have enabled pollution to be cut back to a very low level and good recovery in fish and other bankside wildlife forms. The Loughborough Canal Landscape was subject to study by the Loughborough and District Civic Trust in the early 70's with particular reference on the Leicester Navigation Section. Some improvements in and around the Boat Inn were attained. Earlier in September 1977 the Leicestershire Environmental Forum produced a 22 page feasibility study called 'Walking the Grand Union' that made reference to the 1968
Transport Act. This Act enabled local authorities to give assistance to organisations trying to improve any waterway. The feasibility study itself suggested improvements to Zouch Mill then converted into flats, camping facilities at Red Hill, and provision of waterway guides whenever required. None of these things have ever been officially done so far although local historical groups and the W.E.A., and Civic Trust have provided guided tours at different times. Rambling Clubs have also been active in this field, and the Loughborough Naturalists Club are currently carrying out field survey work in the Soar Valley prior to impending flood development schemes.


Organised clubs on the waterway itself include the Loughborough and District Boat Club whose history goes back over a century now, who moved in 1963 from Barndales former boatyard in Loughborough to new headquarters by the County Bridge near Zouch. Here the good river stretch toward Kegworth can be used extensively for sculling practice. The Soar Boating Club founded in 1953 has a very strong following developing a permanent site and headquarters by the river at Normanton in 1961.

On the 20th and 21st May 1976 the British Waterways Association held their Bicentenary Rally on the canal in Loughborough to coincide with the 200th Anniversary of the Loughborough Navigation. Cast aluminium plaques were struck to be affixed onto boats reproducing an enlarged form of the original Loughborough Navigation Company Seal.

A reflection of the lower Soar and its navigation from past to present.

Today the lower Soar and its navigation has survived into a world where its use reflects a very different economy and lifestyle to that of previous centuries.
The watermills, those thousand year old river users as a power source, have all gone or cease to turn their wheels in work. The survivors now serve other purposes. Zouch Mill is now flats, Long Whatton has a ruined wheelhouse by its house, Dishley Mill has lost its pool and machinery and is now a private residence. Kegworth Mill has been demolished save for one store barn standing out of place amid a riverside caravan site, even its mill race is filled in. Basket making ceased there in 1950. Cotes Mill by the ancient causeway road out of Loughborough ceased to grind flour in 1952 but continued grinding animal feeding cereals until 1973. Now it is a licenced hostelry, its machinery gone, but one wheel remains in situ and can be turned occasionally to remind the visitor of a former age. The fishpools often associated with the watermills have all gone also, - the eating of river fish is now an 'acquired taste' reserved mostly for the keenest of anglers. The anglers themselves follow in leisured footsteps the fishermen who harvested the river for food in former centuries. Angling clubs and competitions see their quiet sitting forms along the river banks in due season, in a period of shorter working hours, retirement, and even redundancy. The enjoyment of this pastime has been helped considerably by the efforts of the Severn Trent Water Authority and stringent laws regarding industrial pollution. The Soar can no longer be treated like an open sewer as it was especially in the 19th and early 20th century without the risk of outraged protest and heavy penalty.

The Lower Soar is no longer seen as a transport highway important to the national economy, the last vestiges of this faded in the late 1950's. Road development and lorries in countless numbers have taken it all away. The daily coal deliveries to Ratcliffe Power Station could not be met by a fleet of barges today, their speed alone could not compete with the lines of railway trucks and lorries ever feeding it. The survival of the lower Soar and its navigation into the 1950's did, however, save it from possible closure. With the tremendous change in human social needs, this is an age where people
as a whole have been able to organise their lives around increasing lengths of leisure time. Before the second world war the leisure uses of the lower Soar were largely confined to weekend fishermen, and the more comfortably off middle classes who chose to run a small cabin cruiser or motorboat. Others might be content to picnic, ramble the towpath, or hire a punt at Normanton or Zouch for an hour in a summer's evening. Today the lower Soar and its navigation is part of quite a major waterway holiday industry. Marinas and holiday boat hire centres at Trentlock, Sawley, and Mountsorrel bring a seasonal usage to the system, similar with its greatest industrial use in the early 19th century. The revenues derived enable British Waterways to maintain the whole system to a very high standard from the profits. One of the main secrets for its continuing success here harks back to 1814 when the Loughborough Navigation found itself part of that long chain of navigation from London to the Trent. This system is still all in use. Beyond the Soar Mouth the water borne cruiser may still turn east for Nottingham, Newark, Lincoln, or the Yorkshire canals. Westward he may go still to the Mersey, the West Midlands, or even Wales. To remove the lower Soar is to break this chain. While people still want to use leisure time on water such a possibility is very unlikely.

The extensive flood prevention schemes being undertaken by the Severn Trent Water Authority recognise this. Floodbanks must not be so high as to totally obscure views from boats. Suitable navigable water depth must be maintained. The brand new lock at Ratcliffe on Soar, and even a new stretch of 'cut' and an aqueduct further upstream at Sileby are expenses that testify to the importance given to the Soar's use in leisure.

The lower Soar by its still largely rural nature has a rich abundance of plant and moving wild life that has attracted the attention of local naturalists. With water pollution improvements this shows every sign of yet further improvement. The old course of the river near Red Hill now known as Lockington Marshes is a conservation area, together with parts of the Loughborough meadows. New flood schemes are designed to leave them unaffected.
The plans of the Severn Trent Water Authority Flood scheme to lower the level of the Soar by nearly two feet (60cms) seeks in a way to turn the historical clock back to a time before navigation or even major weir building by watermills. The river banks will be deeper especially in the Summer months and nature will have to re-adapt a little. Whatever may happen the River Soar still remains as it has always been, the largest southern tributary to the River Trent and will always have a role to play.
Notes on Chapter B. Into the 1980's, a review of the last fifty years.

2. Ibid. p.261
3. Recordings. Mr.R.Felstead and former boatmen.
4. Loaned to me by Mr.I.White when assistant area engineer B.W. Nottingham.
5. Original plans in British Waterways Nottingham.
6. Ibid.
7. Details recorded on slate inscriptions on south face of bridge itself.
10. Felstead. op.cit.
11. Personal memory recall and field note collection.
14. Ibid.
16. Personal memory recall.

Introduction.

This final chapter has three main purposes that are necessary to any historical study of a river and its navigation.

First it records the history that is written only in the ground. Various features have no other form of recorded evidence and are necessary to supplement the limits of documentary work. Such subjects may include ancient river course changes, details of navigational drainage systems, the strategy of layout, and various earthworks recording mans activity near the river. Also included are ancient flood bank or causeway systems, lost habitation or village sites, and early ridge and furrow plough systems indicating how near cultivation was carried out to the river. This would be affected by the raising of water levels by watermills, and navigation lock systems.

Secondly, the field study is able to complement historical written evidence by giving detail to the written account of precise siting, materials used, and whether indeed a written statement of intent was precisely carried out. Evidence can also be studied of any feature relating to old enclosure or tithe map field names and boundary lines. The river course can also be checked for evidence of change against early reports and maps.

Thirdly, the survey makes a series of observations, concerning the way in which the changes being made by the Severn Trent Water Authority, and to a lesser degree by British Waterways are altering the present surviving system of waterway and its levels. Details of these changes are recorded here including those actually carried out during 1983/4 and those it is intended to make.

The survey will commence from the River Trent and move upstream on the River Soar and its navigation. This is in keeping with the way the actual navigation was built and described in 18th and 19th century survey reference. The maps
used in this survey - (numbers 16 to 21) - are intended to emphasise features relating to the lower Soar use and its navigation. They include features now shown on ordnance survey maps but also omit some detail i.e. pylon towers or structural detail that has no direct relationship with this study. They are not intended as a total ordnance survey replacement, but simply to direct attention to detail recorded in the text. The survey itself was originally carried out with the use of 0.5.25 inch to mile maps, together with early tithe, enclosure, and canal navigation maps. The key to these maps follows this introduction.

Detailed studies have been made of the two surviving toll houses at Red Hill and Loughborough Lock because their structural alteration in 1984 gave a rare opportunity to do so. Features were recorded that have now been removed. It may well be that the extra detail recorded here may serve to contribute to future evaluations of canal architecture when eventually more such work is done elsewhere. This is in addition to the local context in which I use it.

From Moses Mouth to Soar Mouth. Using Map 16.

We begin on the southern bank of the River Trent 225yds (205m) west of the present confluence of the Soar with the Trent. William Jessop in his Trent survey of 1782 named this river stretch as 'Moses Mouth' and just downstream from it 'Siddons Ford'. Moses Mouth is almost certainly a reference to a now silted up and lost part of the old Trent and Soar river system. This is discernible as an arc of old reed bed and willow terminating in the Soar at Red Hill Lock and making an island like contour. The course also conforms to the former boundary of the prebend of Sawley Parish in Derbyshire, but now in Lockington Parish Leicestershire (see map 16). The earthwork enclosure containing a few courses of brickwork of the Sawley Cliffe Farm is seen marked by a clump of old elm, beech, and blackthorn, amid the remains of a field enclosure pattern of hedgerows. These conform to the old river boundary. The grass covered field road from the ferry has been largely
MAP 16.

The lower Soar and Navigation from the River Trent to Ratcliffe on Soar.

- Navigation towpath.
- Other field roads or paths - not always public.
- Hedge lines in 1914 - shown in relation to wall only.
- Parish boundary line including those no longer in use.
- County boundary shown only where it deviates from present river course.
- Navigation milestone.
- Lock Chamber.
- Weir.
- Stile detached from a weir.
- Dotted lines over water are former bridge sites unless specified.
- Dashed water course.
- Drains built and the responsibility of the navigation.
- Evidence of ridge and furrow field system.

Approximate Scale only.

obliterated by the present floodbank, but is discernible south of the earthwork going to Red Hill Lock. The area is private property. The whole site is bounded on the north and east now by a new Severn Trent Water Authority Floodbank (see map 16). This feature averages 3.8ft (1.15m) in height and 6.5ft (2m) wide at the top with side slopes of one vertical to two horizontal built with a core of red clay brought from Shepshed brick quarries. Grass seeding in 1984 has now blended them well into the landscape.

The river Trent is impressive here taking into consideration it is so far inland from the sea, and has an average width of 250ft (75m). The north bank is stone reveted and lined with a ramp, steps and a wall where the former ferry boat commenced. Behind lies the navigational hamlet of Trent lock with the Navigation Inn grouped in trees with small square pane sash windows and shutters. About 330ft (100m) downstream on the same side, the Erewash Canal enters the Trent and is indicated on a green and white sign affixed onto the stone towpath bridge that crosses over the entrance. The bridge is built of impressive squared millstone grit blocks on either side supporting a concrete, railed flat deck walkway, originally of timber over the canal mouth. Behind the bridge lies the first rise on the Erewash Canal - the Trent lock itself. The two most prominent buildings visible on the east bank of the Erewash is the large former tollhouse with square projecting toll office and side stables. Despite the cream stucco the symmetrical window layout and simple brick chimneys suggest that robust 18th century farmhouse style typical of many local villages. Next to it painted white, is the former Erewash Inn now called 'The Steamer' with a large blue ship's funnel mounted on the porch. Just downstream from the Erewash Canal the 'Cranfleet' cut bypassing the Thrumpton Weir turns off the Trent. On the opposite bank the ambitious timber Trent Valley Sailing Club headquarters and flagstaff is prominent on the east side of the junction. All these features architecturally dominate the landscape here. By contrast the southern or
Some detail sketches along the Loughborough Navigation. Plate 18.

The Navigation milestones as found in Nov. 1984.

The coat iron pipe support for the former horse ferry over the Trent on the Leicestershire bank.

Marshall milestone no. 0, buried edge on one side.

milestone 1, rather battered.

milestone 1 1/2, very good condition.

milestone 2 and 2 1/2 buried to the base of the figures.

no. 3 at Keyworth, deep locked, fine and painted.

no. 3 1/2 half sunk in ground.

No. 4 opposite White House—good condition.

No. 6, good condition.

No. 7, good condition.

No. 7 1/2, condition fairly good—well sunk.

3. Second World War Lewis gun mounts at Keyworth, Shuttle Lock, Nr. Zouch County Bridge, and the viaduct at Stanford on Soar.

Four examples of low rope scoring on various bridges and materials.

A. Deep indentation on soft sandstone corner Zouch cut accommodation bridge.

B. Low engineering brick bullnose corner Bishop Meadows Bridge.

C. Sandstone or milestone grit capstone terminal Swingbridge nr. Loughborough.

D. Shaped Moundwell granite monolith on footpath Cutlestone Loughborough.

Typical milestone or sandstone dressing pattern on the Loughborough Navigation.
Leicestershire bank has only one small timber sailing club building upstream from the ferry point, with fields stretching over the floodplain to the south beyond the floodbank. The bankside edge all the way to the Soar mouth is natural in contrast to the stonework of the north bank. The only surviving feature of the former horse ferry on the southern bank is a concrete filled pipe 9ft (2.7 m) from the water edge secured additionally by two iron bars to two further pipes sunk in the ground to grass level. This fixture held the chain used as an additional security for the ferryboat when crossing under strong current conditions. It now leans at a 60° angle toward the river implying the strain it had to take in times past (see sketch on Plate 18). A record of the former horse ferry itself in use is seen in the two photographs on Plate 19. Today the ferryboat is no more although fishermen and those making special request are sometimes brought over by a row boat from the Trent Lock side.

Moving downstream alongside the Trent on the former Loughborough Navigation towpath the route runs between the main river and a reed and water filled depression or old river course. This eventually is crossed, the towpath running on a low banked causeway dotted with old thorn bushes and over a very solid stone bridge built of squared sandstone blocks (see Plate 20). The keystone on the south face has the faint date 1801 on it. The eastern end of the stone parapet is broken down on the south side and needs restoration. Accurate measurement was prevented by the fact that the bridge now sits on an island gouged around it by excavators for the Severn Trent Water Authority. This action purports to give an element of protection in flood time since the bridge lies between the river and the floodbank (see Map 16). Time will tell how effective this is. By estimation it has a length of 30ft (9.1m) and a width of 9ft (2.7m). Although not recorded in the Loughborough Navigation Minute books this bridge was very probably erected for them by the Trent Navigation Company to give the towpath added flood protection at this point. This would have followed in the wake of William Jessop's 1782 survey
PLATE 19.

The Trent Horse Ferry. The horse going on board the ferry on the Derbyshire bank on route to take its boat on to the Moor.

Photo. J. Fairbrother Long Eaton Library Collection (1917)

Crossing the Trent from the Leicestershire bank. Note the word up 'Trentling' on the boat behind the horse. Note also the stall on the bank overlooking the quadrant beam, one visible of the 'indee' barn in S.C.I.A. 260 below near the barrier.
The sandstone towpath bridge on the Leicestershire bank of the Trent. This carried the towpath over a swampy depression that has been excavated (1954) to leave it on an isolated island section of the original towpath. Behind the bridge lies the river Trent. The roofwork is the Trent Sailing Club by the Crangfleat cut.

The towpath bridge over the Red Hill Weir is in the foreground. Behind lies the Red Hill Lock and accommodation bridge set against Red Hill.
and the raising of the Trent water level here in 1794 by the construction of Thrumpton Weir as I have referred to in the history earlier.

Beyond the bridge the towpath continues parallel to the Trent for 330ft (100 m) turning then sharply right as the mouth of the Soar is reached. This approach to the Soar mouth is grandly dominated by the ridge like line of Red Hill bordering the Soar and Trent on the eastern or Nottinghamshire bank up to 200ft (60.9m) high. The hill is richly clothed in fine deciduous trees very similar in landscape appearance to the fine lithograph of 1841 (see Plate 8). These tree covered slopes lie largely in the grounds of Thrumpton Park. The parish boundary between Thrumpton and Ratcliffe on Soar runs eastward over the Red Hill Ridge. Notable changes here though are the cooling towers of Ratcliffe Power Station edging over the ridge into the skyline. Butterley's fine railway bridge over the Trent is now replaced by two parallel more basic girder constructions carrying two pairs of rails of the Midland Line. Some of the approach arches to Butterley's Bridge can still be seen on the northern bank approach. A Navigation protection boom of twenty grey drums are strung across the river Trent between the Soar mouth and the railway bridges to prevent the largely holiday boat traffic making an unwelcome acquaintance with Thrumpton Weir beyond. Large green and white navigational warnings are situated on both sides of the Soar mouth to aid more observant humans. The railway bridges convey the lines to the Red Hill. Here two tunnels, whose entrances are decorated with castellated facades and turrets, are seen through the trees looking like 19th century park adornments. This was because of passing through Thrumpton Park. —The emergence of the modern express train removes any misinterpretation. Beyond the bridges at the Trentside edge on the south bank can also be seen the brick water intake station to supply by pipes the Power Station on the south side of the hill. No attempt to disguise this utilitarian structure has been made.
From Soar Mouth to Red Hill Lock, using Map 16.

The scale of the Soar although modest compared to the Trent is still some 130ft (40m) wide from the Trent up to Red Hill Lock. The river is the county boundary now between Nottinghamshire on the east bank and Leicestershire retaining the towpath on the west bank up to Kegworth. The direction upstream is generally due south. The total length of the Loughborough Navigation using the river is recorded as nine miles and two furlongs. Simple round headed concrete mileage stones were cast in 1939 and put in position by the towpath at half mile intervals although it is not known whether these ever replaced earlier markers. The first one marked '0' is only 18 inches (45cms) from the river bank edge at the confluence - see Map 16 standing 12 inches (30cms) high. -(see also plate 18)

The river has cut close to the upthrust of Red Hill. Both quarrying and erosion reveal streaks of white gypsum running lace-like through the exposed vertical faces of red keuper marl. There are thirteen timber chalets at the waters edge beneath Red Hill mostly having timber moorings and light pleasure craft. An old gypsum quarry lane behind links them through to a field road at Red Hill Lock and Farm. The towpath bank seems largely natural although there is an occasional cut sandstone block at the waters edge surviving. The towpath runs between the river and the new floodbank. After 1,600ft (1,500m) the river in its curvature brings Red Hill Lock and tollhouse into view. The cut for the lock was made through the eastern or Nottinghamshire bank creating an island between the cut and the river. -(see Map 16) Until 1974 a timber bridge carried the towpath over the river channel to the cut and lockside. Water erosion caused it to be dismantled and it has not been replaced.

At the point where the bridge crossed the river the towpath has some rough stone metalled surface exposed. There is also one post of a former towpath swing-gate surviving with part of a smithy made hinge in situ, protected by the start of an overgrown thorn hedge. This continues along a further riverside section of the towpath for 300ft (90m). This led to the
original site for the timber towpath bridge over the river to Red Hill Lock, built in 1794 to replace the river ford. The ford was drowned by the raising of the Trent levels and lowermost section of the Soar after the building of Thrumpton weir to improve navigation.

The site of the crossing is marked now by two timber chalets on the east or island bank. The path then crossed the island in line with the brick accommodation bridge over the Red Hill Lock. This lost timber bridge originally also served to give access over the river to the former Sawley Cliff Farm (see Map 16). According to plans at British Waterways Engineering Dept. Nottingham, the bridge site was probably moved to the northern tip of the island around the year 1910. This enabled horse drawn barges much easier towed access to and from Red Hill Lock. By that time Sawley Cliff Farm was either in decline or no longer needed a bridge facility over the Soar. The less convenient nature of the older bridge site for boatmen was probably tolerated to avoid the cost of building and maintaining two timber bridges so relatively close to each other. Careful timing, with the slipping of the towrope, or taking up the rope by the horse would have been needed on the downstream approaches to the lock.

The river channel curves eastward further on to be rejoined by the canal cut above the weir and detached overflow sluice channel marked 'W' and 'S' on Map 16. The new flood-bank terminates here also. This is pierced by a pipe and control valve where the old river course joins the present one. This old river course, known to the Severn Trent Water Authority as 'Lockington marshes', is subject to wildlife conservation, the specially built flap valve allowing water to be retained and preserving the habitat. Many of its willow osiers were formerly used by the Mills family at Red Hill Lock for basket making. Walkers have to continue now from the towpath end along the river bank to the weir sluice to rejoin the towpath southward or to cross the weir bridge back to Red Hill Lock. The Red Hill Lock. - see also plan and section on plate 21.
RED HILL LOCK AND TOLLHOUSE: SURVEY MADE IN SEPTEMBER 1984 PRIOR TO EXTENSIVE HOUSE RESTORATION.

PLATE 21.

GROUND FLOOR PLAN.
The first floor rooms correspond to the main ground floor layout.

LOCK CHAMBER PLAN—on same scale as elevations.

SCALE FOR GROUND FLOOR PLAN & stable elevation. 1 inch = 50 feet.
The Red Hill Lock cut is some 550ft (170m) long with the lock chamber fairly centrally placed. This is 84ft.2ins (25.6m) long and 15ft 5ins (4.6m) wide. Subject to varying river conditions the chamber has a total water depth when full of 5ft (1.5m) to a timber apron or floor. The average fall or rise is only 1ft 9ins (.5m). This would once have been greater before the building of Thrumpton Weir and Trent navigation improvements made in 1794. Both the head and tail gates are fitted with two gate paddles using traditional Grand Union Canal rack and pinion gear. There are no ground paddles. The head gates are held in position with iron collar straps at ground level with the gate heels in hollow stone vertical quoins. They probably pivot in iron pots at the base. The tail gates are held in concrete and steel vertical quoins and it is possible that the lock chamber may have been extended at some time at this end. The balance beams are now steel, replacing the traditional timber ones. The tail gates are flanked either side of the chamber by modern blue brick treads set in concrete quadrants to aid pushing the gate open. The head gates have much older irregular shaped stones used as paving including old lock gate quoin stones. There are stop plank slots beyond the gate recess at each end of the lock.

Two features make this lock more than usually interesting. The sandstone faced chamber has 52ft (15.8m) of its top ground level length tiered into the chamber itself in the form of three stone stepped courses instead of the usual vertical edge drop. The true purpose of this terraced stepping is unclear beyond the fact that their average 15in (.4m) width and rise of 1ft (.3m) and 15ins provide multiple walkway levels along the lock chamber sides. The worn nature of the stonework suggests the feature is part of the oldest section of the lock which generally has escaped much later restoration of a refacing nature hiding old features. There is no other lock in the existing east midland canal network to compare this feature. I cannot find anything similar recorded on the former Grantham, Oakham, or Wreake canals. It could well be a local pattern.
quickly superseded or surviving unaltered. It could yet again be the unique pattern of John May the engineer ordered by the Loughborough Navigation Company to replace the former staunch here with a lock in 1779. His precise instructions being to construct it - 'on or near the staunch'. This had previously been described as a staunch 'lined with stones'. It is a tempting consideration to view the possibility that John May incorporated the former staunch or flash lock chamber into his lock instead of perhaps assuming that the staunch may have been by the river weir. The different step levels would be useful for men helping with the windlass to haul a boat upstream through a gradually falling level of water pouring through a stone lined staunch or flash lock chamber.

The second interesting lock feature is the brick accommodation bridge built in the late 18th century to replace a timber one spanning the upstream end of the lock chamber. The width of the base of the arch across the chamber is 21ft (6.4m) with an average clearance of 10ft 6ins (3.1m) from water level to the underside of the keystone when the lock chamber is full. The bridge has an accommodation width of 11ft 10ins (3.5m) across the centre with 14ins (35cm) brick parapets capped with stone on either side. Typical of many canal bridges elsewhere the parapets curve outwards to terminal buttress stops on either side giving an approach width of 17ft 10ins (5.3m). The bridge has a distinctive sandstone tapered keystone in each arch face centre instead of the more common brick. The pattern is repeated on an almost identical bridge - the Bishop Meadow Bridge on the Loughborough Navigation. Both bridges are almost certainly the work of the same builder. The outer brick faces are mostly alternate header and stretcher construction - or Flemish bond with a double stretcher projecting brick plinth across the bridge above the keystone. The underside of the brick arch is well blackened, being situated over the lock chamber just where the smoking funnels of barges going downstream would be waiting in the lock. (See also frontispiece illustrated view).
The purpose of the bridge was to give farm access to the ford and later bridge further west over the island across the river. The canal cut makes the lock chamber itself the most narrow spot to span. It had no regular use for boatmen other than any stabling access to the lock or toll house. In this respect it should not be confused with a canal towpath access bridge transferring the path from one side of the waterway to the other. According to the Loughborough Navigation's first Minute book the original structure was a timber swing bridge - presumably allowing barges under sail to pass through without stepping down the mast. This was in constant need of repair and was replaced by the present brick bridge between 1787 and 1791. (1)

The Red Hill Toll House - see also plan and section on Plate 21.

In many respects the navigation toll house is as interesting as the lock itself. It is situated just east of the lock on level ground cut away from the hillside that rises up sharply behind it. The site may well have been created by earlier clay or gypsum quarrying since the vertically exposed face of gypsum streaked keuper marl continues northwards beyond the house. Incidentally such quarrying must have destroyed half the Roman Jupiter temple site on the hill above the house. To prevent landslip on the buildings which are only 6ft (1.8m) from the hill face a 9ft (2.7m) wall of fine rectangular millstone grit blocks set herringbone fashion cover the vertical drop. The stone is typical of that used on locks and other features of the navigation.

Due to extensive restoration in 1984 it was possible to examine much of the house and record some features now changed or lost through rebuilding. Even now the oldest part of the building has timber shoring supports on the west face and needs careful restoration to preserve its historic features.

Three distinct phases of development can be determined, described here with reference to Plate 21. The first building of circa 1777 is recorded in the Loughborough Navigation Minute book on 6th May 1777 when it was ordered that a 'Toll house must be built at some convenient place near the aforesaid
genuine'. This I identify with the area shaded black on the plan and the cottage elevation excluding the toll office projecting extension. It is built of rough hand made brick of slightly varying size but averaging 9in x 4\(\frac{1}{2}\)in x 2\(\frac{1}{2}\)in, laid in both flemish and random bonding. The roof is traditional red Nottinghamshire pantiles. In plan it comprised of a simple rectangle divided equally into a stable and two living rooms - probably a toll office with a rear living kitchen, with two separate entrances facing the navigation. The stable survives remarkably intact with a brick floor and flagstone at the entrance. Inside are two stalls divided by a timber partition. Each stall has a wooden trough with an iron ring bolted to it to tie the horse halter to. Above the troughs a wooden spoked hayrack spans the width of the stable - see elevation, Plate 21. With later extension the original front room became partly a hall passage and extended toll office. The back room became a passage extension and store with timber portion insertion to create this. Traces of any former stairs have been removed. On the first floor two bedrooms of equal size sat over the stable and downstairs living quarters. These still retain a plaster floor and two wooden framed windows on the front elevation divided into 22 small glass panes each.

The second phase took place only three years later when the Loughborough Navigation Minute book records- 'Order that a house be built at Red Hill near to the present building, of such dimensions as the Committee shall think proper, not exceeding three rooms'.(2) This extension work can be seen on the plan with diagonal shading. The brickwork is very similar but the flemish bonding construction is more regular. The joint between the two buildings are distinctive. Originally the new 'house' was extended with its first floor windows and wall plate line on the same level as the original house making the elevation as a whole look much more of a single unit. The toll house office extension was probably added at the same time with a Swinland slate roof. The room proportions are larger with a fireplace in each one. In addition to a separate front door a rear passage connects them to the original tollhouse. The original tollhouse door would now probably mainly serve office purposes.
The office extension roof actually clips across the lower corner pane of the first floor bedroom window of the original cottage on to which it was built. The office extension is lit by three very solid timber framed windows having 40 panes on the front elevation and 20 panes each side. The bottom left pane on the south elevation is converted to a little trap-door enabling the toll collector to possibly deal with tolls and boatmen with greater security and minimum contact where perhaps necessary. Iron bars and shutter fittings indicate the 'bank like' security needed in a lonely spot against robbers. The office retains also a patterned cast iron corner fireplace surround. The hood mould is decorated with leafy fronds and two daisy like flowers. A stove is now placed in front of the original fireplace. The flue also has a fireplace opening on the first floor.

The third phase of development is recorded in the Loughborough Navigation Minute Book on April 25th 1836 when John Kiddy the engineer of works was directed - 'To put William Allen's house at Red Hill Lock in a good tenable state of repair.'(3) These repairs seem to have been extensive and comprised the raising of the whole elevation of the second 1780 tollhouse by six courses of bricks, and raising the level of the bedroom windows to the same extent. Restoration work in 1984 revealed the later brick insertion work partly infilling the lower part of the bedroom windows. The wallplate addition could also be distinctly seen together with the change in roof pitch line on the south gable end. A first floor window was blocked by cupboard extensions internally on the south end and a new kitchen extension was built extending toward the hill face on the east side (see Plate 21). Probably after 1860 the roofwork of the toll house extension with its kitchen addition were re-roofed in Welsh slate. This material was not used locally much before this period when the railways brought it into the district. Its advantage was that its thinner cleavage made it much lighter and more economical than local Swithland slate.

A lean-to front porch was added in brick later, and even
more recently, blocked by a window replacing the door. The single storey brick and pantile barn at the north end is of uncertain age but probably at least early 19th century. It has seen many changes. A low blocked timber lintel door is next to the present large opening. There is a recess internally 40ins(1m) high on the west wall with a millstone grit lintel. Various fittings have left traces on the walls and a row of terra cotta pipes sit on stone footings through the thickness of the wall for some apparent drainage purpose. Doubtless the building has served many purposes, and it was used to house the copper boilers used to boil the willow osiers in the basket making trade there. Yet another detached barn to the north shows few traces now but was also used in association with basket work.

At the end of the 19th century the Hills family with their basket business converted the original lockhouse cottage bedrooms into a workshop with a bench and other fittings that have left their traces on the walls. A door inserted at first floor level on the rear elevation gave access for the women, who walked from Ratcliffe on Soar to do the work. This avoided entry into other parts of the house. There are at least two wells in the yard at the back of the property.

In 1984 the south gable end wall had to be completely rebuilt since it was parting and leaning away from the main structure. New small frame window panes in traditional pattern were inserted to the elevations of the second extension lock/toll house, but the old original cottage was left untouched. One concern at present here is that the new floodbank system may make conditions worse for the lock house by preventing the floodwater running out over the floodplain to the west. During 1985-6 the Severn Trent Water Authority plan to remove the Red Hill weir and drop the river level of the Soar from Ratcliffe Lock (see Map 16) by nearly 2ft (.6m) to the level of the Soar and Trent north of Red Hill Lock. This will turn the Red Hill Lock itself into a flood control lock only, since under normal conditions it will then no longer have any rise or fall.
The river channel from Red Hill Lock to Ratcliffe lock will be dredged deeper to accommodate navigation and the ballast tipped on the river bank edges. This is to act as raised banking discouraging further any danger of flooding. This will bring about quite a major change in this stretch of the river, and navigation with a water level at least 2ft (.6m) below that still existing in mid 1985.\(^4\)

From Red Hill Lock to Ratcliffe Lock - using Map 16.

To leave Red Hill Lock the towpath crosses the Red Hill Weir on a horizontal level concrete and railed bridge 54ft (16.4m) across and 45ins (1.1m) wide. The bridge retains a handgate at the lock end only. The weir itself like the lock has a fall of just under 2ft (.6m) and is lined along the bank edges with substantial squared and dressed millstone grit blocks. When the weir is removed later in 1985 it is proposed to replace the footbridge and have a floating boom of fenders just upstream of the bridge to prevent navigation users getting trapped underneath it. The weir and bridge is illustrated on Plate 20 as recorded in 1985 prior to such alterations. The towpath then proceeds 100ft (30m) over a small island separating the main weir from an additional river overflow channel 15ft (4.5m) across and fitted with three sluice gates (see Plate 22). The path itself crosses the channel on a low stone bridge with rounded bullnose coping stones on the parapet and having a total width of 6ft 5ins (2m). Proceeding some 250ft (80m) with a hedgerow bordering the path a stile leads into a long water meadow field by the river. Red Hill Farm set in trees on the opposite bank is a fine example of a substantial 18th century brick farmhouse with squared chimneys and brick nogging string courses. A small marina mooring has been excavated south of the farm. The banksides are heavily used for mooring with much flimsy looking scaffolding pole temporary moorage support in evidence. On the west or towpath bank almost opposite the Red Hill Farm marina opening the navigation ½ mile marker stone was found almost completely buried up to its head in the bankside ground - turf was removed to reveal the number and replaced to leave the number exposed (see Plate 13).
Detail of the sluice winding gear and twopin bridge to the South of the weir at Red Hill. Unlike other weirs on the lower Soar, this sluice system works on a separate channel from the main river course.

The new lock under construction at Ratcliffe on Soar in 1984. The old lock can be seen in use on the extreme right. Note the distinctly lower level of the new lock chamber compared to the old one.
towpath shows but little under the grass of the watermeadow as it follows the contours of the river to Ratcliffe Lock. The bankside water edge gives ample evidence of its being originally entirely lined with well cut sandstone blocks with chevron tooled dressing. Many of these are now scattered by indentations made in the bank by cattle creating river beach like watering places. The granite and rubble core of the towpath can be examined in the erosion. The long meadow field on the towpath side bears traces of swampy depression, probably an ancient former river course long before the navigation, (see Map 16). Traces of ridge and furrow creep close to the river on the west and the osiers are lining the old river courses.

Midway between Red Hill Farm and Ratcliffe Lock on the east bank is a reeded and willow lined loop of the original river course where the navigation took out the bend with a 300ft (90m) long cut in the 18th century construction. Just upstream the river contour takes a broad sweep easterly. The towpath passes into another field over a stile on this bend containing navigation milestone '1' mile midway along the towpath bank edge - see Plate 18. This example bearing traces of white paint stands 9ins (22cm) clear of ground level. The next stile takes the towpath over a deep canal overflow drainage ditch that gave safeguard to the major Ratcliffe cut upstream from the lock. The drain cuts back to the canal above the lock and follows the towpath on the west side - see Map 16. The ditch is stone lined where it enters the river crossed by a wooden railed flat concrete bridge 2ft 10ins (.8m) wide. Beyond the bridge is a small grass paddock containing spoil heaps from the newly built Ratcliffe Lock excavation. A stile then leads the towpath to a short river bank stretch lined with mooring bollards and a hedge containing two fine Rowan trees. At this point the river course is left by the navigation with a sharp turn south into the old Ratcliffe lock - see Map 16. The landscape along this stretch is dominated by the Ratcliffe Power Station across the fields and midland railway to the east. The western bank landscape is that of
low meadow fields with lines of willow.

The River and Cut at Ratcliffe - see also map 16.

The river forms a large eastern bow at Ratcliffe on Soar with the navigation cut forming a 1,500ft (367m) long connecting bowstring across the western tips of it. The A453 motorway on its embankments and concrete flyover bridges over canal and river sits like a misplaced and noisy arrow over the bow. The effect of it viewed upstream from Ratcliffe Lock is to shut the village off from the waterway landscape leaving only the top of the church spire and a few tree tops peeping over it. The river bow retains a stone lined ford whose irregular blocks can still be examined by the roadside north of Ratcliffe village - see Map 16. The river channel was extensively dredged in 1984 as part of the flood improvement scheme. The small village of Ratcliffe was encompassed on three sides in the same year by a floodbank. The flooding many of the houses suffered made the village a cover photograph feature in the Severn Trent Water Authority booklet advertising details of their Soar valley flood scheme and its benefits. The village contains nice examples of 18th and early 19th century brick and pantile cottages, and a fine 18th century Manor Farm similar in type to Red Hill Farm. Both this farm and Holy Trinity Parish Church are the nearest substantial buildings to the river itself. To the north of the church and south west of Manor Farm water filled depressions could indicate an old river course, or even be connected with watercourses for the watermill sites all surface trace of which are lost. The parish church despite its closeness to the river rarely if ever floods and sits in all probability on a raised river gravel terrace.

The new enclosing floodbank is of the same construction as those by the Soar mouth and give the riverside view of the village a defensive aspect almost reminiscent of the 17th century civil war. The banks have a core of Shepshed quarry stone and brick clay or keuper marl and average 4.9ft (1.5m) in height with grassed sloping sides. Tree planting is also
to be incorporated in the scheme of landscaping them, and already the grass has taken well and softened their contours further.

The southern end of the Ratcliffe river loop has two stone pitched weirs linking a small island with an old orchard on it at the point where the navigation cut rejoins the river - see Map 16. Each weir has an average width of 55ft (16.6m) and a fall in river level of 6ft (1.8m). The south or upper weir has an additional flood sluice on the east bank. A light metal bridge links the island over this weir.

Between the river and Manor Farm the county boundary line deviates from the river. The 18th century Kegworth enclosure award shows its claim to the parcel of land on the east bank here created by an ancient river deviation. Just downstream is a ford site that linked Ratcliffe Village to Ratcliffe Lane on the west bank originally. There is also the tail of a navigation overflow ditch here on the east bank - see 'drain' Map 16. Along its length there are two small farm accommodation bridges largely built of well dressed sandstone blocks identical to material used on the navigation itself. This is a navigation overflow drainage dyke whose extent is seen on Map 17.

It is the intention of the Severn Trent Water Authority between 1985 and 1986 to lower the Ratcliffe weirs by 2.67ft (800mm). This will also entail dredging and deepening the river and navigation channels from Ratcliffe to Kegworth deep lock in a similar way to that described from Red Hill Lock to Ratcliffe Lock.

The Ratcliffe Locks and Cut - using Map 16.

The original Ratcliffe Lock sits on the downstream tail of the cut. The chamber is substantially lined in blue brick and the top stonework overlaid with concrete that conceals the evidence of the extensions carried out in 1935. In the Royal Commission Survey on Canals in 1910 the lock was recorded as having a length of only 74ft (22.5m). In 1935 this was extended to 86ft 6 ins (26.2m) on the north or downstream end - see Plate 14.
The lower Soar and Navigation from Ratcliffe on Soar to just south of Keyworth

MAP 17.

(Grimes Way Common)

(Grims Way Common)

(Little Meadow)

(Little Meadow)

Kegworth Deep Lock and 'Old Cut'.

Kegworth 'New' or Flood Lock and 'New Cut'.

St. Andrew's Parish Church.

Lost settlement site (Ropethorpe)

Site of old brickyard.

Approximate scale only.

The chamber is 15ft 4½ins (4.6m) wide and has a rise and fall of 6ft 1in. (2m). The upper sill is 5ft 3½ins below the top and the lower sill 6ft. (1.9m). Vertical steel steps have been recessed into the west wall of the chamber in more recent years and short cast iron bollards set in new concrete top edges. There are stop plank grooves at the upstream entrance to the lock. The gates themselves are each fitted with a pair of paddles. The winding gear of the head gates is the traditional Grand Union rack and pinion type. The tail gates have modern drum encased hydraulic winding gear. There are no ground paddles. Both sets of gates are held at the top by iron collar straps holding the heels in hollow stone vertical quoins. The balance beams are modern boxed steel type. Each beam has blue brick stepping in concrete quadrants set beneath them on the lockside to aid opening.

This lock is due to be replaced in operation in 1986 by the new lock largely completed by early 1985 on the west side - (see Map 16 and Plate 22). The new lock built by agreement with British Waterways but at Severn Trent Water Authority expense is designed to cut off the relatively sharp corner between the navigation cut and the river. It is also situated some 2ft (.6m) lower in ground level than the old lock, which is clearly seen on Plate 22. This takes into account the lowering of the water levels in the flood scheme. (6) The new lock chamber is a concrete steel reinforced construction modelled closely on the old locks proportions. The width is 15ft 3ins (4.5m) and the depth from the top of the lock to the bottom of the chamber is 12ft 8ins (3.8m). There are four steel bollards and a pair of vertical steel ladders recessed into the chamber feature on both sides. The gates are of traditional timber, mitred type with a boxed steel balance arms, and a pair of paddles on each gate worked by drum encased hydraulic winding gear. A plate on the gates record 'Built B. H. S. P. Stanley Ferry, 1884'. The gates are held in position at the top by steel collar straps in the traditional way but the
vertical quoin recesses for the gate heels to pivot in are steel section quadrants set in the concrete of the lock.

At present the lock chamber is empty apart from water being piped through it from the canal drain system and out into the river below. This was caused by the new lock cutting across the old drain system. The final few yards cut if needed to link the lock into the canal and river channels across the present towpath have yet to be made together with the paved surrounds to the lock still standing in stacks. Concrete joints in the lock structure are infilled with a form of plastic expansion substance and a fibreglass material seems to have been used at the lock edges presumably in the casting to allow the concrete to 'cure' sealed away from the earthen excavation. The Parish boundary between Lockington and Kegworth comes to the river on the west bank at Ratcliffe Lock.

Upstream from the lock the towpath proceeds along the Ratcliffe cut heavily reinforced here with steel bankside shuttering in place of the former stone lining although one section survives before the A.453 bridge is reached on the east bank. The navigation flood drain by the towpath appears to be deeper than the probable 4ft (1.2m) depth of the canal itself. Passing under the modern road bridge the 40ft (12m) width of the canal is narrowed actually under it by about half - opening out again beyond, ensuring vessels cannot actually pass each other under the bridge. On the east bank beyond the bridge is a 21ft 10in (6.6m) length of brickwork, some twelve courses high above water level. They are old bricks laid in old English bond viz alternate headers and stretchers and a vertical stop plank groove is cut in the section. This is the remains of an accommodation bridge carrying the old Ratcliffe lane from the west bank over the canal to the ford and Ratcliffe Village. The old road alignment can be seen still on the east bank. The stop plank grooves at the bridge enabled the whole Ratcliffe cut to be drained out through the lock chamber for cleaning out purposes and flood protection. The bridge itself was a mixed structure of brick
and stone supports carrying a flat decked bridge originally of timber over the canal. The timber beams were later replaced by concrete steel reinforced sleepers of 'H' shape girder pattern. These survive in a pile on the east bank together with stone and brick rubble from the bridge supports. They have an average length of 25ft 10ins.(7.8m). In appearance the bridge was very like the one that still survives on the Zouch cut further upstream. The bridge was dismantled when the A453 was constructed. Beyond the bridge site the Ratcliffe cut rejoins the river. On the towpath the '1 1/2' mile navigation post stands 1ft 2ins (.6m) out of the ground in good condition (see also Plate 18)

From Ratcliffe cut to Kegworth Bridge - using Map 17.

From the '1 1/2' milestone the towpath affords a glimpse of Manor Farm and Ratcliffe Parish Church, the route upstream passes under a line of pylons with the drainage ditch still following the footpath for two more fields. In the second of these the western boundary of the field commences as a floodbank of unknown date and known in Kegworth as the 'sea bank' (see Map 17) It is not obviously shown on the Kegworth 18th century enclosure map or the 1855 Loughborough Navigation canal survey although its use as field boundaries also makes this uncertain. In size it is similar to the modern floodbanks. It carries a footpath from Kegworth toward the old Ratcliffe accommodation bridge and could well have originally served to both give field protection and act as a safe raised way amid the 'sea' of floods around it. Significantly traces of medieval ridge and furrow system lie away from the river on its western side. The river continues to be flanked on both banks by navigation cut drainage dykes that demonstrate the need felt here to try and alleviate flooding. On the east bank the dyke comes from the head of a cut of river loop lined with reed and willow in Soar close. Here the navigation made a straightening cut 550ft (167.6m) long. The county boundary still follows the loop and the Kingston on Soar/Ratcliffe on Soar also come to the river on this loop (see Map 17). On the west bank the navigation dyke starts from a small pond and swampy ground at
the north end of 'Little Meadow'. This meadow has elements of marshy ground that may be evidence of old river change not recorded on maps. Again there is suggestive evidence for this revealed by aerial photographs showing crop mark 'stains' in the Kingston Meadow on the east bank (see Map 17). Returning to the towpath, navigation milestone '2' stands only 6 ins (14 cm) clear of ground level - see Plate 18. Just beyond the path enters an open field known as 'Little Meadow' on the Kegworth enclosure map. The 'Sea Bank' is left by the river as it takes an easterly turn. On the east bank the Kingston Brook enters the river. A line of old thorn bushes between 'Soar Close' and the Kingston Brook mark the site of the former gypsum wharf. This is recorded in the Royal Commission Canal Survey of 1910 as constructed of wooden piles and battens, 100 ft (30 m) long. It was Lord Belper's private Kingston Plaster Wharf. No structural trace survives. Nodules of gypsum can still be seen in the grass. The narrow field paddock outlines the wharf enclosure and mineral railway course parallel to the Kingston Brook. Beyond the Midland Railway embankment and tunnel through which the mineral line passed under it, the top of Kingston Parish Church's little tower is just visible. The 18th-century brick gables of Kingston Manor Farm can also be seen. Despite early attempts to develop the village ridge and furrow field system toward the river the village itself probably sits on a low gravel terrace in this meadowland area just clear of flooding and the river. The towpath continues through the 'Little Meadow', where the river turns more south westerly. Toward the end of the field the towpath is enclosed against the river by a line of stunted old thorn bushes with one old canal swing gate post surviving at the start. A slight turn south in the river reveals a line of chalets on the opposite bank as the towpath comes to the Kegworth Horse Bridge and the 'New Cut'. The bridge itself is a flat deck horizontal concrete one with handrails 119 ft 2 ins (36.6 m) long and 3 ft 6 ins (1 m) wide supported on two rectangular steel piers in the river. This replaces a former timber bridge that linked
the towpath onto the bankside alongside the 'New Cut' made by John Kiddy in 1826 (see also Map 13). The 'New Cut' has a total length of nearly 1,000ft (300m) with the lock chamber centrally placed. The cut produced an island here with the river bridge extended by the canal bridge toward the southern end of it. Prior to the 1826 cut boats used the river channel and light craft can still do so. Kegworth's two wharves were situated on the west river bank just south of the river bridge. In the Royal Commission Canal report of 1910 they are listed as Dakins Wharf with a stone frontage wall of 100ft recorded as private. The second is Kegworth Bridge Wharf with a stone frontage of 120ft listed as public. The stonework can still be seen on the west bank south of Kegworth Bridge. The sites are now used extensively for pleasure boat mooring. Some of the brick and pantile stabling near to the river at Bridge Fields Farm on the west bank was used for boatmen's horse stabling purposes. The Anchor Inn is a 1930's replacement to the farm adjoining that was used also as an inn. It was frequented by boatmen who sometimes performed their 'broom or brush dances' and 'clog dances' with much stamping of boots.

On the north side of the river bridge are the shallow remains of a barge turning point or 'windall', noted by the indentation on the east or island side of the bank. Banking nearer to the horse bridge are reputedly the site of a glue factory made from meat bones brought by barge from Nottingham. The purpose of the cut itself was to allow long distance boatmen to avoid the hazard of the tight river loop south of the river bridge especially in times of a strong current running. The lock also gave a stretch affording safety and control in times of flooding that can cover the surrounding meadows extensively here.

Halfway between the towpath horse bridge and the lock chamber on the 'New Cut' is navigation milestone '2½' projecting now only some 3ins (1cm) from the ground bearing evidence of white paint (see Plate 18).
The Lock appears to be completely lined in beautifully dressed and squared stone with a chamber length of 90ft (27.4m). The width is 15ft 5ins (4.6m). The upper sill is 4ft 10ins (1.4m) and the lower sill 4ft 8ins (1.3m). The depth of the chamber is 15ft (4.5m) from ground level. There is no rise or fall in normal conditions and the gates are all open except at flood time. There are stop plank grooves at both ends of the lock and additional box like recesses in the walls about 1ft (30cm) square probably for additional reinforcing beams at times of flood or drainage. The tail gates have single paddles fitted with Grand Union rack and pinion gear. The head gates have two paddles each, fitted with Grand Union rack and pinion gear. There are no ground paddles. The balance beams are all boxed steel type each having a modern concrete quadrant of brick stepping on the lockside to aid opening. The gate heels are held at the top by the traditional steel collar into vertical quoin grooves.

Rough granite sets or paving lies exposed on parts of the towpath side of the lock and under a thorn bush near the upper gate is a concrete drum 3ft 6ins (1.06m) diameter with a stainless steel pin mount in the centre. This is a relic of the second world war, and is a mount for a Lewis gun to give defensive raking fire over the lock and nearby bridge. It belongs to those structures put up like the pill boxes in case of invasion. (See illustration Plate 18).

The canal bridge itself is a beautifully faced stone structure matching the material of the main sandstone river bridge. In 1937 both the river bridge of five arches and canal bridge were widened to improve the road width but at the same time carefully re-using old materials or adding, with a very close match in other cases, to the original in the same style. Examination makes the old and new material easy to determine by the weathering condition. Two slate plaques on the south face of the river bridge record a total width widening of 40ft (12.1m). The canal bridge has an original width of 23ft 10ins (7.2m) being widened on either side to give it a present width of nearly 45ft (13.7m). The original

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arch span being somewhat shorter in width than the present reveals the original facings well under the bridge, up to 3ft at towpath level. There is a towpath under the bridge on the west side. This was for the convenience only of horses having taken boats to Kegworth wharf and then walked around the southern end of the island to return northwards. Horses taking boats straight on past Kegworth had to cross over the canal bridge and return to the towpath on the eastern or Nottinghamshire bank from here onward. Grooves caused by ropes can be seen on the canal bridge older corner face on the south side (see also Plate 23). Despite some evidence of settlement cracking the main Kegworth river bridge together with its plainer but equally nice stone canal bridge represents one of the most architecturally pleasing bridge systems over any part of the Soar today (see also Plate 23).

The Severn Trent Water Authority wanted British Waterways to resort back to the original river channel for regular navigation use, abandoning the 'new cut'. The reasons for the 'new cut' given in the old Loughborough Navigation Minute Books helped to successfully resist this move. Sections of this cut are beautifully stoned banked lined still. The road to Sutton Bonington east of the bridges has a raised timber catwalk because of the heavy flooding that occurs.

From Kegworth New Cut to Kegworth Old Cut - using Map 17.

The towpath proceeds upstream from Kegworth bridges on the east bank on a long river bend through an open field. Kegworth Village is viewed across the 'Halstone Meadow' on the west bank. To reach the lock a stile and short concrete plank footbridge 3ft 8 ins (1.1m) long is crossed. This goes over the exit mouth of a major navigation drainage and overflow channel that runs alongside the towpath for over one mile. It is known as the 'Bowmer Dyke' and has a well lined stone exit channel beneath the footbridge. Beyond lies the Kegworth Deep Lock, sitting on the tail of what is known as the 'Old Cut' to differentiate it with Kegworth's 'New Cut' by the bridges. Navigation milestone '3' stands 1ft 7ins (.5m) high between the lock chamber and the Bowmer Dyke (see Plate 18).
The main river bridge at Keyworth. The left forecourt bank is the site of the public wharf (viewed from S side).

Keyworth canal bridge - extended in sandstone from the main river bridge to cross the 'New Cut'. Under the outer arch can be seen the original arch, extended by widening all the Keyworth Bridge in 1937. Beyond the arch lies the Keyworth flood lock with all gates open.
The Kegworth Deep Lock and watermill river complex is best studied with reference to Maps 15 and 17. The natural river channel lies on the west side of the navigation 'old cut', passing over the Soar's largest weir to be joined by the navigation cut on the north end below Kegworth deep lock. The mill race and tail channel is now completely infilled and only one low brick barn survives of the once important watermill here, sitting amid a grass and tree landscaped small caravan park. The river weir descends in a series of terraced stone steps of some 230ft width (70.1m), with a double sluice channel and winding gear at the southern end. Two small islands below the weir together with adjacent banks were formerly osier growing areas for basket making (see also Plate 24).

To bypass the mill system the navigation has made a curved cut some 1,650ft (502.9m) long on the Nottinghamshire bank leaving a long bent finger of land that reduces south of the weir to a long thin tail in places only 12ft (3.6m) wide. On the south side of the lock this tail is cut by a flood over-spill weir from the canal 93ft (28.3m) long, descending by four sloping terraces to the river level below. This is bridged over with a flat series of concrete slabs on short blue brick piers with a wooden handrail. This is for maintenance and is not for public access. The remaining tail of land is pleasingly left to trees and bushes framing the waterway.

Kegworth deep lock has a length of 75ft 4ins (22.9m) and a top width of 16ft 6ins (5m). The depth to the upper sill is 5ft 10ins (1.7m) and the lower sill 4ft 11ins (1.4m). The rise and fall of water is 7ft 6ins (2.2m). The chamber and surrounds are stone lined, and the chamber walls are brick faced. There are stop plank grooves and a boxed recess for a beam similar to the Kegworth shallow lock at the north end. Just beyond are access steps down from the bank to water level and a length of steel and concrete mooring with bollards on the towpath edge beyond that. The gates are all strapped by the heels at the top by steel collars into vertical stone rebated quoins. The tail gates have a single paddle each with modern drum encased hydraulic winding gear. The head gates are each fitted with
Kegworth river weir and its two sluice channels on the left. The rough water in the bottom left corner is part of the overspill weir running off the Kegworth old navigation cut near Kegworth deep lock. The two weirs discharge into the lower river level in which small islands are formed. Part of one is centre and right in the picture, in front of the weir. These islands were formerly used for basket making over growing.

Part of Zouch watermill showing the wheel chamber in the white part of the building. The millstream emerges under the access bridge and road that also led to the top floor mill hoist originally further right from the wheel chamber opening. The mill (originally two side by side) can be seen as two separate structures in the picture marked by the division between the white half and the second partly obscured by the willow tree.
two paddles having Grand Union rack and pinion gear. Again there are no ground paddles. The balance beams are all boxed steel type with concrete set stepping beneath on the lock sides to aid opening. Just 160 ft (48 m) south or upstream from the lock chamber the stone lined cut closes like a bottleneck to a width similar to the lock chamber before opening out again. There are stop plank grooves within the 'bottleneck' sides. This is the site of a former swingbridge that carried a now overgrown field-road across the fields eastward from Sutton Bonington to the Kegworth watermill. Originally the road either crossed a bridge or ford across the river also to reach the mill. (See also on Map 15,) where both crossings are recorded in position in 1855. Today a worn fieldgate leads through to a little used track between trees and bushes. The line of the old field road is also the parish boundary between Kingston on Soar and Sutton Bonington on the east bank.

The lawns of Kegworth Manor House and other dwellings sweep down to the river edge, and are glimpsed through the trees growing on the tail of land southward between the canal and river. The towpath is isolated between the canal and the Bowmer Dyke as it moves on southward. At the point where the river and canal meet an impressive restored medieval house in stone and brick is seated near the waters edge on the west bank opposite the towpath. There are indications of 16th century perpendicular or Tudor style doors and windows all much restored. The house is known as 'The Hermitage' little of whose history is known. Immediately south of the house beyond the stone 'ha ha' wall lies the banks of a lost village site known locally as Pope Thorpe. The name cannot be found on the enclosure maps for Kegworth. Instead they record the site as 'Windhurst' (see Map 17). A distinct series of enclosure earthworks line a sunken way leading to a ford site across the river at this point, that divers for the local History village association in Kegworth have ascertained is stone lined. The river area here is also referred to in the Loughborough Navigation Minute books as 'Beccles' or 'Becklesford Shoals' and needed dredging at intervals. The name could be another
possible reference to the name of the lost village site. A little further west across the A.6 road a lane leads to an old brickyard site. It is very likely that this may be identified with one of those referred to in the building of the canal, with bricks being wheeled down to the river and being taken in boats to various construction sites on the navigation (see Map 17). Yet another site of this nature lies significantly near the river near the White House Inn a little further upstream (see Map 18).

On the towpath side of the cut and river the deep Bowmer Dyke has led to the construction of a series of sloped stone lined cattle drinking bays leading into it from the fields. Each shows evidence of stone edge lining with typical canal type rectangular millstone grit blocks. This bears out the evidence of putting into effect the order in the Parliamentary Act of 1776 like so many other canal acts - that drinking places were to be provided for cattle by the canal company if the river access was denied. Some of these drinking bays are now in a ruinous state but they are marked by the letters 'D.B.' on Maps 17 and 18.

The Severn Trent Water Authority's forthcoming alterations from Kegworth to Zouch.

By Easter 1987 the Severn Trent Water Authority hope to complete and have in operation another major section of their flood alleviation scheme from Kegworth to Zouch.

Kegworth shallow lock by the bridges is to be strengthened and underpinned. Kegworth deep lock is to be replaced by a new lock similar in type to the one constructed at Ratcliffe on Soar, but probably on or very near the existing one. The new lock will take into account the lowering or regrading of the river level between Kegworth deep lock and Zouch lock and weir system, similar in nature to the lowering of the water levels already referred to from Red Hill Lock to Ratcliffe and Kegworth. Kegworth main weir will be modified accordingly but retained as a feature in much of its present form. Into the weir will be installed two radial flood control gates housed in a concrete structure, mostly below ground level. These will operate on
a hydraulic system and control the level of water upstream both during and after floods. The towpath on the east bank will be raised from Kegworth deep lock to the 'Devils Elbow' (see Map 18) to form a floodbank averaging 1.3ft (410mm) in height, reducing a little toward the 'Devils Elbow'. The Bowmer dyke will undergo some diversion in the process. Further away to the east the long ribbon like village of Sutton Bonington will have a floodbank system similar to that now built at Ratcliffe on Soar guarding it from any flooding from the river. All these changes will again alter the appearance of the river and its levels as they have been known since the time of the building of the navigation, and previous to that when major weirs were constructed for the watermills. (8)

From Kegworth 'Old Cut' to the 'Zouch Cut' (using Map 18)

From the point where the south end of the Kegworth 'Old Cut' rejoins the river the path continues around a broad river bend still bordered by the Bowmer Dyke. Just beyond the bend the Severn Trent Water Authority have installed an ultra sonic gauge to measure water levels and flow across the river. These are measured between two 'V' projections extending from the river bank on both sides. The recording is made diagonally across the river between these points on instruments in a small neat brick building on the west bank, metal signs bearing an anchor design mark the crossing point. Some further 30yds (29.1m) south along the towpath the navigation milestone stone '3½' stands to a height of 9ins (23cms) (see Plate 18). The field opposite on the west bank bears traces of ridge and furrow on ground sloping down to the river. This may relate to the lost settlement site adjoining to the north.

The next half mile is a broad straight stretch of river dominated by the 'Mill Hill' beyond the A6 road on the west bank. This road descends to the nearest point on the lower Soar that both the road and river meet, at the White House Inn. The west bank river approach to this point is lined with eighteen magnificent weeping willows. The towpath and
Bowmer Dyke is also lined with common bat willow with views eastward over the enclosures of Bonington's great 'Nether Field' to the village.

The 'Nether Field shows extensive traces of medieval ridge and furrow coming quite close to the river, in an area at present very subject to flooding despite the Bowmer Dyke. Its age and period of use cannot be determined here, but such systems of farming were in use from the 18th century enclosure period back to before Domesday. Certainly the watermill systems and later navigation must have influenced land usage here. The fields are crossed by a field road from Sutton Bonington called 'Soar Lane' that may have once given cattle access to the river for drinking and grazing.

The White House Inn is now a popular boat and roadside hostelry and restaurant. It was rebuilt in its present white stucco form with sham timber framing in circa 1928 replacing an older inn recorded in local directories as 'The Navigation'. There was also a coal wharf here that would have served the southern end of Kegworth Village. It would also have been very convenient for coal deliveries to Thatton House, built by Edward Dawson, a former major Loughborough Navigation shareholder (see Map 18). There are also two early cottages by the White House Inn with water frontages known as 'Riverside' and 'Slade House'. Both have doorways and windows characteristic of the late 18th or early 19th century. Between them and the White House Inn is also a small early brick barn. These may all relate to the early trading point with its wharf set between navigation and road. Opposite the White House Inn by the towpath on the river bend is navigation milepost '4' standing to a height of 1ft 5ins (.3m) See Plate 18.

The ground level of the west bank south of the White House Inn drops to meadowland levels (see 'Horscroft Meadow', Map 18.) This caused the Navigation builders to construct another drainage dyke over the next half mile of river meadowland (see Map 18). The towpath still continues also bordered by the Bowmer Dyke on the east bank. Over the past two
years British Waterways have been reinforcing the towpath bank edge with steel shuttering piles from Kegworth Deep Lock to 'Gadds Island' Cut. In many cases the original sandstone or millstone grit bank lining has been revealed or destroyed in the operation. Milepost '4½' had been completely removed and lay on the bankside when recorded. It had a total length of 3ft 4ins, of which 21 ins were intended to stand clear of the ground judging by the concrete 'collar' that would have been set around it at ground level (see Plate 18).

Excavations for the new steel pile bank edging have also revealed the rubble core structure of the towpath. In addition to granite chippings considerable quantities of broken stoneware pottery were revealed. Many of these were vitrified waster fragments of pansions and stoneware bottles. The glaze was both off white and the typical ginger bread brown associated with potteries at Denby and other sites near the Erewash Canal. My interpretation is simply that boatloads of these 19th century wasters must have been brought to help reinforce the towpath from time to time as a supplement to Mountsorrel Granite chippings.

On the west bank opposite the '4½' milestone is a large area of osier willows set in rows and bounded by the navigation dyke. Although grown to full height and maturity they are almost certainly a fine example of a former basket making osier plantation. There is also a rectangular pond like earthwork in the middle of the plantation (see Map 18). It is tempting to consider they originally supplied the basket makers in Kegworth, whose parish they lie in.

The river here takes a sweeping bend southward with the old parish boundary between Bonington and Sutton, meeting the river on the bend. The Bowmer Dyke cuts inland eastward from the river bank near here and ceases to be navigation responsibility, as it drains off Suttons meadowlands. The towpath now enters a series of open meadowland fields for nearly one mile to the Zouch Cut. Just south of the Bowmer Dyke turn off from the towpath, the river makes its 'Devils Elbow' turn and the parish boundary of Long Whatton meets the
river here. The 900ft (274m) long navigation cut engineered by John Kiddey sometime between 1819 and 1826 produces the island. This is now virtually a natural history sanctuary of willow, reed, and grasses. Its popular name of Gadd's island comes from the 19th century boatman James Gadd who undertook with his men the actual digging of the navigation channel. There is a brick boathouse on the west bank of the river and a chain bridge formerly led across to the island nearby. The County boundary slices across the middle of the island suggesting that the northern end was originally in Leicestershire and the southern end in Nottinghamshire. On the 18th century Sutton enclosure map made just prior to the coming of the navigation in 1775 the area, now the northern end of the island, is indicated just beyond its parish boundary line and called 'Bridge Holm' with the river course where the county boundary now crosses the island. Certainly there is more to this feature than a simple navigation cut, and the name 'Bridge Holm' may indicate an early river crossing point. The southern tip of the island has a waterway sign directing all craft to keep right or starboard. The towpath continues through the river meadow fields, no sign could be found of navigation milestones '5' and '5½', they may be lost in bank erosion due to cattle coming to the river or alternatively buried under flood silt. Aerial photographs reveal evidence of medieval ridge and furrow fields running parallel to the river but one field distant to the east. They also reveal the possibility in swampy ground that the river course may have been much closer to them at some early point in time (see Map 18). On the western bank the land gently rises to cross the A6 road and form a long low ridge crowned by Whatton Park and House. The house in grey ashlar stone has seen various changes since it was built in 1802 for Edward Dawson, but looks pleasingly impressive amid its parkland trees. The view from the house to the river is also impressive and it is easy to imagine previous owners watching the navigation traffic and the fattening effect it would have on their share dividends.
The ridge of high ground on which the hall sits runs close up to the river where the Long Whatton/Hathern parish boundary comes to the waters edge. Here the steep drop into the river is covered in trees and is recorded on the 18th century Hathern Enclosure map as Hathern Cliff. Just to the south of the hill the Zouch Cut turns sharply eastward off the main river course.

Zouch (using Map 19)

The watermill hamlet of Zouch sits at the east end of a half mile long island created by the river on the south side and the navigation Zouch cut on the north. The A6006 road crosses the river on the west side, traversing the 'island' to pass over the Zouch Cut at the east end. The river channel still forms the county boundary. There is a deviation in it just south of the Zouch Cut leaving a parcel of land belonging to Hathern in Sutton Parish due to an old river change. The parcel of land is recorded on the 18th century Hathern enclosure map. On the west bank the Whatton Brook enters the Soar. Beside it the timber Loughborough Boat Club is situated with concrete terracing down to the waters edge for launching their boats. The building is part surrounded by a fine row of poplars. The County Bridge carrying the road over the river is a horizontal all cast concrete structure supported on square concrete piers. It has an overall width of 44ft (13.3m) and a clearance over the river level averaging 11ft 6ins (3.5m). The overall length is some 204ft of which 90ft crosses the river itself. Panels set in the upstream side parapet walls record the joint county building with the cryptic 'L.C.C.1930' and 'N.C.C.1930'. The parapet walls have sham cutwater recesses off the paved walkway on either side to give elements of decoration to an otherwise rather austere structure. The bridge is just immediately downstream from its 18th century predecessor. The original approach road to this bridge can be traced on both banks of the river with remains of metalled road surface. At the east end the old road now serves to give access to a line of riverside bungalows. The bungalow nearest the bridge has a second war concrete Lewis gun mount.
in the garden to give defensive coverage of the bridge. It is identical in type to the one mentioned by Kegworth shallow lock (see Plate 18). Upstream from the bridge low banking in the field on the west side from the causeway approach to the site of the medieval bridge. Its width suggests the bridge was of the narrow packhorse type similar to that surviving in Garendon Park, Anstey and elsewhere (see Map 19). Just beyond two dykes enter the river. Both extend for over a mile over the Hathern water meadows to aid drainage of an area very subject to flooding. Again they are shown on navigation waterway maps since their maintenance would help avoid over long delays after flooding. On the opposite bank two mill race streams create a small island or 'holm' as they enter the river. The Watermill itself is a substantial three storyed structure with rows of steel framed rectangular windows (see Plate 24). The building is clearly a joining of two separate structures each originally having its own wheel. Both wheels are gone now but the wheelhouse opening with score marks on the brickwork made by the wheel survives in the block nearest the main road. Water from the mill race still passes through the chamber and is controlled by sluice gear, before passing under the mills approach road and into the millstream. The second wheel was originally situated at the river end of the building. The mill is now converted into flats. The substantial millrace survives with sluice controls by the mill to let excess water back into the river (see Map 19 'race and sluice points marked 's'). Both the mill race and Zouch navigation cut rejoin the river at the weirs upstream from the mill.

The Zouch Cut slices across the southern meadowland of Sutton parish. The lock is on the tail of the Cut. The navigation is elaborately protected from flooding by a deep dyke along its northern edge with an outer low floodbank crowned initially by old thorn bushes. The outlet for the dyke passes under a small stone arched culvert bridge just downstream from the lock.

The lock has a length of 91ft 6ins (28m) now, being - 255 -
lengthened in 1935 from 73ft recorded in the Royal Commission Survey of 1910. The stone end edging to the original lock length can be seen in the lock chamber on the south side. Former boatmen recall having to remove their tillers and fenders to work through this originally rather short lock. The width is 15ft 5ins (4.7m) and it has a fall of 7ft (2.1m). The upper sill is 3ft 11ins (2.7m) and the lower sill 6ft (1.8m) from the top of the lock. All the gates are iron strapped by their heels into vertical stone hollow quoins. The tail gates are fitted with single paddles having Grand Union rack and pinion winding gear. The head gates have two gate paddles each. There are no ground paddles. All the balance beams are boxed steel type and have bricks set in concrete quadrants beneath them to aid gate opening. New concrete mooring bollards have been set around the lock. There are stop plank grooves at both extreme ends of the lock.

Upstream from the lock an accommodation bridge crosses the navigation. Its side structure is built of squared sandstone blocks diagonally and chevron dressed. The parapet has rounded coping stones terminating in rounded pillar like buttress supports at each end corner of the bridge (see Plate 25).

Originally a flat deck timber and railed horizontal bridge spanned the stone side supports. Brickwork has been used to block the original timber housing slots and a concrete beamed and railed work replaces the original timber. The towpath passes beneath the bridge and worn grooves in the corner stonework made by the towropes can be seen clearly on the downstream side (see Plate 18). The bridge has a 9ft 5ins (2.9m) clearance above the water level. This bridge is of a similar type to the one over the entrance to the Erewash Canal and the one now dismantled on the Ratcliffe Cut. It has a width of only 4ft (1.2m) over the actual top of the bridge - the stone side parapets curving outward as in typical brick canal bridges to a width of 7ft 6ins (2.2m). The bridge carries the field road known as pasture lane over the canal where the path continues over the field southward to obtain access to the riverbridge crossing and the watermill. Part of this field has distinct
The Zouch Cut accommodation bridge with its sandstone sides and rounded piler-style terminal buttresses. The watermill and cottages in the hamlet of Zouch can be seen under the bridge in the background.

The Zouch Cut behind the hamlet itself. The 'Rose and Crown' Inn, centre, is a traditional bargee's tavern. Between the two moored narrowboats is the former Zouch Wharf. The large brick house by the narrowboat farthest away is the former watermillers house whose walled rear garden was cut off from the house by the navigation. The modern Zouch cut road bridge is in the distance - extreme left.
ridge and f.row surviving. An interesting reference occurs in the Loughborough Navigation Minute book on 21st November 1787 concerning this bridge. Complaints were recorded by several including Mr. William Boyer of Hathern for want of a 'bridge passage or convenience for foot passengers over the canal leading from Wm. Jelley's Mill to Sutton Bonington - and considering a road was laid out in the enclosure act for a road from the Mill to Sutton Bonington'. (9) The Navigation Company obviously had to comply with this and built the stone and timber footbridge over the Zouch Cut to ease communication to the watermill. Upstream from the bridge a stone culvert allows excess water from the canal into the dyke flanking the towpath. There is also a sluice paddle gear here that would allow extra water drainage if required. The Zouch Cut now passes behind gardens of a row of 19th century mill cottages complete with a communal wash house building with a squat square brick chimney for its stove. The Rose and Crown Inn now incorporates another former similar row of cottages built on to the canal edge itself. The original Inn, known in 19th century directories as the 'Bulls Head', was initially but a central cottage in the row (see Plate 25). Across the road from the Inn stands the dilapidated timber former Rose and Crown tea rooms against the mill race. The punts lie in decay beneath the brick pier supports. Next to the Rose and Crown is the former Zouch wharf described in the 1910 Royal Commission on Canal Survey as having a 50ft stone frontage (15.2m). This is in part built over now. Another wharf is recorded in the same survey, on the mill race itself, and known as Zouch Mill Wharf having a landing of 270ft (82.2m) on the mill dam. A tricky manœuvre was needed to pass under a timber towpath bridge over the mill race to reach it. Next to the Zouch Cut wharf site is a substantial double fronted brick house in need of restoration with a Swithland slate roof. The back of the building is on the canal edge (see Plate 25). This is the millers house. The original back garden to it
is the brick walled enclosure by the towpath on the opposite bank. This also has a very small up, down roomed pantile roof brick cottage against the towpath. There is a single fireplace within. This is now used as a stable. A very old pear tree grows by the side of it. The Zouch Cut literally sliced the millers garden off from his house. Perhaps it is small wonder the early Loughborough Navigation Company had problems of water usage with the millers of Zouch. Just beyond the enclosure navigation milestone '6' stands high in the hedgerow by the towpath (see Plate 18). The Zouch Cut now turns sharply to pass under the road bridge. The present outer face is concrete due to widening but this has been added on to the original dressed sandstone structure that can be seen clearly under the bridge. The original bridge had a road width of only 19ft 3ins (5.8m) that has been more than doubled now. Originally the bridge was a similar type of construction but on a larger scale to the Zouch Cut footbridge. It was bridged over with a cast iron cambered arch with iron side rails (see Plate 26). At the upstream end of this bridge are a pair of timber flood lock gates that can isolate the Zouch Cut from the river beyond.

The towpath has to be rejoined by crossing over the bridge and descending to cross two concrete bridges leading to the west or Leicestershire river bank side. The first bridge 109ft (32m) long passes over the head of the mill race and by the mill race weir to join on to a small island. From the island the second bridge passes a distance of 116ft over the top of the main river weir. Both these bridges are flat decked and railed concrete structures now some 3ft 4ins (1m) wide. Originally they were both graceful timber typical horse bridge structures (see Plate 25). Opposite the weirs on the east bank stands Zouch Farm, being a nice late 18th century building with a Swithland slate roof.

Future flood scheme plans.

In 1988 the Severn Trent Water Authority plan a regrading or water lowering scheme from Zouch weirs up to the mill weir.
The original road bridge over the Zouch cut, taken from an early 20th century photograph. The sandstone sides are similar in nature to the still surviving Zouch cut accommodation bridge. The top here was a cast iron and railed structure with a low cambered curve. (original photo, Nottingham Central Library).

The former traditional timber towpath bridge over the head of the mill race at Zouch. This is now replaced by a flat deck concrete structure like the one extreme right over the river weir. Barges bringing gypsum to the watermill for grinding could just squeeze under this bridge with considerable difficulty to reach the back of the mill.
at Cotes. Parts of the river may be widened and flood
defence banking will be involved especially around the northern
end of Normanton on Soar. Also in that same area a land
drainage pumping station will be built. On the Zouch main
river weir a concrete flow control structure will be built
similar in nature to the one described at Kegworth weir. A
line of floating booms will cross the approach to the flow
control mouth - 'to prevent boats being drawn in!' (10)

From Zouch Weirs to the Loughborough town Cut - using Map 19.

The towpath now proceeds on the Leicestershire or west
bank over open watermeadow fields very subject to flooding.
Hathern Village can be seen on rising ground to the west
keeping a respectful mile distance from the river. The
east bank is lined at intervals with timber holiday chalets
and the headquarters and mooring of the Soar Boat Club (see
Map 19). The fields on the towpath side originally had double
swing to gates that prevented cattle moving from one field to
another. Stiles now replace these. No trace of navigation
milestone 6½ could be found. The village of Normanton on Soar
has a very attractive water frontage. Modern houses and
bungalows have landscaped gardens down to the waters edge.
The Manor House outwardly appears like a large mock tudor
building in the late 1920's fashion but it retains earlier work
inside. The Manor House grounds are bounded by a grey lime-
stone boundary wall that ends at the rivers edge. Some later
housing has crept inside the original walls, but the southern
end marks the entrance to the Normanton wharf. The narrow
inlet has long since silted up and appears like a lane running
down to the river between the Manor House boundary wall and
the Plough Inn. Keepers of this inn were coal merchants in
19th century directory references. The Inn itself with a wide
garden river frontage was heavily restored outwardly in tudor
timber frame style in the 1930's. Old photographs indicate
the restoration imitates the original appearance. Inside
quantities of medieval framework survive. The ground of
The lower Soar and Navigation from Zouch Cut to Loughborough Cut.
the east bank on which Normanton stands rises noticeably past
the Plough Inn on the river side supporting a fine 18th
century brick 'Home Farm' and a former Victorian style
rectory. The church structurally dating from the 12th century
is significantly placed on the highest point of actual river-
side bank in the village (see Plate 27) marking the centre of
medieval settlement.

On the river bank on the south side of the churchyard
is the chain pull ferry. This broad punt structure still
operates at 15p per crossing. Arrangements have to be made
with the ferry keeper in the house nearby on the Normanton
bank. The setting of trees, church and ferry are of picture
postcard quality equal to most English riverside landscape can
offer (see Plate 27).

The towpath has now passed into the old parish of Dishley
as it proceeds southward. A few more chalets are passed on
the east bank and at a distinct river bend a line of old thorn
bushes indicate where river erosion has taken the original
towpath away. At the south end of these bushes navigation
milestone '7' stands 12 inches (30cm) high on the bankside
(see Plate 18). Remains of an old osier bed may be seen on
the bank opposite together with a navigation warning sign for
approaching the chain ferry at Normanton.

Beyond the following field the towpath crosses a dyke over
a substantial dressed sandstone culvert bridge with stone para-
pets. Signs of the iron hasps holding the former swing gates
can be seen at each end. The bridge is 17ft 9ins (5.4m) long,
and 4ft (1.2m) wide within the parapet walls. The stonework
is typical of that used on locks and other navigation structures
with peaked and diagonal, and chevron stone dressing techniques
used. Some brickwork repair has been necessary on the east
wall. The dyke itself is a fragment of Robert Bakewells
elaborate farming system in the 18th century. Dishley Grange
where he lived may be distantly seen across the fields to the
west.
NORMANTON CHAIN FERRY. Present ferry all-steel hull built in 1981 at Sawley by Trevethick Boat Builders, registered British Waterways 13.84 F (River Washed) 1879. The present ferry was an all-lumber construction of the same dimensions. Passenger capacity 16. Purchased by the Parish Council with donations by fishermen, anglers, cycling clubs, rowers & cycling clubs & Mrs. Ager, who owns the ferry house & land (of Norman Hall). Present crossing charge 15p.

Elevation

Plan

NORMANTON on Soar, Church of St James and ferry.
The last riverside fields of Normanton Parish on the east bank have another former navigation drainage system in them—see 'Town Field' Map 19.

The towpath proceeds from the stone bridge across another open field that has slight traces of ridge and furrow quite close to the river. The path then enters a hedge enclosure separating it from the field as it turns on the river bend. The Blackbrook is crossed on a brick arched bridge with no side walls. The clearance of the arch over the water is so low that debris collects on the east side of the bridge. This brook that fills the great Blackbrook reservoir in the Charnwood Forest makes a sorry sight here, but new water levels in the future should improve the clearance of the low brick arch. The Blackbrook also forms the old parish boundary between Dishley and Thorpe. The next small field is the last one the towpath will pass through. Just before the stile is reached leading the towpath to the hedgeside navigation milestone '7½' stands to a height of 8ins (20cm) —see Plate 18. Just beyond the stile the towpath follows a broad curve which marks the junction of the Loughborough Navigation town cut with the river. The upstream course of the river turns eastwards here to run through the Bishop Meadow and great Loughborough Meadow. The navigation cut begins its final one and a half mile and two chains cut to the town basin.


From leaving the river the navigation bisects the Bishop Meadow, initially in an easterly direction. There is evidence in the field opposite the towpath behind an impressive bank of reeds of an old river course change. Quite probably the making of the cut brought this about to make a better navigation entry into the river. After 500ft (367m) the canal is crossed by the Bishop Meadow accommodation bridge for the convenience of access from the Bishop Meadow Farm. In appearance it has almost identical characteristics to the bridge over the Red Hill Lock. It is built of brick, in
English and Flemish bond, with the same distinctive centre keystone of sandstone, and stone capped parapets curving outward from the centre of the arch to terminal buttresses (see Plate 28). The width across the base of the arch is 20ft 6ins (6.2m). The towpath passing under the bridge reduces the actual canal width by 4ft 6ins (1.3m). The clearance from the bottom of the keystone to water level is 11ft 9ins (3.5m). The bridge is 13ft (3.9m) wide along the towpath at the base of the arch. Blue bullnose bricks have been inserted on the lower courses of the arch on either side of the bridge on the towpath side which bear deep indentations of scoring from tow ropes (see Plate 18). Both the approaches to the bridge and the water level foundation is constructed of fine cut and dressed millstone grit blocks.

Beyond the bridge the towpath begins to rise very gently above water level toward the Bishop Meadow Lock. The opposite bank is protected by a low floodbank covered in old thorn bushes built probably in the original construction works to guard the canal from the meadowland floods.

The Bishop Meadow Lock is situated on a distinct bend in the navigation from east to south. The lock has a length of 76ft (42m), a width of 16ft 1in (4.8m) and a fall of 8ft 2ins (2.4m). This is the deepest lock on the original Loughborough Navigation bringing the navigation clear of the river flood plain levels for the first time. The top gate sill is 5ft 11ins (1.5m) and the bottom gate sill 13ft (3.9m) from the top of the lock. All the gates are iron strapped by their heels into vertical stone hollow quoins. The tail or bottom gates are each fitted with a single paddle with new drum hydraulic winding gear. The head or top gates have two paddles each, with Grand Union rack and pinion winding gear. All the gate balance beams are boxed steel. Beyond the top gate rebate walls are ground paddles on either bank with rack and pinion winding gear to aid filling this deeper lock. The lock chamber itself is largely blue brick lined now, but it retains many well dressed stone blocks at each end. There are stop plank grooves
The Bishop Meadow Bridge: comparable in style to the Red Hill Lock bridge. The Bishop Meadow lock house is seen under the arch in the distance.

The Bishop Meadow Lock and House. The traffic light by the lock will warn of flood or other obstructions downstream.
at each end of the lock. Renovation in the form of concrete edging, mooring bollards, and quadrants of brick stepping to aid lock gate opening has taken place. There is also a waterway users toilet and water top on the east side of the lock.

A large sandstone block, being part of the vertical hollow quoin for a lock gate now rests on the east bank below the lock. It has the date 1878 cut in it, presumably when the lock underwent major repairs. Excess water from the navigation above the lock passes through a partly subterranean tunnel on the east bank. The course encircles the present lock house to emerge downstream under a stone lintel opening near the old 1878 quoin stone.

The present lockhouse on the east bank is a neat brick structure in regular Flemish bond. The roof is Welsh slate with pierced decorative ridge tiles. There are twin chimney openings at each gable end (see Plate 28). This is the lockhouse built in 1887 from money resulting from the sale of 'Gadd's Island'.(11) It replaced the earlier much smaller and primitive structure that stood by the lock on the towpath or west bank. The appearance of the old lock house is recorded in the sketch on Plate 29, made originally in 1954 shortly before demolition.

The navigation proceeds almost due south now toward the town that can be seen sitting beneath its backdrop of Beacon Hill and Charnwood Forest ahead. The accommodation road from the lockhouse now runs on the bankside opposite the towpath. Beyond lies the extensive town sewage works. "West of the towpath the area is dotted with buildings designated as 'light industrial development'. They sprawl over the former town steeplechase course whose grandstand is now occupied by the hanger like structure of a brewery firm near the 'Swingbridge'. The steeplechase course in its turn was replaced by a world war II airstrip. There is no trace of navigation milestone '8' surviving above ground. The navigation makes a slight turn before passing under the 'Swingbridge'. The bridge and
The original little cottage built on the west side of the Bishop Meadow Lock to oversee the careful use of the lock and to prevent precious loss of water from the upper section of the canal. Note the remains of window shutters. A brick over the door had the date 1779 cut in it. Until the 1950s it was later used for lock repair work as a carpenters workshop before demolition. The brick building behind the cottage to the right was a further out-house. This drawing is based on an original made in 1853.

Detail tracing from Chas. Tebbutt's 1853 Loughborough Navigation map showing the Bishop Meadow house and lock site.

The 'Swinging Bridge' off the former Swingbridge Lane, Loughborough where the towpath changes side on the navigation.
lane leading to it from the Derby Road just outside the old town took its name from the original timber swingbridge in the 18th century. The present brick bridge built in the 19th century has undergone some modification and strengthening to carry the extra traffic to the Sewage Works later. The bridge serves also to carry the towpath over the navigation from the west to the east bank where it continues as an accommodation road width all the way to the basin. In the 1940's I have seen horse drawn barges negotiate this bridge. Moving upstream the horse is spurred to pull as hard as he can before the rope is slipped from the horse. The boat passes under the bridge under its own momentum while the horse is taken over the bridge, the rope being thrown back from the boat to continue the tow on the opposite bank. One sandstone block on the south side of the bridge at the eastern end of the parapet also bears evidence of deep rope scoring (see Plate 29 and Plate 18). The bridge itself has a brick arch span with a width of 16ft 6ins (5m) at water level. Having no towpath beneath it gives a heightened look to the bridge since the vertical line from the arch continues down to the waters edge. There is a stepped access way down to water level on the north west side of the bridge, and also an approach path on the south east side. These enabled human access to give boats any help coming through the bridge. The clearance from the arch to water level is 10ft 11in (3m). The brick parapets are 13ins (33cm) thick with specially made bricks with squared chamfered edges. The structure is a mixture of English and Flemish bonding with some vitrified headers used. The accommodation width across the top of the bridge is 12ft 10ins (3.7m) between the parapets. These do not curve outward but turn at distinctive almost 60° angles to the terminal brick buttresses some 26ft (7.9m) apart. (See Plate 29).

The navigation now continues to the Loughborough Lock also known in the Minute books of the old navigation company as Thorpe Fields Lock or Tor Lock. This is the sixth and final lock on the original Loughborough Navigation, not counting the flood control lock built by Keyworth Bridge. The navigation had an overspill drain cut in the west bank between the
'Swingbridge' and the lock but this is almost obscured now by later building and development. There is no trace of navigation milestone '8' on this stretch surviving above ground.

The Loughborough Lock has a length of 84ft 3ins (45m) a width of 15ft 9ins (4.5m) and a fall of 6ft 4ins (1.9m). This brings the navigation level up to the town in the Rushes. The top gate sill is 3ft 9ins (1m) and the bottom gate sill 4ft 8ins (1.1m) from the top of the lock. All the gates are iron strapped by their heels into vertical stone hollow quoins. The tail or bottom gates are each fitted with a single paddle operated by new drum hydraulic winding gear. These gates were only replaced in November 1984. The former gates had rack and pinion gear and were the last to retain the massive timber balance beams. These have now been replaced by the boxed steel type. On the top of the east bottom gate is an oval plaque recording -'Built B.7.B.Stanley Perry 1934'. The head or top gates have two paddles each operated by drum hydraulic winding gear. The balance beams are modern boxed steel type. Set in each gate chamber recess are additional ground paddles with rack and pinion gear to aid filling the lock. Modern renovation has included new steel vertical ladders into the lock chamber, bollards, and brick quadrants beneath the balance beams to aid opening. The chamber itself is substantially brick with well dressed stonework at the top and ends. The actual floor of the chamber is constructed of oak on a brick substructure. There are stop plank grooves at each end of the lock and an older indication of such grooves cut vertically in the walls of the tail gate rebate. They may indicate evidence for a later lengthening of the lock.

Just south east of the lock is a small overspill chamber carrying surplus water by a tunnel around the back of the lock tollhouse where it emerges into the canal below the lock through a brick vaulted arch. The lock or tollhouse itself underwent major internal alteration in 1984 enabling the survey to be made and studied on Plate 30. This house is the one built in 1824 for £45 by John Kiddy, the navigation engineer, to substitute
GROUND FLOOR PLAN. The first floor rooms correspond to the main ground floor layout.

SCALE FOR GROUND FLOOR PLAN.

<table>
<thead>
<tr>
<th>Key</th>
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<tbody>
<tr>
<td>Original 19th century work.</td>
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SCALE FOR ELEVATIONS & LOCK PLAN.

1cm = 10ft

KEY.

- Original 19th century work.
- Millstone grit boundary walls.
- Later 20th century work.
the one on the Loughborough Wharf. The intention was to prevent boats going on and off the Leicester Navigation without paying tolls. (12) It was the same John Kiddy who made the final extensions to the Red Hill Toll House in 1836, and distinct similarities can be seen. In particular the position of the toll office and dining/living room areas linked by a brick passage at Red Hill and an equivalent kitchen area at Loughborough is obvious on the two plans.

At Red Hill John Kiddy was essentially adding on to an existing structure using to a degree as his model the layout of his Loughborough toll house. In proportion the toll office is larger and has a porch entrance on the north side relative to the stable area at Red Hill. There are no obvious stable facilities at the Loughborough house unless they once existed by the wash house or workshop on the east side (see inset 1855 Map on plan).

The house and offices are built of brick. The main house is in flemish bond, and the office and workshop to the north essentially in flemish stretcher bond. The courses are continuous and there is no indication of different building periods beyond two minor door openings. These are a block original back door into the kitchen and one from the office into the dining room. The main house frontage has decorative stone lintels to the ground floor door and windows. There is also a front door foot scraper. Curiously the spacing between windows and door is not symmetrical, partly caused by the dining room and lounge dividing wall offsetting the front door. The roof-work throughout was originally of Swithland slate, fragments of which are still found in the garden. In addition to the main house roof, the kitchen roof is a monopitch type running on to a hipped roof over the first floor level crossing the toll office and porch (see plan). The office projection is half hipped. The windows to the office still retain their vertical uprights but originally were divided into square panes reinforced for security by iron bars. In addition wooden
shutters were hinged to all the window sides (see plan). Other windows in the house also show evidence of iron security bar fixation to guard the tolls. A fine millstone grit wall survives framing the rear yard, access to which is through a covered entry. A gate also gave access from the yard to the privy. The front garden wall is also well dressed millstone grit (see Plate 18) with triangular section coving stones. The linking walls to the house have gone. The dressing pattern is a distinctive diagonal criss-cross pecked type. A lead pump in a timber housing still stands by the original back door in the yard which is paved in blue brick quarry tile. Most of the main bedroom floors in the house retain their original plaster floors. In 1994 major alterations removed the internal dividing wall between dining room and lounge. The office became the kitchen, and office porch a pantry. The timber office window shutters were all sadly removed although the 'S' retaining catches remain fixed in the wall. All the roof work is now brown tiles replacing the 'slate'. The brickwork has been colour washed a mushroom shade leaving a visually smart structure if somewhat lacking original character.

From Loughborough lock the navigation proceeds past some stunted old fruit trees on the west bank marking the site of the former 'Smiths Nursery'. Garage development and a landing and workshop for the Le Marchant Trust boats now replace it. Later development has now crowded in to the banksides especially on the west side. The navigation takes another angled turn to the south east on passing under the featureless concrete structure of the Belton Road bridge that graffiti has done little to relieve. A single house called 'Brooklands' with an iron railed garden still stands by the towpath road. It was built by John Jennings in 1834. He was a boatowner and coal-merchant whose family also had original as occupation and ownership with the Albion Inn a little further on. The south table end has a tablet 'I.J.1834' set in it. The first letter being a style variation of the letter 'J'. Originally there were six brick cottages with Smithland slate roofing attached to
the north end with doorways opening straight on to the towpath road. The door and window lintels were exactly the same as those on the Loughborough Lock Toll House and one wonders if John Kiddy had any hand in their building. At the north end of the row the Burleigh Brook is channelled under the canal to run on and meet the Woodbrook at the end of the former gardens of the cottages. Today they form a small grass paddock. The Woodbrook now runs parallel to the canal right up to the basin.

Beyond Brooklands House an indent in the navigation marks a turning point for boats. Beside the towpath road stands the Albion Inn. In a survey map of circa 1860, now in the Leicester Record Office, showing the town in great detail the Inn was then recorded as 'The Ship'. It is now heavily stuccoed over with a modern tile roof. Until restoration in the 1960's and later it had a stable block on the north end with a hayloft over. The car park was a paddock for the horses. The front door lintel is similar in style to the one at the toll house. Immediately beyond the Inn was the former garden to the Toll House for the Leicester Navigation whose frontage actually faced the 'Chainbridge' and Leicester Navigation junction ahead. The fine square brick farmhouse like building with a hipped Swithland slate roof was demolished in the 1930's. Only the small brick stable with its hayloft survives by the towpath together with some lower footings of the side of the house itself. The stable has a door opening on to the towpath and two blocked circular bullseye windows on either side. These although damaged are similarly matched on its opposite side. Within still survives two feeding troughs and a hayrack very similar in style to those recorded at the Red Hill tollhouse. At the north end of the stable is a small brick and pantile lean-to addition, similar in age to the stable. All the brickwork is hand made and a little smaller in size than later imperial standard type and probably all dates to the 1794/5 period when the Leicester Navigation was opened. The structure has had settlement cracks and badly need repair. Both the former garden and stable are now filled with miscell-
ancous engineering relics and scrap belonging to Mr. A and R. Felstead who were formerly employed on the Navigation, their late father being the last tollhouse keeper in Loughborough — see 'G' Map 20).

The opposite or west bank has seen heavy industrial development with steel girder piles set in the bank edges. The site of the launching slipway and boatyard of Barnsdale's opposite the Chainbridge have all been swept away together with the row of Georgian cottages that once fronted on to the Derby Road — see 'G' and 'N' inset Map 20. The Barnsdale family lived at the boatyard for a period approaching 150 years in a modest brick and slated house marked 'H' on Map 20.

The towpath road now crosses the 'Chainbridge' over the Leicester Navigation junction marked 'T' Map 20. The bridge is so called from the chain that used to be stretched across the canal to prevent the unchecked passage of boats especially at night from one navigation to another (see Plate 31). In style the bridge is essentially a brick accommodation bridge typical in style to others on the Leicester Navigation and relating closely to William Jessop's canal engineers drawings for such bridges in the 1790's. The original drawings are now in the Leicester County Record Office. The structure is largely built of mellow brick in mostly Flemish bond. The total width of the arch at water level is 21ft 4ins (6.5m), the actual water width being reduced by 2ft 3ins (.7m) by the towpath passing under it on the north side. The clearance from the bottom of the arch to water level is 9ft 4ins (3.2m). The bridge is 22ft 5ins (6.8 m) wide along the towpath base beneath the arch. At the western towpath entrance the brickwork of the bottom 5ft (1.5m) of the arch is replaced by a monolithic shaped block of pink Mountsorrel granite (see Plate 17). Despite the hardness of the stone deep rope scored grooves indent it. I have noted identical Mountsorrel 'scarred blocks' in the bridges at Barrow on Soar nearer to Mountsorrel itself on the Leicester Navigation. The roadway over the bridge has a width of 13ft 7ins (4.5m) between the vanuets which curve
The Loughborough Navigation looking north from the Chainbridge in the early 20th Century. The bridge in the foreground carries the towpath/Canal Bank road over the entrance of the Leicester Navigation. The large house over the bridge is the Leicester Navigation millhouse demolished in the 1930s except for its rear stable block. Beyond is the Albion Inn and Brooklands' house, with its additional canal cottages. The wall on the left is part of Barrowdale's boatyard. The trees on the left comprise Pickworth's house (a town furnishing dealer). The landscape in the left has been overlaid now by industrial development.
outward at each end to stepped brick buttress terminals capped by sandstone blocks - one though has been replaced in concrete. The parapets are capped with blue double pitched coping bricks. A post at the south end of the bridge once carried a lozenge shaped cast iron sign relating to weights and vehicle types that could use the bridge. There are stop plate grooves cut into the canal edge stones just immediately west of the bridge. These were probably inserted for cleaning and draining purposes that would not affect the waters of the Loughborough Navigation. The water supply for the Loughborough Navigation down to the Bishop Meadow Lock comes via the Leicester Navigation from the Soar upstream from Fillings Lock near Barrow on Soar. The Woodbrook which was the source for this supply before 1794 is culverted under the Leicester Navigation in two brick tunnels on the east side of the Chainbridge. A survey during 1934 allowed a measured inspection of the normally water filled tunnels. Built of brick including the vaultwork it is essentially a structure contemporary in date with the building of the Leicester Navigation in 1794, and is in a remarkable state of repair. The actual base to the tunnel is covered in oak planking.

From the Chainbridge to the basin and general wharf terminus heavy industrial development has destroyed or hidden much of the original canal architecture. What has been, and what remains is now described with the aid of the letters on the inset detail Map 20.

Beginning on the east canal bank road leading to Bridge Street there were originally a row of five brick and slated canal cottages immediately beyond the Chainbridge - marked "A". The building nearest the bridge had a curved wall facing the bridge and had a framework knitters workshop at first floor level with a row of typical small paneled windows. At points "B", "X", "Y", "Z" were other small brick cottages having front gardens passing over the Woodbrook to the Canal Bank Road. The Woodbrook itself runs in a deep stone lined channel brick vaulted and lintel covered where garden and property passed over

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The cottages marked 'X' still survive converted into a workshop. Between 'X' and 'Y' ran a former overhead gantry crane that took gravel from boats into a large hanger bay of the Corporation Works Yard for road repair works. The bases for the supports to the crane track can still be identified on the canal bank edge. No trace survives above ground now of the canal milestone 'Q' on this final canal length.

The west bank still retains its massive millstone grit block wharf edge lining running from 'V1' to the general wharf broken only by one modern structure on the former coal wharf. The areas 'V1,V2,V3' have no record of canal buildings on them and were probably only used as additional off-loading and mooring space in busy periods. The Regent Wharf still retains a yard paved with Mountsorrel granite sets and a large brick warehouse of mellow late 18th or early 19th century brick marked 'O'. This together with the other buildings on the site used by a hosiery dyers and finishers now represents the most complete wharf yard surviving. The yard also contains a further fine brick warehouse with an overhead loft door of later 19th century date opposite the earlier one marked 'O'. The former timber wharf retains the much mutilated remains of two Georgian houses marked 'V' by the Derby Road side. These were probably lived in by wharf owners or supervisors which is a typical practice well known for instance in Shardlow and elsewhere.

The former Coal Wharf retains one low single storey brick stable like structure now used by a contemporary blacksmith. This was used earlier this century to store moulds and concrete piles for bankside repairs. On the waterside of the Coal Wharf stands a later 19th century brick warehouse with double off-loading doors facing over the canal. This was used by the Trent Navigation Company in the late 19th and early 20th century. A former warehouse marked 'V' was known to have been used at one time by 'Youngs', the bottlers. Site 'V' is that of the former salt warehouse.

In the general wharf virtually all the buildings were destroyed by modern road widening together with the splendid
boundary wall of cut and dressed millstone blocks. Site 'A' is the actual weighbridge. 'B.C. and D' was the original wharf and Loughborough Navigation tollhouse continuing in later years as the Wharf Office, Cranedriver's Cottage, and a greengrocers shop. Site 'E' were originally a range of stables, used later as a navigation fitting shop. In the 1920's the building was fitted with cast iron window frames taken from the inclined plane engine house at Foston Locks. Further timber storage ran along the wall at point 'G'.

Along here also was noticed the brick culvert that may have fed the navigation originally from the Woodbrook, observed during demolition and road widening.

Point 'H' is the present British Waterways Offices on the wharf which re-use the old pumping house erected to supply water to the former electric generating station built off Bridge Street.

The basin itself terminates in a wedge shaped sheet of water that could allow boats to turn. Along the west side marked 'I' ran the former electric wharfside crane on its rail being one of the last major purchases of the Loughborough Navigation Company. Ramped behind it were a series of coal bunkers ironically largely lined with old railway sleepers. Opposite at point 'J' emerged the former pipe from the gas works to which a canvas hose was fitted to supply the 'tar boats' as they were known. My sketch on Plate 32 is based on an original study in 1953 at a time when the General Wharf still retained many of its original features and the last of the barges unloaded their cargoes where they had done so since 1776.

Along the Soar from Bishop Meadow to Cotes, using Maps 20 and 21.

This final description covers that section of the lower Soar that was never made a navigation but on three occasions was certainly considered for it.

From the navigation milestone 'K' the natural river course proceeds upstream from leaving the 'Loughborough Cut' in an easterly direction. A small island set in a river loop was once joined to the Leicestershire bank by a small isthmus
Unloading Coal at the General Wharf in Loughborough in the early 1950's. To the left a maintenance boat is loaded with timber, sand, and cement. Behind it the corrugated lean-to store and workshop stand against the Bridge Street stone wall boundary to the wharf. The Ram Inn beyond stands on the corner of Bridge Street and the Rushes. The electric crane runs on its track alongside the wharf on a low stone wall, offloading the coal (mainly for the gas works in the background) into bunkers lined with old railway sleepers. The weighbridge and old wharf tollhouse are to the right behind the coal bunkers, by the overhead wharf entrance board.
that was washed away in the great floods of 1947. For many years it was used by the Limehurst Natural History Society as an observatory. A decayed relic of a 'hide' still stands among the willows on it. Beyond this point there is another lost loop of the river on the Nottinghamshire bank whose shallow ditch is enclosed by old thorn bushes. A ditched low causeway road site comes to the river at this point and is recorded as a ford site on the Stanford on Soar enclosure map. Slight traces of the road cross the Bishop Meadow. Originally this was a field road running off Meadow Lane in Loughborough, part of the line being Bottleacre Road in the town. This road was an ancient river ford road to Normanton on Soar very similar in nature to the original road over the Loughborough Meadows to Stanford on Soar. The raising of the river level by the lock at Booth made it easy to use, and the Midland Railway later cut across it in 1840. Beside the old river loop is a substantial grassed mound, the purpose of which is not known. It is just possible the site here could relate to one of Stanford on Soar's lost watermills, but only excavation could prove this. On the south bank opposite the Woodbrook makes its entry into the Soar. It is at this point that the Navigation Act obtained in 1766 proposed to cross the great Loughborough Nether Meadow to reach the Hermitage Brook and Pool. The Woodbrook runs parallel to the Midland Railway here that crosses the river on the 'cast metal bridge' as it is known. The brook itself is also the old boundary between the former parish of Knightthorpe and Loughborough. The railway bridge itself is of girder construction carrying four sets of track over the river, and supported on fifteen circular iron pillars in three rows of five over the river. The average clearance level between the bottom of the bridge and the water level is 11 ft (3.4 m).

Upstream from the railway bridge the river makes a broad curve to take a more southerly direction. On the east bank the ground quickly rises to form the Foxcover Hill. This marks an impressive termination of the valley to the east.
The river course prior to the Great Central Railway alteration c.1898.

To same scale as main map.

THE LOWER SOAR FROM THE FOXCOVER HILL TO THE SITE OF THE LOUGHBOROUGH UPPER WATER 'CORN' MILL.

MAP

THE LOWER SOAR FROM THE FOXCOVER HILL TO THE SITE OF THE LOUGHBOROUGH UPPER WATER 'CORN' MILL.
dropping quite sharply down and forming the Soar valley side.

The top of the hill affords a panoramic view over the Loughborough Nether Meadow on the western bank to the town of Loughborough framed by the great sweep of Charnwood Forest Hills behind. Landscape artists have used this point since the 18th century to show the setting of the town. The great Nether Meadow was recorded by John Nichols in 1802 to contain a total of 270 acres, 3 roods, and 10 poles. It was reported as producing two tons of good hay an acre. It was never enclosed in the 1759 enclosure act and much of it still remains so. Posts seen at interval dotted over the meadow mark boundary points to various lots that are bid for annually for the hay cutting in a tradition whose origin is lost in time.

The river itself originally did a series of island making meanders by Stanford Village - see inset Map 21. The river was then canalised in this section by the Great Central Railway in the 1890's who constructed a great embankment across the Nether Meadow to carry their line over the flood plain. The river itself is crossed by an impressive blue brick viaduct of eleven arches. The spans over the river course are at a diagonal angle to the main course of the railway and displays meticulous brickwork in the vaulting. The original road from Loughborough to Stanford was diverted to pass over the river on a cast iron bridge and under the viaduct arches. The original course of the river is culverted under the embankment at the Foxcover Hill end at a point known as 'Hob Hole'. The old course then continues as a wet reedy bed on the east side of the embankment to rejoin the main river again by the viaduct arches. An 18th century brick bridge survives on the old river course, built as a supplement to the old ford site. In construction it is very similar to canal bridges like the one described at the Chainbridge in Loughborough. One major difference is the brick arch span itself which reaches water level still very much on a downward curve or spring. Canal bridges have vertical sides by the time water level is reached. The arch has a water level width of some 38 ft (11.5m) and a
clearance to the arch keystone of 9ft 4ins (2.8m). The old road over the bridge is sharply pitched and there is a central width of 9ft (2.7m) on the bridge apex. The parapet wall on the south side has collapsed into the river. The old road from the bridge runs parallel to the former river course until the present main road is reached. To the east stands the Parish Church of St. John Baptist of Stanford on Soar. It stands isolated in a large field coming down to the river that has traces of the lost medieval village site of Stanford. The present village was largely re-modelled to the east of the church in the early 19th century. The church stands on a Roman site and mosaic cubes and pottery have been found in the churchyard. Parts of the church fabric also contain fragments of Roman tile. The name Stanford from 'stone ford' makes it possible that an important crossing of the Soar existed here at least back to the Roman period.

The most unfortunate aspect for this riverside village site is the great central railway embankment that totally shuts off the view west across the Soar valley. In the field on the south side of the road from the church is the original hall site. The Hall was rebuilt away to the east in the Stanford Hills by Charles Vere Dashwood between 1771/4. He was also a notable shareholder in the Loughborough Navigation. The same field is bounded on the south side by the Kings Brook. The County boundary leaves the river here and continues along the brook itself. From this point the river is entirely in Leicestershire. Near the brookside and again in the same field stands another concrete drum with a stainless steel pin centre mount. Like those previously recorded at Zouch and Kegworth this is a second world war Lewis gun mount to give an arc of fire by the viaduct arches over the river. (See Plate 18)

The river itself forms an island here which is the upstream remains of the once larger island shown on the inset Map 21. A ford site and two footpath steel bridges link the island to either main bank. Beyond the island the river is bordered by watermeadow, with the land rising more distinctly
on the east bank to form Moat Hill. The Hermitage Brook enters the river on this stretch of the west bank. It is here that the 1766 Act would have enabled the navigation originally proposed to make a further deepening of its course to the Hermitage Pool to make a canal basin. Beyond the Hermitage Brook the river meanders and forms a tight loop before being entered by the tiny Hoton Brook from the east bank. The ground rises to form a distinctive natural riverside bank on the east side of the river. On this bank sits the low limestone and brick wall enclosures of Cotes Park House and garden ruins - overlooking the river. This is the former home of the Skipwith family who lost their fortunes in the 17th century Civil War. Was it from this bankside that Thomas Skipwith had his first thoughts of a navigation from the Trent to Leicester in 1634? The navigation story comes almost full circle at this spot. Further south on the same bank are the field earthwork enclosures of much of the medieval village of Cotes. The site as a whole today might be classified as a shrunken village. The earthworks continue right up to the A60 Nottingham Road on the bank. The final site is of the former chapel of ease dedicated to St. John measuring 40ft (12.1m) x 20ft (6m) in the grassy depression. The mother church to the hamlet is at Prestwold.

The river bends away from the river bank village site and divides into four channels crossed by the main Cotes Road bridge linking the medieval causeway over the meadow to the town. The main bridge was widened in the late 18th century and the original thirteen tight gothic arches doubled up to form six main brick spans. One original 13th century arch survives intact at the east bank end. (See Plate 33) This has a base width of 10ft 4ins (3.1m) and a height of 6ft 2ins to the river bed. The water passes through it on a stone shelf only a few inches below the water normally. A measurement beneath the arch reveals the original medieval bridge was 13ft 4 ins (4m) widened in brick in the 18th century to a total width of 24ft 9ins (7.3m). From the main bridge toward Loughborough
The only surviving 13th century medieval arch on the main river bridge at Cotes. This is the first arch from the east bank, the remaining five arches of brick 'doubled up' on the original 13 medieval arches.

Two fine late medieval arches on the causeway leading to Cotes Bridge. These, together with other pairs on the causeway allowed flood water to run under it and away over the Heister Meadows. This pair are situated by Deans Lane - a field road running off the causeway to the south.
The bank and ditched causeway crosses two mill tails or streams from the lower mill on bridges. Two pairs of brick cottages with steel stilt foundations sit on the intervening islands above flood level.

There are three further paired bridge openings in the causeway that would enable floodwater to pass through. The pair by a small lane called Allsopps Lane nearer to the Hermitage Pool retain their original gothic arch features and cutwater projection on the south face (see Plate 33). The stonework here and on the surviving main bridge arch is a mixture of local Charnwood Forest stone, slate and granite. Each arch is 8ft 6ins (2.5m) wide and has a ground level to centre arch height of 4ft 6ins (1.4m). The original causeway width in stone underneath is 13ft 8ins (3.5m) being extended in brick to a total of 25ft 6ins (7.7m). On the north side of the causeway a distinct water channel earthwork leads from this bridge alongside the causeway bank toward the river. The field on this side bears distinct traces of medieval ridge and furrow banking. The causeway terminates at the west end in a five arch brick bridge over the reed filled Hermitage Pool that in 1766 was designated to be a canal basin and wharf. An additional water channel is cut from it running parallel to the railway embankment over the Nether Meadow.

Just upstream from the main river bridge is the Nether Mill belonging anciently to the manor of Loughborough (see Plate 34). One of its two former wheels has been retained as a feature in the licensed premises the old mill has now become. The present building is an imposing largely late 18th century brick building painted white. Within the structure is a core of medieval stonework. The building may well be on an original Domesday recorded site. The millers house or cottage together with the mill pool still survive on the south side of the mill itself. There are no further original machinery works inside the building now. The mill race joins the main river above the weir just a little further upstream. The Severn Trent
An aerial photograph taken in the 1960s of the Loughborough Mealeor or Lower Mill and Cotes bridge. The causeway and bridges - top of picture - cross the two mill heads and main river. Two pairs of colliers sit between the water courses. In the foreground the largest building is the mill itself, with the miller's house complex in white attached to it. This is surrounded at the base by the mill pool bordered with bushes and trees. The main river channel is on the far right.

The Upper Corn watermill near Cotes, brought by John Goadsby in 1811. Based on an original sketch by W.E. Cook in c.1880. The wheelhouse is indicated by the arch/lanes. Further left, the arch is a bridge from the east basin over the space water overflow channel from the mill race. The view is from the south of downstream side. The dam for the mill was destroyed in 1878 and the site fell into ruins.
Water Authority plan to dismantle this weir reducing the
river level by nearly two feet (60mm) by 1987/8.\(^{(13)}\)

There is a small rectangular earthwork on the riverside
just south of the main river bridge on the east bank associated
with the 17th century Civil War skirmish on the bridge. The
east bank also reveals a complex of old parish boundaries.
Prestwold parish continues on from Hoton parish upstream from
the bridge denying Burton on the Wolds any river frontage save
for a very short stretch just before the Walton Brook is reached.
An enclave of east bank land is taken by Loughborough parish
that could mark an old former river boundary line. This
includes a south projecting tail of land that divides the main
river from the former mill race channel to the site of
Loughborough's Upper water corn mill. (see Plate 34). This
site was abandoned after the mill weir was blown up in the late
19th century to ease flooding on the adjacent Loughborough Moors.
These are in effect a continuation like the Nether Meadow of
broad flat water meadow fields. On the west bank three fields
upstream from the Upper Mill weir site the boundary between
Loughborough and Barrow on Soar parish is reached. Today there
are only traces of brick and stone footings left, and an access
brick bridge over the former mill race amid the willows. This
survey concludes with this site which in a sense is fitting
in a study of how the river was harnessed.

On October 24th 1811 John Cradock, secretary of the Lough-
borough Navigation Company, bought the Upper Mill for £1,710
in the great property sales conducted for the Parl of Huntingdon
as lord of the manor of Loughborough. John Cradock had also
recently become lord of the manor of Walton on the Wolds whose
parish boundary comes to the river at this point (see Map 21).
Some of his navigation share dividends helped pay for the
purchase.

The mill itself had no water usage affecting the Loughborough
Navigation but if one can conclude on a humorous point.
Compensation for water usage had to be paid by the Leicester
Navigation using the Soar upstream from the Nether and Upper mill to the two millers. Indirectly therefore the Leicester Navigation were paying the secretary of the Loughborough Navigation to cover any loss in running a water mill - dare one say - wheels within wheels! John Cradock had the mill maintained and used until just before his death when it was sold to Charles G. Mundy, Esq. of Burton on the Wolds, whose parish boundary also comes to the river here (see Map 21) - in 1833.

Just two fields upstream from the upper mill the river contains a very small island known for many years as Toones Island - after a family who once held it in the 19th and 20th century for over one hundred years.\(^{(15)}\) In the 18th century Loughborough Manor Estate Map it is referred to as 'Bramsholme.\(^{(16)}\) The name could be interpreted as 'island where the wild broom grows', since 'bram' often has the derivation of 'broom' attributed to it. Bram or Bran can also be a reference to one of the long lost heroes or gods of Celtic mythology - perhaps the truth will never be known. Just upstream the Soar leaves the parish of Loughborough to pass into Barrow on Soar parish. The survey began with a large lost island site and concludes with a very small one for a full stop at the end of the parish of Loughborough.

**Some Conclusions.**

The value of the field survey can be indicated in a number of points. The evidence of early medieval ridge and furrow plough systems indicate that it was probably water mill development and the subsequent raising of river levels by ever larger weirs that gradually turned much river valley land into largely hay and grazing land. Just how early the plough retreated from some of the river bank edge land is not possible to say here, but certainly the navigation and lock system maintained the same levels even after watermills had gone into decline. It will explain also why a village like Ratcliffe on Soar placed critically close to the river on low ground may in fact have been relatively secure until watermill weir systems were large enough to effect radical water level change.
This too made sure it remained a very small village by
discouraging very physically any development. The ridge and
furrow distribution on the other hand certainly does not preclude
large areas that probably always were water meadow. The even
earlier iron age sites located by aerial photography also
bear out that settlement very near the waters edge could once
be effected.

The field survey has also revealed the expedient use of
local materials and sites for brickmaking and stone quarrying.
The stonework used for lining the towpath banks of the naviga-
tion, locks, walls, bridge capstones, conduits, sluices and
other features is on examination of a course millstone grit
and a finer grained sandstone type. Samples taken from the
old quarries at Castle Donington confirm the record references
for these being the main source of stone. The quantity quite
frankly must have been enormous and defies calculation. When
fresh cut this stone appears mostly in a yellow gingerbread
colour that must have made the new navigation works have a
very fresh appearance not unlike Cotswold stone colour - although
the latter is of course limestone.

The survey has also revealed the very elaborate drainage
system of dykes used either alongside the navigation or in the
adjacent fields. They are almost a waterway study in their own
right complete with small brick and stone farmers accommodation
bridges over them. Such systems may be more necessary on what
is essentially a hybrid river and canal navigation. They
receive virtually little or no reference in most of the popular
canal works I have searched for any comparison. I do not believe
for one moment the Soar Navigation ditch or drain system is
unique, and I would suggest that its main purpose was the more
rapid draining of seasonal floodwater to reduce as quickly as
possible any revenue loss caused by hold up in navigation use.
This system would also serve to avoid compensation claims by
landowners where locks might be blamed for stopping river
water running off the land more quickly. Even though their
construction entailed the building of many small accommodation
bridges for farmers and cattle convenience, the emphasis even here was seemingly to have a harmonious relationship with riverside landowners. In total length this drainage system exceeds that of the navigation itself and need fuller recognition on other navigation studies - assuming they exist elsewhere! It should be emphasised here that it was only the field survey that brought their total layout and significance to light since only passing reference is made in Minute book maintenance costs. Just how elaborate the navigation undertaking was has remained previously unappreciated.

By studying the table on Plate 35 one can see that there is no obvious standard unit of length for locks. Even allowing for individual repair and lengthening at different periods the field survey supports the written record by demonstrating that locks on the Loughborough Navigation seem to have had their length determined largely by the engineer at the time of construction. This was on an individual basis with perhaps little reference to anywhere else except perhaps consideration for the length of vessels then currently using the navigation. Complaints recorded in the 1930's by latter day narrow boat users caused varying lengths of extension to be made to bring them up to at least a minimum length of 75ft 6ins.

Detailed studies of navigation architecture are perhaps still a neglected field in many areas making widespread comparison difficult. Both the Leicester Navigation tollhouse in Loughborough (see Plate 31) and the one for the Erewash Canal at Trentlock of similar style were larger and more ambitious than the Red Hill and Loughborough lock examples. In local comparisons Loughborough Navigation tollhouses might be likened in style to solid country cottages, while the Leicester and Erewash closely imitated the large square and symmetrical 18th century yeoman farmhouses sitting in our local villages. In both cases no attempt was made to construct odd or distinctive architectural forms as sometimes used on turnpike roads or the round houses on the Birmingham and Fazeley or Thames and Severn canals.

Bridge building following the now lost early swingbridge
ILLUSTRATING WITH A DUAL SCALE THE PROPORTIONAL LOCK SPACING AND RISE FROM THE TRENT TO LOUGHBOROUGH.

<table>
<thead>
<tr>
<th>NAME OF LOCK</th>
<th>LENGTH</th>
<th>WIDTH</th>
<th>DEPTH OF WATER IN MILL</th>
<th>TOTAL RISE/FALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>REDHILL. 1898</td>
<td>82 ft. 9 in.</td>
<td>15 ft. 9 in.</td>
<td>5 ft.</td>
<td>3 ft.</td>
</tr>
<tr>
<td>REDHILL. FROM 1930's G.U.C.C. LOCK 59</td>
<td>86 ft. 2 in.</td>
<td>15 ft. 5 in.</td>
<td>5 ft.</td>
<td>1.75 ft.</td>
</tr>
<tr>
<td>RATCLIFFE. 1898</td>
<td>74 ft. 6 in.</td>
<td>15 ft. 2 in.</td>
<td>4 ft. 7 in.</td>
<td>6 ft. 8 in.</td>
</tr>
<tr>
<td>RATCLIFFE. FROM 1930's G.U.C.C. LOCK 58</td>
<td>86 ft. 6 in.</td>
<td>15 ft. 4 in.</td>
<td>4 ft. 11 in.</td>
<td>6 ft. 1 in.</td>
</tr>
<tr>
<td>KEGWORTH NEW. 1898</td>
<td>84 ft.</td>
<td>15 ft. 2 in.</td>
<td>4 ft. 10 in.</td>
<td>Flood Lock. Varies.</td>
</tr>
<tr>
<td>KEGWORTH NEW. FROM 1930's G.U.C.C. LOCK 59</td>
<td>84 ft.</td>
<td>15 ft. 2 in.</td>
<td>4 ft. 10 in.</td>
<td>Flood Lock.</td>
</tr>
<tr>
<td>KEGWORTH OLD. 1898</td>
<td>75 ft. 6 in.</td>
<td>15 ft. 6 in.</td>
<td>4 ft. 2 in.</td>
<td>7 ft. 9 in.</td>
</tr>
<tr>
<td>KEGWORTH OLD. FROM 1930's G.U.C.C. LOCK 56</td>
<td>75 ft. 6 in.</td>
<td>15 ft. 6 in.</td>
<td>4 ft. 10 in.</td>
<td>7 ft. 6 in.</td>
</tr>
<tr>
<td>ZOUCH. 1898</td>
<td>73 ft.</td>
<td>15 ft. 5 in.</td>
<td>4 ft. 4 in.</td>
<td>6 ft. 4 in.</td>
</tr>
<tr>
<td>ZOUCH. FROM 1930's G.U.C.C. LOCK 55</td>
<td>91 ft. 6 in.</td>
<td>15 ft. 5 in.</td>
<td>3 ft. 11 in.</td>
<td>7 ft.</td>
</tr>
<tr>
<td>BISHOP MEADOW. 1898</td>
<td>74 ft. 6 in.</td>
<td>15 ft. 4 in.</td>
<td>3 ft. 10 in.</td>
<td>8 ft. 7 in.</td>
</tr>
<tr>
<td>BISHOP MEADOW. FROM 1930's G.U.C.C. LOCK 54</td>
<td>76 ft. 6 in.</td>
<td>15 ft. 4 in.</td>
<td>4 ft. 7 in.</td>
<td>8 ft. 2 in.</td>
</tr>
<tr>
<td>LOUGHBOROUGH. 1898</td>
<td>83 ft.</td>
<td>15 ft. 6 in.</td>
<td>3 ft. 6 in.</td>
<td>6 ft. 9 in.</td>
</tr>
<tr>
<td>LOUGHBOROUGH FROM 1930's G.U.C.C. LOCK 53</td>
<td>84 ft. 3 in.</td>
<td>15 ft. 4 in.</td>
<td>5 ft.</td>
<td>6 ft. 4 in.</td>
</tr>
</tbody>
</table>

A COMPARATIVE TABLE BETWEEN A SET OF 'RETURNS TO THE BOARD OF TRADE IN RESPECT TO CANALS & NAVIGATIONS FOR 1898', AND A GRAND UNION CANAL COMPANY SURVEY MADE IN THE LATE 1930's AFTER SOME NOTABLE LOCK IMPROVEMENTS. MINOR DIFFERENCES IN WIDTH AND RISE AND FALL SHOULD ALLOW FOR HUMAN ERROR AND THE STATE OF RIVER LEVELS WHEN THE SURVEYS WERE MADE.
type leave us two distinct patterns. The Redhill and Bishop Meadow Bridge in brick with stone keystones are certainly by the same builder and are as fine as any William Jessop ever built on the Leicester Navigation. Their builder is uncertain as indeed are the builders of the simpler stone sided with timber flat deck crossing type used at Zouch and Ratcliffe on Soar. This type can be also seen on the Broomwash Canal, and reciprocating influence may exist in this case.

The constructional undertaking of the navigation is also appreciated in the field survey by the watermill bypass cuts and attendant flood dyke drainage systems at Zouch and Kegworth. These successfully avoided the weirs even though it did entail cutting through the millers back garden at Zouch.

In conclusion one had never before really appreciated the elaborate endeavour to come to terms with and harness a small river. The relatively short length in what was to be such a key position in the waterway network made these efforts reap a reward beyond all the originators conception - and leaves us still with a valued amenity today.
Footnotes to Chapter 9. The Field Survey.

2. Ibid. p.207.
3. Ibid. bk.2. p.262.
5. Ibid.
6. Ibid.
7. I supplied Minute Book information.
10. Soar Improvement Scheme. op.cit. p.10/11.
12. Ibid. p.183.
13. Soar Improvement Scheme. op.cit.
14. Copies of the original sale catalogue are in the local history section, Loughborough Public Library. Research on this mill were also done and reported in an unpublished study by Mr. M. Turner in 1979 deposited in the Central Library local studies reference section Leicester.
16. The original - part of the Hastings Collection is in the County Record Office Leicester.
Conclusions.

This study has been concerned with the settlement around, and the use of the lower twelve miles of the River Soar from the parish of Loughborough to its confluence with the River Trent. It is evident that the valley has attracted settlement over a period reaching back at least to the mesolithic era over 6,000 years ago. By the Iron Age or by the last century B.C., settlements had clearly been established close to the river itself. This suggests either a much drier climate than now, which is generally accepted for this period, or that the unconfined river channel could cope with all but very exceptional rainfall, the lagoons so created might well have provided the facility of additional fisheries.

The Roman period saw a similar distribution of farming and settlement in the valley but with evidence here of slightly higher ground being chosen, even if this was only an island of gravel terrace in the valley floor that still remains above all but exceptional flooding. It is again, generally accepted that climate deteriorated in the first few centuries A.D. The use of sections of the river for stone or goods transportation remains unproven but it is very likely.

On August 3rd 1985 the Leicester Mercury and subsequently other local papers reported on the finding of a timber wharf remains including also Roman pottery fragments and unfinished millstones in gravel workings on a lost river loop of the Trent only one and a half miles westward of the Soar Mouth. The use of even short sections of the adjacent Rivers Derwent and Soar for the purposes of navigation especially in the light of Roman settlement evidence nearby, remains in my opinion a strong possibility.

Most of the post Roman early village settlement shows a withdrawal to even higher ground either overlooking the river on low bluffs as at Kegworth, Normanton, Stanford, and Cotes; or a retreat to the higher gravel terraces along the valley edges, as at Lockington, Sutton Bonington, Hathern, and Loughborough. Only Ratcliffe and Kingston remain in the valley floor and certainly suffered badly from floods in the later
middle ages as a result. Despite this apparent settlement siting ridge and furrow field evidence is fairly widespread over the valley floor, and almost to the rivers edge in places. Actual dating is a problem here but the gradual retreat to alternative haymaking and grazing was probably brought about by the harnessing effects of the watermills on the river. The Domesday Survey indicates that these existed in nearly every Soar valley village. Their ever increasing elaboration with bigger weirs and attendant fisheries must have considerably affected land usage along the river banks because of the need to maintain deeper water levels to drive the mill wheels. This major use of the river in the local economy led to villages with mills, coupled with the fertile river silt soils, becoming the most prosperous in the area and developing substantial causeways and bridges to facilitate overland trade.

There is no documentary evidence for the use of the river for navigation before Thomas Skipwith’s proposals in 1634. Even this date is remarkably early considering the powerful opposition that thwarted all subsequent efforts, especially from watermill users, for more than a century afterwards. Despite the growing need for more trade and for coal, Skipwith’s enterprise lacked imaginative local financial support and became almost a forgotten dream with the coming of Civil War. Pressure to achieve a navigation seems to have been slow and spasmodic in the later years of the 17th and first half of the 18th centuries. There was a marked decline in trade and almost an acceptance of Leicestershire’s becoming an economic backwater in the light of navigational enterprise on the Trent and elsewhere. The first breakthrough with the Loughborough Navigation Act of 1766 was essentially a compromise on earlier schemes which had hoped to create a navigation off the Trent all the way to Leicester. The promoters of the 1766 Act showed an astonishing naïveté in first obtaining an Act and only then asking James Brindley to consider the proposed route, the results of which led to failure and a further ten years delay. The successful Act of 1776 which made Loughborough within two years an inland port quickly restored the town to
its former medieval position of second only in size to Leicester in the County, and for a time its trading superior. The initial prosperity, and probably the localised greed for a trading monopoly were no doubt in part responsible for delaying the even greater trade to be gained by extending the navigation to Leicester and beyond. When these were eventually achieved by the Leicester Navigation Act of 1791 and then the Grand Junction link which established waterborne trade all the way to London in 1814, the period when the Soar was merely a local branch of the Trent navigation system ceased, and instead it became a major link in the national waterway system. The stability and prosperity of Loughborough was largely due to its being the first town in the county to be brought into a navigation network that undoubtedly extended beyond its initiators' localised dreams.

The construction of a navigation created an alternative use of water to that of the watermills, whose decline was hastened first by the Loughborough Navigation Company's buying controlling shares and then by outright purchase. Although the watermills continued to operate, even under the ownership of the Navigation Company, the introduction of steam-powered mills rendered them less necessary to the local economy and the navigation flowed unchecked.

Without doubt, the success of the Loughborough Navigation was partly due to the reduced cost of constructing a river navigation rather than a canal, particularly in the period before costs rose during the French Wars and the Canal Mania of the 1790's. Equally, its relatively short length, with only six main locks, reduced maintenance costs. Once it was extended to Leicester and beyond, the increasing value of its shares made the Loughborough Navigation a feature worthy of comment in the Trade Directories of the period.

The resistance to railway development, and long rivalry between the two forms of transport, has parallels all over the country. The sense of unity with other navigations against a 'common enemy' is evident too, not only in the recorded words of the Minute Books but also in the financial support and representation made whenever many other canals were threatened.
by the railways. The heroic determination to survive is
shown by the introduction of drawbacks and the continued
seeking of new trading opportunities. Proposals by the
Grand Junction Company for amalgamation were resisted at the
end of the 19th Century, and it took a huge trade decline and
depression after the first world war to end independence when,
along with the Leicester and Erewash navigations, the Loughboro-
ough Navigation became part of the Grand Union in 1932.
Here again, their survival was largely due to their being part
of a long distance system, unlike the many branch canals which
passed out of use much earlier.

The Grand Union therefore remained in water until a
changing society with more leisure time ultimately gained
sufficient strength to ensure the future of the lower Soar as
a navigation. From small beginnings even in the 18th Century
and later from the 1880's pleasure and passenger craft have
used the Soar. Today it is a national multi-million pound
industry with healthy future prospects. The lower Soar has
also seen further use of its water to supply electric generator
stations and sewage plants.

The future is always, however, one of potential change.
The elaborate Severn,Trent flood scheme now being carried out
along the Soar will affect the future land usage and ultimately
the landscape of the valley. In July and August 1985 proposals
for massive gravel extraction between Hathern, Zouch, and
Normanton, affecting 223 acres, were announced, along with
other industrial extraction elsewhere in the Soar Valley.
Massive public concern has been shown in village meetings
about traffic, dust and the spoilage of the picturesque
countryside. As the article of the 2nd August Loughborough
Echo states:- 'The battle lines are being drawn up to stop
proposals' and 'the struggle is likely to be a bitter one'.
Considering the many past uses of the Soar Valley, an objective
survey should not perhaps be one sided about its future
development, whatever form this may take. Gravel extraction
may reveal briefly yet more archaeological sites, but for the
sake of the environment and landscape I would rather remain
ignorant of them.

Brian C. L. Williams.
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