Cheshire River Navigations with Special Reference to the River Dee

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Introduction

The growing interest in the newly-recognised subject of industrial archaeology should remind us that archaeology is a method of study; that it is not confined to any period, and that it certainly is not concerned alone with the remote past. The very fact that industrial archaeology is so much concerned with events from the time of the Industrial and Agrarian Revolutions onwards is an effective reminder that archaeology is much the same for the twentieth century A.D. as for the twentieth century B.C., but with this difference, that the nearer one comes to our own day the more historical material is also available.[2]

It is a commonplace of economic history that the high distinction between production before and after the industrial revolution was that subsistence production gave way to production for the market and that this mass production demanded mass consumption. This meant that raw materials and finished products had to be transported in diverse pattern, and to understand this pattern two factors must be appreciated: first that there was a tremendous need for effective transport if the growing revolution was not to be stultified and secondly, that the only transport capable of carrying the weights of goods, certainly in the early part of the Industrial Revolution, and of being developed in capacity and over an ever-expanding area was water transport. Nor were quantity and speed, important as they were, the only factors making for the revolution in transport: that Wedgwood was anxious for a canal (the Trent and Mersey) through the Potteries, and the Stourport glass makers for a canal inland and to the Severn sprang also from a concern for freedom from breakage for their products. As if the then manufacturing processes were not hazard enough, transport by waggon, pack-horse or the back of a carrier was even more destructive of pottery, glass and china, than it was slow and hopelessly inadequate.[3]

[1] This was later followed by a visit to the canal works in the City, to the Crane Wharf and to other features of the riverside, and to some of the Estuary anchorages.

[2] For a useful general introduction see K. Hudson: *Industrial Archaeology, an Introduction*, 1963; also the BBC publication *Industrial Archaeology* issued in 1965.

[3] The chaotic state of roads and of transport generally was frequently bemoaned by contemporary writers, e.g. D. Defoe, *A Tour Through England and Wales*, 1724–6, Everyman edition (1928), Vol. 2, p. 118; Dr. R. Plot, *The Natural History of Staffordshire*, 1786, p. 124; J. Phillips, *A General History of Inland Navigation*, 1792, p. 110. See also S. and B. Webb, *The Story of the King's Highway*, 1920.

Cheshire Waterways

The waterways of Cheshire well illustrate the three main types and their historical development:[4] canalised rivers which were the original 'navigations', artificial canals and ship canals. They also remind us that in this, as in other aspects of life in Cheshire and at very different times, what happened here can only be explained in relation to what was happening elsewhere. The great waterway engineers of the past, however much they might disagree amongst themselves, were of one mind in visualising the country crossed by a network of waterways, a network whose purpose in origin at any rate, was to link the rivers and coasts rather than to be the sole means of communication.[5] The Mersey and the Dee with the Weaver and the Irwell were obvious outlets for coastwise traffic and whilst in origin they were waterways in their own right they also were to be and in part did become, links in the river-canal scheme.[6] Reference to the map[7] further illustrates the idea and shows where Cheshire waterways owe as much to economic life outside Cheshire as to life within. The reason why the routes of the waterways are partly peripheral and in part lie NW to SE is due in part to traffic potential and in part to geographical factors; indeed the map points to the inconvenience if not the irrelevance of county boundaries in a subject of this kind. The cotton and mining industries of South Lancashire, the textiles of Yorkshire, the quarries and mills of North East Cheshire and Derbyshire, the agriculture and salt industry of mid-Cheshire, the Potteries, the connection with the East Coast for European trade, the opening up of Shropshire's agriculture and the Coalbrookdale iron and china industries, not to mention Chester's own position as an *entrepôt,* dispel any idea that waterways were parochial or that they were other than a widespread means of commercial communication. Whilst it is true that a few of the very first canals were made to connect two fairly close points, e.g., the original Bridgewater length and in Shropshire the canals around Coalbrookdale and Lilleshall, all these either developed into part of the nationally-conceived network or quickly fell into disuse to be replaced by canals fitting into the general pattern.

However, because the map shows the routes of the waterways at one glance, it possibly suggests a sense of completeness which did not in fact exist until the mid-nineteenth century when the waterways were being superceded. Many factors have to be borne in mind when considering the history of waterways; the various waterways came into being at widely-differing dates and, even as regards any one, there were often constructional delays as well as the need to

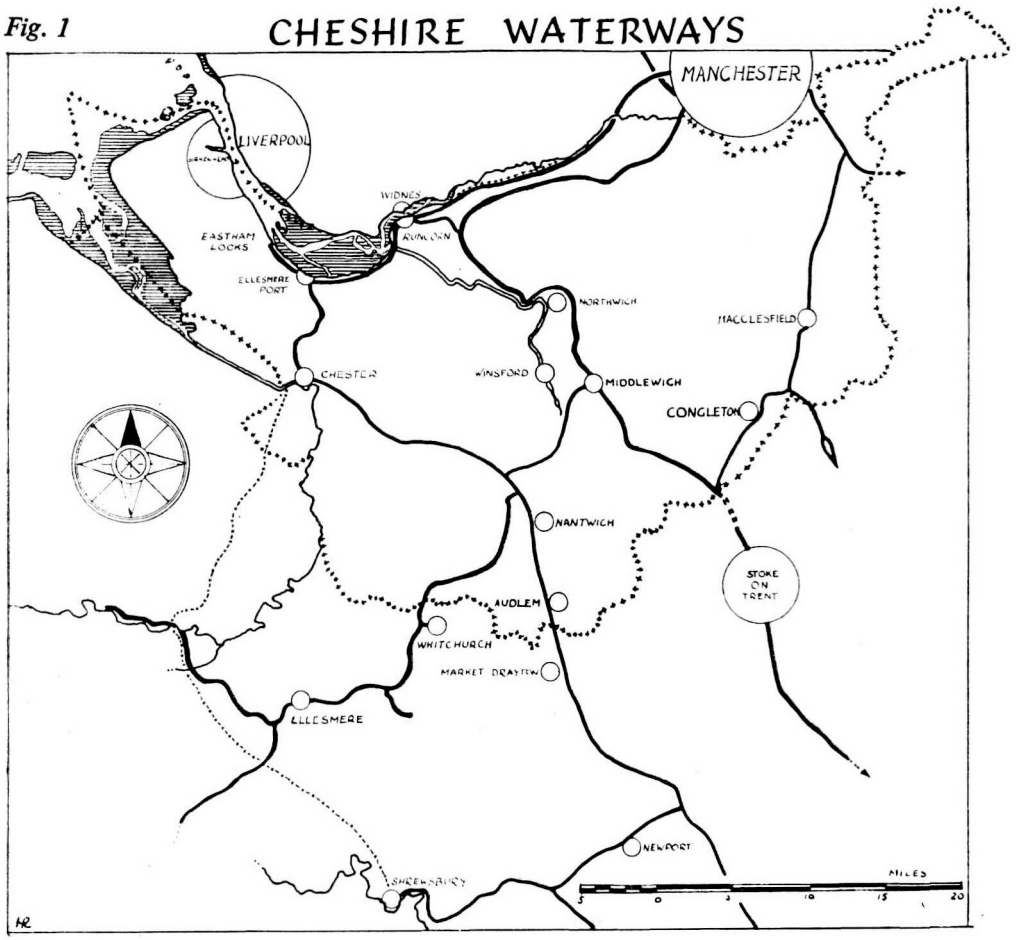
[4] See Table, p. 66.

[5] In 1766 Brindley's scheme to join the Mersey, Trent, Severn and Thames received the Royal Assent, specifically for the Trent & Mersey Canal. His idea was to cross the country with waterways in the form of a gigantic 'X'.

[6] On 31 August, 1791, a meeting at Ellesmere was held 'to consider of the propriety of making a Canal, to connect the Rivers Severn, Dee and Mersey, and of the line to be adopted.' Copy of some minutes, 28 June and 31 August, 1791 from the Book of Orders of the General Assembly given in *Report to the General Assembly of the Ellesmere Canal Proprietors,* Shrewsbury, 1806.

[7] Fig. 1, p. 65.

Fig. 1



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obtain several Acts of Parliament, and in addition, there was also the need to seek accommodation with irate landowners, whose views of the usefulness of artificial waterways cut through their estates were diametrically opposed to those of the proprietors. Then again at the development stage, when co-operation would have been particularly effective, there was often bitter strife between the respective companies, as witness the struggle between the Trent & Mersey and the Chester Canal proprietors. Whilst no doubt the railways would have triumphed in any event due to their superior speed, there seems little doubt but that more co-operation would have put the canal companies in a stronger position and perhaps have gone farther towards fulfilling the original concept of waterways as a well-integrated form of transport.

The accompanying table, read in association with the map, gives an outline of the development:

Waterway	First Authorised	Connecting	Cargoes
Weaver	1720	Winsford to Weston Point	Salt, Coal
Mersey & Irwell	1720	Manchester to R. Mersey	Cotton, Cloth, General Cargoes
Dee New Cut	1732	Chester to R. Dee Estuary	Irish Linen, Passengers, General Cargoes
Bridgewater	1759	Manchester to Worsley	Coal
	1762	Extended to Runcorn	Coal, Passengers, General Cargoes
Trent & Mersey	1766	Runcorn to East Coast	Limestone, Salt, Corn, Pottery, Ale, Metals
Chester	1772	Chester to Nantwich	Farm Produce
		Later to Middlewich	Salt
Ashton-under-Lyne	1792	Ashton to Manchester	Coal, Cotton
Ellesmere	1793	Llantysilio to Hurleston	Coal, Farm Produce,
Wirral Line		Chester to Ellesmere Port	Fertilisers, Passengers
Peak Forest	1794	Whaley Bridge to Ashton	Coal, Cotton
Huddersfield	1794	Huddersfield to Ashton	Coal, Cotton
Birmingham & Liverpool	1826	Nantwich to Birmingham	Farm Produce, Manufactures, Raw Materials
Macclesfield	1827	Harding's Wood to Marple	Coal, Limestone, Manufactures, Stone
Manchester Ship	1882	Manchester to Eastham	General Cargoes

The classification into three divisions should be noted together with the fact that the three types correspond with distinct periods of development, the original idea of a 'navigation' consisting of making navigable a major length of a river by removing or by-passing local obstacles is typified in each of the three 'navigations'.[8] The Weaver and to a less extent the Dee were viable waterways but the Mersey and Irwell appears not to have been at all satisfactory. Under the heading of 'Queries tending to prove the Imperfection of the old Navigation of the Mersey',[9] the defects of the Mersey & Irwell are listed, whilst the two following sections of that work, 'Observations of the Duke's Navigation, with Answers to Objections made upon it' and 'The Merchant of Warrington's Address to the Public, proving the Utility of a New Navigation', which are in defence of what ultimately became the Bridgewater Canal, tell a clear tale of the need for a new canal to replace the obviously highly unsatisfactory Mersey & Irwell. In another

[8] The dates 'authorized' are those for the first Parliamentary authorization of the projects; in almost all cases in the Table other Statutes followed.

[9] *The History of Inland Navigations*. Particularly that of the Duke of Bridgewater, attributed to J. Brindley. 3rd edition, 1779.

account[10] the Navigation is compared very unfavourably with the Bridgewater:

> In order to proceed from Liverpool to Manchester, by the third and last canal route, I got on board the Eclipse steamer, at the dock of the Mersey and Irwell Navigation, or Old Quay Company, at twenty minutes before nine, and before eleven o'clock we arrived at Runcorn. The basin and docks here, and at Liverpool, belonging to this establishment, by no means equal in appearance those of the Duke of Bridgewater; in fact a comparison throws them many degrees in the background.

Whilst as to the method of transport on the two waterways Phillips stated:

> Yet notwithstanding the Duke's undertaking was accomplished to the satisfaction of every beholder, and the difference in favour of canal navigation contrasted to that of a river was never more exemplified, nor appeared to more full and striking advantage than at Barton-bridge, in Lancashire, where one may see, at the same time, seven or eight stout fellows labouring like slaves to drag a boat slowly up the river Irwell, and one horse or mule, or sometimes two men at most, drawing five or six of the Duke's barges, linked together, at a great rate upon the canal, which is carried over the river at this place like a magnificent Roman aqueduct; . . .[11]

Man-hauling, however, had also been used on the Severn so it was more a matter of not having come up to date than instrinsic badness.

The Table also gives the terminal or connecting points of the waterways, and from this it can be seen how the canals linked up, how important Manchester was, and how the Mersey has maintained its importance. The shoals in both the Dee and Mersey estuaries,[12] as well as transhipment difficulties on the Weaver[13] hence, in part, the ultimate construction of the Trent & Mersey Canal, explain why the original concept of canals as navigations and connecting with the sea was not entirely satisfactory. The final column gives in simplified form the cargoes carried. Broadly speaking, the earlier cargoes were specific commodities of primary importance, whilst the later tended to be more varied.

[10] Sir George Head, *A Home Tour through the Manufacturing Districts of England*, 1835, 1836, p. 15. This work, hereafter referred to as Head, contains a wealth of material on life in northern England in the 1830's.

[11] op. cit., p. 87.

[12] See map, Fig. 1, p. 65.

[13] 'If the goods are taken off the canal at Northwich, to be sent down the Weaver, they will be liable to be retarded in the first place at Pickering's locks, about four miles above Frodsham-bridge, where there is a shallow, by which vessels are detained sometimes five, six, or seven days for want of water. The spring tides flow only here about an hour and a half each tide; and it is only during that space (except in land flood) that a boat can pass this shallow. There are likewise several other shallows in this river . . . This is likewise above Frodsham-bridge a bar that runs across the river, which, during low or neap tides, is impassable for three or four days.' Phillips, op. cit., p. 183.

Individual Navigations

(1) *Weaver Navigation*

The main impetus for improving the R. Weaver by canalising it at strategic points and by improving its connection with the R. Mersey came, of course, from the need to maintain and develop the salt industry of mid-Cheshire. Some idea of the importance and profitability of this trade is, perhaps surprisingly, given by the taxation on this trade towards the erection of the County Gaol at Chester,[14] and Warner, in 1798, records that two hundred thousand tons of salt from Cheshire were annually shipped at the port of Liverpool.[15]

The Weaver rises in the Peckforton range of hills, sweeps round in a huge arc, passing through Audlem, flows through Nantwich, where there is a sustantial mill, thence northwards to Winsford, via the Flashes, to Northwich and then north-westerly to the Mersey at Weston Point. Due to the terrain a minimum number of locks was required and a great improvement was effected by cutting across the 'ox-bows' found on the river, sometimes in association with weirs, sluices and locks. The constructional difficulties encountered were, therefore, less formidable and correspondingly less expensive, than the building of an entirely new waterway. The northern terminal was at Weston Point, near Runcorn, where dock gates gave access to the Mersey. Before the Manchester Ship Canal was built, boats had to wait for a suitable tide to carry them down the channel and in 1835 Head wrote:

> Even at present, the numerous fleet of sturdy shallops to be seen at times within its gates, is very remarkable; and the embankment and wall by which the works are enclosed and protected on the north from the torrent of the Mersey is, from its length and strength, equally worthy of notice.[16]

The Weaver, and particularly Weston Point Dock, is still in use, the former for general cargo, chemicals and timber, vessels coming in via the Ship Canal and unloading there; on the occasion of the author's visit to Weston Point, ships from Norway and Holland were tied alongside. The Navigation is also noteworthy for its swing bridges.[17]

[14] 'We cannot leave this building (the new County Gaol) without strongly recommending an inspection of the finest gaol in the kingdom, erected from the profits arising from the navigation of the river Weaver'. John Broster, *Ancient History of the City of Chester and a Walk Round the Walls,* 6th edition, 1821, p. 41; G. Ormerod, *History of the County Palatine and City of Chester,* 2nd edition, 1882, Vol. I, p. LXXIII, contains Drayton's description in stilted verse of the Dee and a reference to the use of the revenues arising from the 'river Weever'.

[15] Rev. Richard Warner, *A Second Walk through Wales, August & September,* 1798, 1799, p. 231.

[16] Head, op. cit., Ch. I.

[17] British Waterways have a Divisional Engineer's Office at Northwich and acknowledgement must be made to their Divisional Engineer for courteous permission to visit and photograph the various installations. These slides formed part of the lecture given to the Society.

An authoritative history of the Weaver Navigation has already been written[18] to which the reader is referred for futher details.

(2) *Mersey and Irwell Navigation*

This Navigation was authorised at the same time as the Weaver Navigation in 1720 and its importance to Liverpool can be judged by the fact that until 1760 there was no road for wheeled carriages into the city; goods and passengers were conveyed between Manchester and Liverpool by the Mersey and Irwell Navigation while goods outward were carried by packhorse.[19] The 'Old Quay' at Runcorn, a little upstream of the Weaver outfall and the eventual Bridgewater locks facilitated interchange with the Weaver, perpetuating the name of the original 'Old Quay Company' which later became the vernacular title of its successor in 1779, the Mersey and Irwell Company. The 1720 Act authorised the original Navigation from a point above Warrington, navigation from Runcorn to Warrington having been improved about the year 1694 by Thomas Patten of Bank-Hall, Warrington,[20] but in 1794, due to the then impossibility of navigation at low tides up to Warrington, an extension to Runcorn from Warrington, was authorised. The promises inherent in the preamble to the 1720 Act sound well enough, for by making these rivers navigable, it is stated that this would be:

> very beneficial to Trade, advantageous to the Poor, and convenient for the Carriage of Coals, Cannel, Stone, Timber, and other Goods, Wares, and Merchandizes, to and from the Towns and Parts adjacent, and will very much tend to the Imploying and Increase of Watermen and Seamen, and be a Means to preserve the Highways . . .

This Navigation passing along the northern border of the county, might be thought to be only marginally a Cheshire waterway, but quite apart from the fact that the Mersey flows wholly within Cheshire for part of its course, this navigation is of particular interest in that it exhibited all the potentialities and the defects of a river navigation at one and the same time. Moreover, to judge from some of the records, the history of this Navigation is one of frustrating incompetence and lack of foresight on the part of its promoters and later trustees so that perhaps it ought to be judged less by what it failed to do than by what it drove others, notably the Duke of Bridgewater, to do towards making and maintaining effective canals and navigations.[21] With such a traffic potential, greater than that of the Weaver, one is forced to the conclusion that it must have been a considerable failure. That the Mersey and the Irwell, due to the combined effect of their meandering channels and the rise and fall of the tides,

[18] T. S. Willan, *Navigation of the River Weaver in the 18th Century*, 1951; see also J. Aikin, *A Description of the Country from Thirty to Forty Miles Round Manchester*, 1795.

[19] J. A. Picton, *Memorials of Liverpool*, 1875, Vol. I, p. 106.

[20] T. Baines, *History of the Commerce and Town of Liverpool*, 1852, Vol. I, p. 340.

[21] For details see C. Hadfield, *British Canals*, revised edition, 1959, pp. 30, 31, 79. The Bridgewater Canal bought up the M. & I. in 1844, ibid., p. 188.

were far from ideal as navigable waterways is true and must not be left out of account but when set against, for example, navigation on the Severn under even more adverse conditions, what was done to connect the two towns was meagre, pitiful and inadequate. Head, whose comment on this has already been noted, after having transferred from the 'Eclipse steamer', then continues:

> At Runcorn, indeed, we came to anchor close alongside the packet-boat: an obvious convenience to passengers, compared with the ceremony of consigning their luggage to a porter, and toiling to the top of the hill—the level of the Duke's canal. This advantage, however, is counterbalanced in the long run. . . . This boat is of heavier construction altogether than that of the Duke, the cabin, instead of on deck, being below, as in ordinary river or sea boats; and it is towed by three horses instead of two; the middle horse moving on between the other two, unridden. Two boys ride in the manner and style before described; without stirrups, resting their feet on the traces, sometimes high, sometimes low, according as the horse lay on his collar. Neither wore coats, and their trousers were as ragged as those of a scarecrow. The whole fare from Liverpool to Manchester was the same as before, viz. 3*s*. 6*d*. We left Runcorn precisely at twenty minutes after eleven, and arrived at a quarter before six . . . Although the course of this navigation chiefly leads through the Mersey and Irwell river, the prospect is chiefly shut out by winding, muddy banks, so lofty that at least seventy yards of tow-rope are used; the extremity of which is fastened high on the mast above the cross-trees. The first artificial cut of the canal commences at starting, and continues for about eight miles; the others on the way are of less extent. Having halted for a short time near the town of Warrington, we continued our passage, with little exception, on the Mersey, till arriving within ten miles of Manchester, at the confluence of the Mersey and Irwell rivers, which two streams are at this point equal in point of width, we proceeded for the rest of the voyage up the latter river.[22]

The opposition of the Mersey and Irwell to the Bridgewater, not to mention the equally vigorous reply, and the need for a proper navigation in that area, are well set out in a collection of documents attributed to Brindley.[23]

However, in spite of its imperfections, the Navigation functioned, and unlike the majority of other navigations and the later canal companies, as the Old Quay Company, it was also a carrying concern providing full facilities both by water and by land, the latter by rail. It is possible that it is for the latter reason that the £100 shares were standing at £800 when the Bridgewater took over

[22] See text relating to n. 10. Aikin, op. cit., at p. 11 makes the cryptic comment 'It is made navigable from Manchester to its junction with the Mersey, and thence to the sea.'

[23] As n. 9.

the Mersey and Irwell in 1844.[24] Despite this indication of viability, the attitude of the proprietors must have served to set the seal on the fate of the navigation, a fate which was inevitable for altogether different reasons, namely, that this was an outstanding example of a form of water transport which was useless so long as it was hoped to use rivers as they were, without building barrages and locks and widening and deepening the channel so impounded.

(3) *River Dee Navigation*

Compared with the foregoing, the Dee shows up much more favourably and, until nature and the Industrial Revolution between them asserted and established the supremacy of the Mersey, virtually reducing the Dee as a line of communication to a non-entity, there was a long record of activity and interest. This is not to say, however, that there were not fierce local battles and that the navigation was wholly satisfactory. Nevertheless the Dee, both in the estuary and in the reaches above Chester, was a navigable waterway from Roman times down to the nineteenth century.

Local tradition has it that Roman barges were man-hauled so far up as Worthenbury;[25] certainly, however, the products of the tile works at Holt came down by river to Chester, possibly being trans-shipped at Heron Bridge, just over a mile south of Chester, where there was a dock,[26] whilst at Chester there was a quay at the foot of what is now the buttressed part of the City Walls below Nuns Road,[27] the Roodee, as we now know it, not being made up until the sixteenth century.[28]

[24] Hadfield, op. cit., p. 247. For values in 1830 and 1833, including the dividends paid, see Tables on pp. 178 and 175 respectively. For an apologia for the Irwell see J. Corbett, *The River Irwell*, 1907. The author, who was Borough Engineer of Salford, besides giving some details of the Navigation, also gives several interesting recollections, both personal and professional, and the illustrations include two photographs of the Barton Aqueduct over the Irwell.

[25] Information given by a local resident to the author; possibly reinforced by J. Fletcher, *The Stranger in Chester*, 1816; J. J. H. (aswell?), Editor, Chester Chronicle: 'THE RIVER DEE—It has been noticed by several writers, that the present course of the Dee, via Aldford, Eaton, and Eccleston to Chester, was the work of the Romans, who commenced it near Shocklach, and that the earth thrown up on the banks, particularly near Eccleston, was obtained from the excavation.'

[26] F. H. Thompson, *Roman Cheshire*, A History of Cheshire, Vol. II, 1965, pp. 15, 66; R. B. Hartley and K. F. Kaine, 'The Roman Dock and Buildings', C.A.S., Vol. 41, 1954, p. 15. 'The Problem of the Destruction of the Port of Chester', Cheshire Sheaf, Third Series, Vol. 59, 1964, Nos. 1185, 1187 and 1190. The name 'Heron Bridge' has given rise to much speculation: previously it was thought to be either connected with the line of flight from the heronry at Eaton (the dialect name for a heron being 'yarn') or to refer to an iron bridge mentioned in the Black Prince's Charter to the city, as *'pontis ferrei'* (transcribed in *Hist. M.S.S. 8th Report*, 1869, Appendix, p. 358, item (16), 9 March 1353/4). The original hangs in the Muniment Room, Town Hall, Chester. The meaning of the name has recently been considered by J. McNeal Dodgson in a lecture to the Society on Chester place names, who gives it as 'secluded corner' (in the sense of being remote), the word being derived thus: Yorne—yrne—Irne—Ierren, becoming 'Heron' in the late 18th century. See above p. 60.

[27] 'Records of Archaeological Finds at Chester', C.A.S. (N.S.), Vol. 27 (Pt. 2), Item LVI, p. 179.

[28] R. H. Morris, *Chester in the Plantagenet and Tudor Reigns*, (1894), p. 300.

Throughout its history the River Dee, with Chester as its main port, has been used as a commercial highway, but many aspects of this navigation and of the history of the port of Chester remain to be studied.[29] However, from the studies made to date it is clear that trade in the River Dee increased over the years and increased considerably towards the end of the eighteenth century. Nor should the amount of traffic with Ireland be forgotten together with the posting and provisioning of troops, officials and visitors passing to and fro. The reasons for this are to be found in the economic, social and political history of the country, but its archaeological interest lies in the nature of the fluctuation of the effectiveness of the port of Chester as determined by the vagaries of the estuary channel, and the extent to which there existed small-scale but adequate industries serving shipping.

It is well known that the estuary channel of the river silted up in the late medieval period, and that more than once during the fifteenth century the citizens of Chester successfully petitioned the Crown for a remission of their fee-farm as a result thereof.[30] However, the hitherto traditional acceptance of these petitions at their face value as true indications of the state of the estuary and as wholly explaining the decline of Chester's fortunes has recently been disputed.[31] It has now been suggested that the trade of the port increased during this period and that the wording of the charters can be discounted as representing vested interests, especially when it is remembered that during this period the city was able to pay for the maintenance of the walls and some of the public buildings out of the murage charged on trade within and through the city. However, this theory can only be accepted with certain reservations, for while it may be true to describe the wording of the charters as melodramatic, and that it is certainly likely that the citizens happily overstated their case with a view to obtaining relief, it is also true that so far as the state of the estuary is concerned the evidence adduced is inferential, for the number of the ships using the channel is not, of itself, evidence of the state of the channel. With these facts in mind

[29] Full details for this trade during the medieval period can be found in an unpublished Ph.D. thesis by K. P. Wilson, *The Port of Chester in the Later Middle Ages,* 1965, hereafter referred to as 'Wilson', part of which is due to be published shortly by the Lancashire and Cheshire Record Society. A copy of this thesis can be seen in Chester City Record Office at the Town Hall, Chester. For the trade in the eighteenth century see R. Craig, 'Some Aspects of Trade and Shipping of the River Dee in the Eighteenth Century', L.C.H.S., Vol. 114, 1962.

[30] H. J. Hewitt, *Medieval Cheshire,* 1929, pp. 140–3, describes the decline of the port. Also R. H. Morris, op. cit., pp. 511, 516, 521, e.g., the 1445 Charter stated that . . . for 40 years the great flow of water at the said port . . . is taken away from the said harbour by the wreck of the sea sand so that the said harbour is wholly destroyed and cannot be recovered: so that no merchant ship can approach within 12 miles and more of the said city, . . .'. The 1484 Charter stated that for 60 years 'the great flow of water . . . is taken away owing to the wreck of sea-sands daily falling and increasing in the channel there, . . .' whilst the 1486 Charter referred to the channel being obstructed 'by the vehement influx of sand and silting up of gravel that merchants with their ships were by no means able to reach the aforesaid city for the space of 12 miles for 200 years now last passed, . . .'

[31] K. P. Wilson, 'The Port of Chester in the Fifteenth Century', L.C.H.S., Vol. 117, 1966, pp. 1–15.

it is possible to argue that the increased level of trade was only possible because of the increasing use of anchorages in the estuary and the canalisation of the river. Also, the very development of sea-borne trade demanded bigger ships just at the time that the channel was 'decaying' to such an extent as to make it possible only for smaller and not bigger ships to reach the city. There is also the additional factor that the main reason for the decline of the city as a port may have been its lack of an economic hinterland or even its lack of an expeditious form of inland transport: in other words, a full explanation of what happened over the years demands that we look landward as well as seaward.

A convenient starting point for a short review of the navigation of the Dee is the construction of the Water Tower at Chester. Prior to the sixteenth century building up of what is now the Roodee, the eighteenth century canalisation of the river, and the consequent reclamation of the Marshes as the Sealand area, ships were making their way to Chester and discharging their cargoes alongside where the County Hall now stands, immediately below the weir and mill. Much of the mechandise went ashore through the Shipgate Arch,[32] traditionally known as 'The-Hole-in-the-Wall', into Shipgate Street and so into Bridge Street. Busier than this, however, must have been the Watergate to which we shall return in a moment. In 1322 John de Helpeston built the Water Tower,[33] then called the 'New Tower'. It is not easy to reconcile the design of this tower with purely commercial purposes, and it is more likely that its design, coupled with its narrow access from the City Walls, implies that it was for protection rather than for trade although the access and City Walls could well have formed the angle-walls of a haven. Nonetheless the waters of the Dee lapped it and boats could tie alongside, as witness the mooring rings, and indeed Pennant, writing in 1781, states:

> I remember an almost useless tide flowing about the water-tower, the antient channel of the Dee passing under Blacon point: and the access to the county of Flint, on this side, open only at the recess of tides, and annually occasioning the loss of multitudes of lives.[34]

Much of the traffic unable otherwise to land at Chester or at the other quays went to the anchorages known to have been used, e.g., West Kirby, Redbank, described as 'the most frequently used in the later middle ages', Heswall, Gayton, Neston, New Quay, Burton, Shotwick, and Portpool, and the goods brought ashore by long boat.[35] As for the actual havens and quays, in addition to Chester

[32] The masonry from which was removed in 1838, set up in the garden of John Finchett Maddock, then Town Clerk, and later re-erected in the Grosvenor Park, Chester in 1923.

[33] 'Indenture of the agreement between the mayor and citizens of Chester and John Clypeston, (Helpeston), for the building of the New Tower, commonly called the Water Tower, 1322. *Hist. M.S.S. Report,* op. cit., p. 357 (13). This document is transcribed and discussed in D. F. Renn, 'The Water Tower at Chester', C.A.S. (N.S.) 45, 1958, pp. 56–60.

[34] T. Pennant, *Tours in Wales,* 1810, Vol. I, p. 260.

[35] Wilson, map, *post* p. 149.

and the New Quays at Ness and Parkgate there is also mentioned the 'Lightfotepole',[36] whilst on the West shore Basingwerk had been used, especially having regard to the nearby Abbey as an hospice,[37] Mostyn[38] and Connah's Quay[39] and possibly other smaller staithes.[40] In fact it almost seems that the point of embarkation for Ireland moved round the estuary in an anti-clockwise direction over a period of some six hundred years.

In the foregoing list of anchorages it will be seen that both 'New Quay' and 'Lightfotepole' are mentioned. The latter was identified by Edna Rideout in 1927 as the quay at the New Haven,[41] Chester Corporation and the City Companies playing a substantial part in the construction of the New Haven. On the north-east side of the estuary there are at least three quays within about a mile of each other and whilst it is probably correct to say that the Lightfotepole and the New Haven are one and the same, it remains to account for the other two. What was a 'new quay' in the sixteenth century becomes an 'old quay' on twentieth century maps, and in addition, at least one quay on the Welsh side, Connah's Quay, was itself locally called the 'New Quay'. If the Lightfotepole, 'Lightfoot's Pool', is close to where the 'Old Quay House' stood[42] and was 'New Haven', how do we explain Parkgate as the 'Newkeye' of Saxton, or the Old Quay Hotel at Parkgate? Was the latter 'old' in relation to a newer one at Parkgate, e.g., by the Boat House, or did it serve Lightfotepole almost a mile away, or was it on its own quay? Furthermore, there is also a quay[43] half-a-mile south-east of this 'Old Quay House'. The Ordnance maps tend to confuse rather than to clarify the situation: the south-eastern quay is not described at all in the 1963 1″ sheet[44] but it is described as 'Quay (disused)' on the 1:25,000 sheet of 1959 whilst on the 1947 1″ sheet[45] it is described as Denhall quay. This has much to commend it in that it is close to Denhall colliery and that there was an anchorage at Denhall. If this has always been Denhall quay, and if the anchorage came first, it would seem that the quay was built

[36] In February 1547/8 this is referred to as being six miles distant from Chester. Chester Corporation Archives, ML/1/4, and this position agrees with the small creek near Seahill Road, Great Saughall, although enquiries of families who have lived there for more than three generations have failed to provide any recollections of such a name as 'Lightfotepole', (see n. 41).

[37] Founded 1132 A.D. by Ranulf II, Earl of Chester. It was also used as Edward I's headquarters whilst building Flint Castle in 1277 as part of his campaign against the Welsh.

[38] G. Collins, *Great Britain's Coasting Pilot,* 1758, reprinted 1964, p. 8. The Mostyn family had, however, extensive interests at Parkgate and 'Mostyn Quay' may possibly on occasion have been used to describe what we now know as Parkgate.

[39] J. E. Messham, 'The Buckley Potteries', F.H.S., Vol. 16, 1956, p. 31.

[40] e.g. Wepre; see G. Lloyd, 'The Flint Canal Company', F.H.S., Vol. 19, 1961, p. 87. Some seventy years ago a boat carrying grain for Kelsterton Brewery tied up at what is now the cross-roads to unload its cargo into carts: information given by a member of the audience at a lecture given 9 November, 1967, see n. 65.

[41] Edna Rideout, 'The Chester Companies and the Old Quay', L.C.H.S., Vol. 79, 1927, p. 141, where 'lightfotepole' is identified with the Old Quay House just within Little Neston.

[42] Nat. Grid Ref. 286767.

[43] Nat. Grid Ref. 289760.

[44] No. 109, 7th series.

[45] No. 109, 'New Popular Edition', 1947.

later, and this would imply that there has always been sufficient depth of water to justify going on to build a quay. If, on the other hand, the quay was built first and the depth of water gradually decreased, the harbour was obviously made for something more than tying-up long boats and so shaped as to accommodate quite a fleet of craft. Moreover, the size and nature of the stones used seems to be more in keeping with the accounts than does the masonry at the 'Old Quay House'. If this is Denhall quay and not the New Haven, why the two so close together? Was the one privately owned and the other for public use, the former for the exclusive despatch of coal and if so, just when did digging for coal begin at Denhall? And what, one wonders, were the conditions then prevailing which induced the siting of the quay at the Quay House[46] with an unsuitably long and wandering lane, now called 'Old Quay Lane' leading to the distant Moorside? If access to Neston were the object, why was not the quay sited at the end of the present sea wall, dated on a capstone as 1894 which gives a short direct access to the town? Or, if siting of the two old quays was the more important factor, why not the quay at Denhall which gives a much better road inland as the position for such an important haven? In the account just referred to, the position of the 'brick-house' on Yarranton's plan[47] and the house on Saxton's map of Cheshire cannot, in the absence of confirmatory evidence, be taken as proof of position. Yarranton shows Holt Castle, some ten miles upstream from Chester as if it were two miles upstream from Chester, and Saxton's details are known to have been symbolic, not representational.[48]

Until further archaeological and historical evidence is forthcoming, including ground plans of the sites, the order of probabilities which it would seem prudent to accept would appear to be that the New Haven of the Account Books may well be the Lightfotepole, and that the quay at Grid Reference 286767 could be the New Haven if an actual haven, as distinct from a sea wall is revealed and if that at Grid Reference 289760 had always been called Denhall quay presupposing, of course, that coal was being hewn in the sixteenth century at the nearby colliery. Obviously there is here a field for further research, research which would need to take in the development of Parkgate and its quay or quays, and which would consider the development of the area as a whole, not just each of the many quays in isolation but each in relation to the other.

But wherever the New Haven was located, it certainly existed and the story of its building is fascinating.[49] The following is a resumé of the part played by the Corporation of Chester and the City Companies in the building of the New Haven.[50] In February 1547/8 the Chancellor of the Court of Augmentation (Sir Edward North) on behalf of the Privy Council redirected the annual grant of £40 intended for the 'new erected Colledge' to the building of the new haven

[46] n. 42.
[47] See plate.
[48] J. B. Harley, 'From Saxton to Speed', *Cheshire Round*, Vol. I, No. 6, 1966, p. 178.
[49] Edna Rideout, 'The Account Book of the New Haven, 1567–8', L.C.H.S., Vol. 80, 1928, p. 86.
[50] Information kindly supplied by the Chester City Archivist.

at 'Lightfotes Pole' and in March 1547/8 ordered 200 trees (but for what precise purpose is not specified) to be made available from the royal woods in Flint and Cheshire.[51] Then on 1 March 1556/7 a master treasurer and two overseers were appointed 'for better ordering the work' and by way of income Chester merchants agreed to an import duty of $3\frac{1}{2}d.$ per ton on imported merchandise, except corn, and churchwardens organised a 'voluntary rate' in each parish, the amount once offered to be recorded and paid regularly.[52] On 19 November, 1559, all persons who were made freemen were to pay $3s.$ $4d.$ to the undertaking instead of having their customary drinking ceremony, and on 29 October, 1560 collections for the new haven were ordered to begin on the following Sunday, Mayor's peers paying $6d.$ per week, Sheriffs' peers $4d.$ and common councillors $2d.$[53]

Matters appear to have hung fire for a time until about 1565 when Anthony Hurleston was made overseer at the New Haven at $3s.$ $4d.$ per week, and in the year 1567–8 in order to hasten completion of the work at the new haven, a rate was assessed on the whole city and collected quarterly by the stewards of the city companies, the Sheriffs acting as treasurers. Assessors were also appointed and persons refusing to pay these rates were to be imprisoned until they did. In addition one member of the Assembly was to be chosen each week to oversee the work at the haven and to account for the expenditure.[54]

Quite apart from the financial difficulties and those arising from the typically sixteenth-century reliance on 'voluntary' administration, physical difficulties arose to delay the work. On 18 November, 1575 it was decided that damage to the new haven should be repaired before matters became worse, and on 9 May, 1587, Thomas Radford, a merchant, was instructed to oversee certain repairs. Then on 28 April, 1598, John Aldersay and Peter Newall reported on the 'serious decay', which was not surprising after a period of some forty years, and it was decided that the primage or import duty paid over the last ten years should be devoted to the repairs. On the same occasion it was decided that the overseers were to engage Thomas Lewes, mason, or some other qualified person and the crane was to be repaired.[55]

This was by no means the first time that there had been trouble with the crane as will be seen from the following account of a week's expenditure some twenty years earlier:

> The Charges of the haven this weke from the ixth of february 1567[/8] untill the xiiijth of the same moneth as foloweth

[51] Chester Corporation Archives, ML/1/1 and 4.

[52] Ibid., AB/1/91.

[53] Ibid., AB/1/94 and 96v.

[54] Ibid., AB/1/1/108v. and 117–8v.

[55] Ibid., AB/1/164v, 211v 252 and v.

The Charges

1	Imprimis to Thomas lewes for vj daies at xd the day	vs	
2	Item to Robart hasellwall for vj daies at ixd the day	iijs	vjd
3	Item to Robart hill for vj daies at vd the daie	ijs	vjd
4	Item to Heugh denson for vj daies at vd the daie	ijs	vjd
5	Item to Robart seche for vj daies at vd the daie	ijs	vjd
6	Item to John mason for vj daies at vd the daie	ijs	vjd
7	Item to Thomas mason for vj daies at vd the daie	ijs	vjd
8	Item to John davie for vj daies at vd the daie	ijs	vjd
9	Item to Robart Crosloy for vj daies at vd the daie	ijs	vjd
10	Item to Peter hichin for vj daies at vd the daie	ijs	vjd
	Item paied for sharpenyng of the toolez		xijd

The Som' xxxs vjd

xx

Item that weke were gotton for the said haven iij peces of stonn' and that wek squared lij peces and gotton more xxii tonns of filling. Vpon friday of wch weke being the xiijth of february through great tempest the Crane of the said haven fell together wth a pece of the work & the Crane then gathered together and all the Iren work thereof is in the said lewes keping for wch weke Mr John smith & Mr Thomas grene Ald(ermen) were overseares of the said workmanship who preferryd to Mr. Maior their bill of the furtheraunce & charges of the said haven according to an order thereof made. And afterwardes viz' the xvth of february Mr John Smith aforesaid for St. Laurance Smith was appointed to be overseares of the said work for the next week to com' & thither to go downe this present xvth daie.'[56]

Lack of income obviously bedevilled the project throughout and attempts were made to seek new sources. On 13 January, 1575/6, a petition was ordered to be sent to the Lord Treasurer and the Earl of Leicester for a grant from the royal customs at Chester towards the cost of furnishing the new haven, and William Glaseor, the Vice-Chamberlain undertook to do his best in this matter. Ten years later on 21 October, 1586, Thomas Lyniall, merchant, and David Lloyd, draper, were to petition the Privy Council to obtain the custom of Dover Pier. This, apparently, did not come up to expectations, for on 28 January, 1588/9, Derby, Walsingham and the Solicitor General were to be asked for their opinion on the city's petition for the custom of Dover Pier for the new haven, the grant of which had expired. Matters must by then have become very serious for in an attempt almost to clutch at any straw on 12 December, 1589, strangers admitted to the freedom of the city who formerly paid 5*s*. to the

[56] Ibid.; Newhaven Account Books, 45v.
[57] Ibid., AB/1/167, 219 and 226v.

Sergeant of Mace and Swordbearer respectively, in future were to pay this to the Murengers for the repair of the new haven.[57]

Finally it would appear that recriminations and bitterness began to creep in for on 25 February, 1588/9, the request of Roger Hanmer for repayment of money expended by his predecessor, Randle Leeche, as overseer of the work at the new haven was deferred, and on 1 August, 1598, Aldersay and Newall, having four months previously reported on the sorry state of affairs at the haven, were ordered to submit accounts on the new haven. When the accounts of Aldersay and Newall were discussed on 7 August, 1598 some items were questioned by Councilman John Troppe, Aldersay lost his temper, was removed from the post of overseer and imprisoned until he paid £10 for contempt and John Middleton, merchant, was appointed in his place. On 3 July 1601, auditors were appointed to take accounts of John Aldersay and Peter Newall for work at new haven and again, on 18 December, 1601, Thomas Lyniall and William Aldersay were instructed to inspect the accounts of John Aldersay who had spent his own money on work at the new haven, so that it could be settled.[58] Settled the accounts may have been but finished off the haven never was. On 27 April, 1608, the Privy Council directed[59] that an enquiry be made into the controversy which had arisen due to the Commissioners of Sewers, who had been appointed to survey the river, and who, as part of their improvements had ordered the pulling down of half of the 'New Key' and had made a breach of some ten yards in the middle of a causeway leading down to the river.[60] After sixty frustrating years the project had come to grief; nor does the story end there as on and off for another 190 years, the Corporation was trying to get rid of this incubus and it was not until 1799 that this ill-fated New Quay was sold to Sir Roger Mostyn.[61]

Now there are two possible ways of dealing with a problem: to ameliorate its effect or to remove the cause of the problem. The building of successive quays at different places around the estuary as necessitated by the conditions of the day falls into the first category. With the coming of the Renaissance new solutions began to be sought for conditions which had previously been accepted, and, therefore, instead of trying to accommodate themselves to the effects, men looked for an entirely different solution, namely, altering the course of the river itself. To us, in an age when this sort of thing is almost a matter of course and certainly well within the bounds of possibility,[62] the initial reluctance to treat the problem this way may seem a little odd. The seventeenth century Commissioners of Sewers possibly failed to seize their opportunities but Chester still

[58] Ibid., AB/1/219v, 253v, 254, 268 and 271.

[59] Ibid., ML/2/216.

[60] T. S. Willan, 'Chester and the Navigation of the Dee, 1600–1750', C.A.S., Vol. 32, 1937–38, p. 64, hereafter referred to as 'Willan', gives a brief but useful and concise summary of the major developments during that period.

[61] Chester Corporation made the order to treat for the sale in 1792 and the sale was completed in 1799, *Morris,* op. cit., p. 459, n. 2; Chester Archives, AB/5/57.

[62] e.g., the current investigation into the possibility of a road crossing across the estuary and schemes for impounding the waters of the Dee are set out in M.H.L.G., 'Dee Crossing Study, Phase I—A report to the technical working party', H.M.S.O., 1967.

persevered, first ordering that the Dee Mills and the Causeway (the weir) at Chester should be demolished,[63] and when this project failed, decided to look at the problem as a whole. In 1674 Andrew Yarranton, a well-known planner of inland navigation schemes in the post-Restoration period, surveyed the river and the following suggestions for the improvement of the River Dee Navigation are contained in his famous work *England's Improvement by Sea and Land,* published in 1677 :

> Now I must take a step to Westchester, and endeavour to find out how the River Dee may be made so Navigable to Bangor-bridge, that thereby it may be made communicable with the River *Severne.* In the month of July 1674. I was prevailed with by a Person of Honour to survey the river Dee, running by the City of Chester into the Irish Sea, and finding the river choked with the Sands that a Vessel of twenty Tuns could not dome to that Noble City, and the Ships forc'd to lye at Nesson in a very bad Harbour, whereby the Ships receive much damage, and Trade made so uncertain and chargeable, that the Trade of Chester is much decay'd, and gone to Leverpool, and that old great City in danger of being ruin'd, if the River Dee be not made Navigable by Act of Parliament, and Ships brought to the City. I have formerly drawn a Map of the New River to be made to bring up the Ships to the City side, which Map was presented to the Duke of York by the Lord Windsor, and Colonel Warden, and therein the Reasons are inserted, how it may be done, and the advantage it will be to Trade, and the City also. The Map is now at Chester in the keeping of the Mayor. His Highness the Duke of York was pleased to promise the recommending of it to Parliament, for making it Navigable. And if it were made to Chester Navigable by a New Cut, as is in the Map prescribed, there would be Three Thousand Acres of Land gained out of the Sea, and made rich land, besides the Coles from Aston will be brought to the City of Chester by water, which now are brought by land, and all Goods and other things carried and recarried from England to Ireland, and from Ireland into England with much less charge than now it is. And Dee being made Navigable to Bangor-bridge, will be a means to make the River Severne helpful to convey all Goods to London, by sending it down the River Severne, and up the River Avon, and so down the Thames to London; whereby much moneys will be saved, and Trade advanced. The River Dee must be taken up with a very strong Wear, over against the Water Gate of the City of Chester, and so the River Dee must be carried in a large Cut or Trench through the lands below Alderman Wright's House, along the Sands, as far as Flint Castle, and then dropt by a large Cut, into the Deep Water below the Brewhouse. There must also be a cut drawn along the Welch shore, and so from Aston Pits, and dropt into the Main Trench, whereby the waste water, that comes from the Hills and Mountains will

[63] Willan, p. 64, noting Cal. S.P.D. 1645–7, p. 475.

be voided, and the Coles that are now carried by Land to Chester will then be carried by water, and at least 1000 l per Ann. saved in Carriage; This Trench must be very large, that two Ships may Sail one by the other and the Sea Banks must be made very Firm and Strong, not upright, but very much sloaping. There must also be made five very strong Locks or Sluces of Stone, which is there very necessary, at the end of the Trench. This will be done for 15000 l. The River Dee being let down upon a sudden through the great Trench, will cause the Sands to fly and deepen the Channel, and thereby make the Harbour safe, and help to open and deepen the Bar. But it must be done when the Tyde is going out, and when the wind bloweth hard at East, with a strong fresh of water coming off the Mountains. The Map discovering the whole Design is hereunto Affixed.

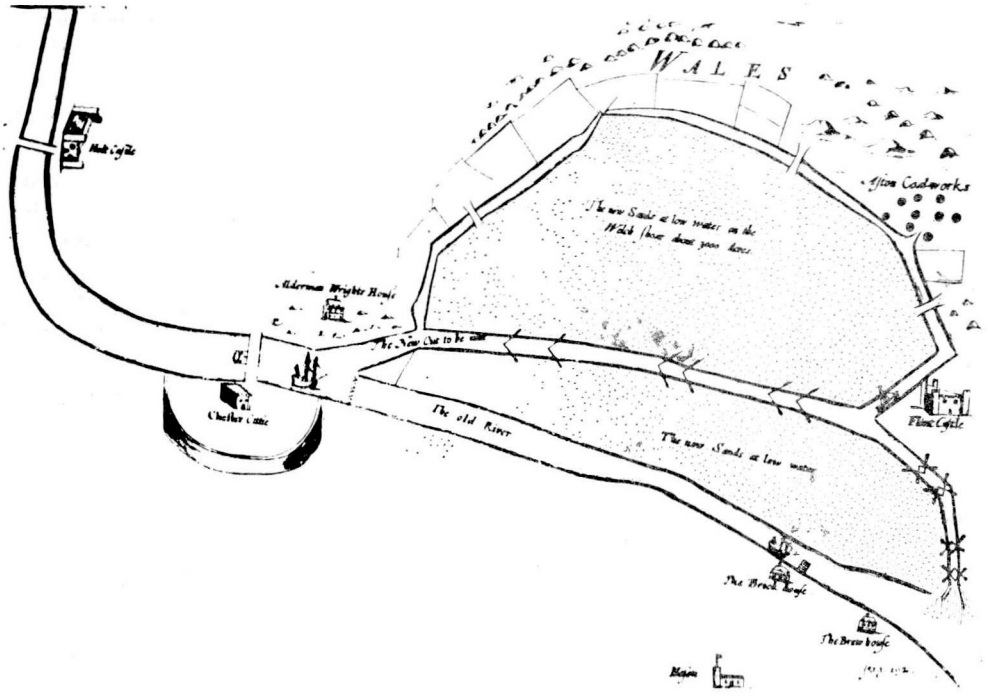

Fig. 2 Yarrington's plan for canalising the Dee Estuary, 1677

Yarranton's scheme, which in part took advantage of the effect of the set of the North Wales tide and the easterly scour of the estuary waters, was never carried out. The scheme which was carried out by the River Dee Company[64] in fact disregarded the local behaviour of the tides and the river, and the self-

[64] F. Webster, 'The River Dee Reclamations and the Effect upon Navigations', *Liverpool Engineering Society's Transactions*, (1930), pp. 63–100. An unusually clear and effectively illustrated account.

scouring effect to be obtained by making effective use of the natural action of water in motion.[65]

Two further proposals were considered by the Corporation and then in 1698 the Corporation entered into an agreement with Francis Gell, a London merchant, to make the river navigable for vessels of 100 tons at all tides. This was opposed by Sir Roger Mostyn and others, including the Commoners of Saltney Marsh on the grounds that the reclaimed land would destroy their interests. The Corporation obtained statutory powers in 1700 to carry out this work and some work must have been done in 1707, when Nicholas Jennings offered to improve the navigation of the Dee, his offer was rejected on the ground that the river was already navigable at spring tides for vessels drawing nine feet.[66] Because of opposition from engineers and interested users of the port, the former challenging the engineering soundness and intentions of the promoters, the latter the increased fees which would naturally follow and despite protests from the port interests at Holyhead, Liverpool and Parkgate, it was not until 1732 that the navigation scheme was resumed, and the Act of 1733[67] authorised the 'New Cut' under the supervision of Nathaniel Kinderley and this was completed in 1737. In 1741 the River Dee Company was incorporated[68] with responsibility for maintaining the navigation. In 1753 a further statute[69] extinguished rights of common over the Saltney Marshes when the Company took possession of the 'Waste Lands on the North Side of the New Channel', however, the Company undertook to 'preserve the Navigation of the River on the South Side' and to provide necessary banks and sluices, while in return no one was permitted to drive cattle across the banks, but had to use the ferries provided. Later, in 1776 as part of the same scheme, the Point of Air lighthouse was authorised[70] by an Act which made provision for pilotage: examination and licensing of pilots, fees to be charged by them, their rights and duties, in some instances to 'lead the Way with his Boat' to an 'Anchor at Dalpoole or Parkgate within the Port of Chester,' The Trustees, who included the Mayor, Recorder and Aldermen of Chester, the Commander of His Majesty's Yacht, the Pilot of the same, the Collector and Surveyor of the Port of Chester and certain others, were also empowered to licence 'Towers or Trackers' of vessels

[65] Capt. G. A. Wright, one-time Engineer to the Dee & Clwyd River Board, lecture 'The Canalisation of the River Dee', 9 Nov. 1967, organised by Flintshire Hist. Soc. & Extra-Mural Department, U.C.N.W.

[66] Willan, p. 66. The Chester Corporation Archives also contain much material on the various navigation schemes.

[67] 6 Geo. II, 'An Act to recover and preserve the Navigation of the River Dee, in the County Palatine of Chester'.

[68] 14 Geo. II, 'An Act for incorporating the Undertakers of the Navigation of the River Dee'. One of their boundary stones, dated 1784 in the footpath in New Crane Street, Chester, close to Crane Bank, was broken up late in 1967 on the occasion of road widening.

[69] 26 Geo. II, 'An Act for confirming an Agreement entered into between the Company of the Proprietors of the undertaking for recovering and preserving the Navigation of the River Dee, and Sir John Glynne Baronet, Lord of the Manor of Hawarden and several Freeholders and Occupiers of Land within the said Manor'.

[70] 3 Geo. III, cap. LXI, 'An Act for erecting a Lighthouse in or near the Port of Chester'.

within the port for towing or tracking with horses. Rates were also fixed 'for towing or tracking any Ship or Vessel from the City of Chester to the New Quay in the River Dee, or from the New Quay to the said City of Chester, during the Winter Season, the Sum of One Pound Five Shillings;' the fee was one guinea in the summer season, April to September inclusive. Towing by horses implies, of course, a towpath, but approaching the New Quay the difficulties must have been very great, as for part of the way, the towing must have been done from the shore.

The name 'Cop' is now applied locally to the earthen bank forming the north-west bank of the river close to the present Sealand Road, i.e., one of the retaining banks of the 'New Cut', but an earlier 'cop' existed by the river for in 1710 the Roodee was 'inclosed with a cop' while in 1720 'Part of the Roodee cop, being washed down, was rebuilt and faced with stone'.[71] The stone which commemmorates this is now at the Grosvenor Museum, Chester, and is inscribed as follows:

This Copp being washed
downe by a great Tide
Which happened up on the
18th day of december, 1720
was made up & faced with
stone in length 336 yards
and upwards and in height
4 yards Anno Domini 1721

Thomas Edwards Esq. Mayor
Thomas Mather Esq Recorder
Robert (?) Cr(osby?) Alderman
John Parker Alderman

This disaster is also described by Defoe as follows:[72]

> In the winter this green is often under water by the inundations of the river, and a little before I came there, they had such a terrible land flood, which flow'd 8 foot higher than usual so that it not only overflowed the said green, call'd the Roodee, but destroy'd a fine new wharf and landing-place for goods, a little below the town, bore down all the warehouses, and other buildings which the merchants had erected for securing their goods, and carried all away goods and buildings together, to the irreparable loss of the persons concern'd:

[71] Fletcher, op. cit., p. 193: referred to in n. 67, *supra*, where at p. 515 of the Act the ground 'near and adjoining to the Roodee . . . between the Cop and the River' (part of the boundaries for the reclamation of marshy land thereabouts). The now-existing 'cop' was envisaged not only by the 1733 Act but also by the 1753 Act when 'Sir John Glynne and the other subscribers proposed' and undertook, 'to erect . . . a new Cop or Bank . . . on the South Side of the said River'.

[72] Defoe, op. cit., Vol. 2, p. 70.

So far we have only considered the Dee as a Cheshire waterway with the traffic passing eventually through Chester itself, but in addition North Wales, and in particular Flintshire, had also a very real stake in the navigation in the estuary. J. E. Messham has shown how the exports of Buckley pottery increased between the years 1740 to 1769 and that the prosperity of this industry depended on the export of ware to the Welsh and Irish ports.[73] Similarly, R. Rees Dawson has shown that most of the coal produced was transported down the estuary to other parts of N. Wales and that there was a flourishing sea trade in coal to Ireland from the ports of Mostyn and Bagillt.[74]

The estuary was, however, not only a passage for shipping, it was also a hazard for those who wanted to cross from the Welsh shore to the Cheshire shore. Celia Fiennes, in 1698, tells us something of these dangers and from her description we can also deduce how unsatisfactory the area must have been for shipping:

> I forded over the Dee when the tide was out all upon the sands at least a mile which was as smooth as a die being a few hours left of the flood; the sands are here soe loose that the tydes does move them from one place to another at every flood, that the same place one used to foard a month or two before is not to be pass'd now, for as it brings the sand in heaps to one place so it leaves others in deep holes, which are cover'd with water, and loose sand that would swallow up a horse or carriages, so I had two Guides to conduct me over; the carriages which are used to it and pass continually at the ebbs of water observes the drift of sands and so escape the danger; it was at least a mile I went on the sands before I came to the middle of the channell which was pretty deep, and with such a current or tyde which was falling out to sea together with the wind the horses feete could scare stand against it, but it was but narrow just the deep part of the channell and so soone over; when the tyde is fully out they frequently ford in many places which they marke as the sands fall, and can go near 9 or 10 mile above the sands from Chester to Burton or to Flint town almost; but many persons that have known the foards well, that have come a year or half a year after, if they venture on their former knowledge have been overwhelm'd in the ditches made by the sands, which is deep enough to swallow up a coach or waggon; but they convey their coales from Wales and any other things by waggon when the tyde is out to Chester and other parts.[75]

In connection with the 1733 Act a survey of the estuary was made and the resultant map shows 'The old Road from Shotwick to Flint'; it also gives another crossing close to Blacon Head.

[73] op. cit., pp. 31, 49.

[74] R. Rees Dawson, 'The Coal Mining Industry of the Hawarden District on the Eve of the Industrial Revolution', *Arch. Camb.*, Vol. 96, 1941, pt. II, p. 127.

[75] *The Journeys of Celia Fiennes*, Cresset Library, 1947, p. 182.

The records of the River Dee Company, the Dee Commissioners and of the Corporation of Chester and of the Dee Bridge Commissioners[76] paint a vivid, if slightly bewildering picture of the ups and downs of the state of the navigation of the river during the late eighteenth and early nineteenth centuries. These records contain the accusations and counter-accusations, all by interested parties, as to the motive of the various petitioners; details of soundings of the river, allegations that the real purpose of the canalisation of the river was reclamation of land, a charge which may have had some substance in it, for apart from the claims that the reclamation was detrimental to those who had rights of common in the vicinity of the river, the counter-petitioners produced an alternative scheme;[77] proposals for a ship canal from Heswall, through the Wirral as far as the canal basin at Chester;[78] a suggestion that the only remedy for the flooding of the river was the partial removal of the weir at Chester;[79] and perhaps the most significant of all, a complaint from the City Council to the Admiralty requesting that the condition of the river and the management of the Dee Company be investigated so that its control may be placed in other hands. They relate the 'unprincipled compact' made by the Dee Company with the Ellesmere Canal Company whereby, although the latter obtained powers in 1804 to draw off water from 'Bala Pool' for supplying the canal on condition that the water after passing through the canal system ultimately was to be returned to the Dee at or near Chester, in fact the Dee Company freed them from this obligation, the consequent lowering of the level of the lower River being to the obvious detriment of navigation.[80] This was followed by an Admiralty enquiry over the next two years.[81]

By the mid-nineteenth century the days of the Dee as a commercial route were virtually over,[82] but there was still much activity in the Quay at Chester or to give it its local name, Crane Wharf. Indeed, Romney, allowing for his tendency to rhapsodise, probably voiced the feelings of his times on the industry and fascination of the place when he wrote:

> He (the traveller) should return in a Flint passenger boat, coming up with the flowing tide and his view of Chester, as he sails portwards will be

[76] Preserved in the Chester City Record Office.

[77] 1839, *Statement concerning the navigation of the Dee by the Chester Navigation Improvement Committee,* Chester Record Office. TC/RD 49, being a plan, prompted by the inadequacy of the Dee Commissioners and the failure of the River Dee Company to fulfill their contract for forming a new Company under Parliamentary authority for improving the navigation, but which shall have no connection with the reclaiming of the land.

[78] 1837, *Report of Sir John Rennie on the Improvement of the River Dee and Port and Harbour of Chester,* TC/RD 47.

[79] 5 March 1840. *Copy Report Relative to the Flooding of the Lands of the Marquis of Westminster by Robert Stevenson & Sons, Civil Engineers, Edinburgh,* TC/RD 51a–b.

[80] 1849, *Letter from the Mayor and Town Council of the City of Chester to the Secretary of the Admiralty,* TC/RD 53a–c.

[81] TC/RD 55a–b.

[82] Francis White, *History, Gazeteer, and Directory of Cheshire, 1860,* pp. 615, 620, contains a vivid description of Parkgate and Neston with references to their former importance as ports in the estuary.

little inferior to that of the "City of Palaces" seen by the voyager sailing up the Adriatic.[83]

The Portpool having given way to the quay on the construction of the New Cut it was not surprising that the crane should give the wharf its name. The 1817 map of the City of Chester in Ormerod[84] refers to this crane, New Crane Street being clearly shown as the street leading to the new crane. Rather less than one hundred yards upstream this map also shows a creek leading to a timber yard, and it is tempting to think that the earlier crane may have been there. In his account of Chester Cathedral in the eighteenth century, the Venerable Archdeacon R. V. Burne describes[85] an interesting use of the Crane in connection with the recasting of the Cathedral tenor bell, from which the crane's nature as a landmark may readily be inferred:

1738 Dec. 1 ...			
	To the river Freight from Parkgate to Chester	1	0 0
	To Craning it a'shoar		10 0
	To the men that helped gett it a'shoar		6
Dec. 4 ...			
	To two men for watching the Great Bell all night after she was a'shoar	1	0
	To John Wheavel for his Horses drawing the Great Bell from the Crane	10	6

The warehouses still standing around the wharf, although no longer in use for their original purpose, are still a useful reminder of the one-time trade passing through here. Head[86] tells us that 'Cheeses from Chester are usually trundled on board vessels of about two hundred tons, which latter are towed up and down the Dee by a steamer, called the Dairymaid'. In addition to the traffic already enumerated earlier in this article, slates came from Penmaenmawr and, if one can accept the story given by Broster,[87] so also did Welsh slaves at the time of William I. Certainly, within living memory of local inhabitants, 'flats under their own sail came round from Liverpool to Chester'.

All this activity naturally demanded ships' chandlers and all manner of ancillary support and even so late as 1840 the following names and trades are recorded:[88]

[83] J. Romney, *Chester and its Environs Illustrated,* 1853, *sub. nom.* 'Navigation Cop'.

[84] Ed. Helsby, op. cit., facing p. 180. The foundation bolts of this crane can still be seen.

[85] C.A.S. Vol. 41 (1954) at pp. 59–60 and the reference therein to the article 'Cheshire Bells' by J. W. Clarke.

[86] Op. cit., p. 61.

[87] J. Broster, *Ancient History of the City of Chester.*

[88] *The Chester General Directory,* 1840. Parry & Sons.

Alphabetical List of Names

Lloyd Maurice, Flint and Bagillt Boat house, New Crane Street
Meacock Samuel, Wharfinger, Canal side, Dee lane
Moss John, wharfinger, and ship agent, New Crane wharf
Mulvey Messrs. Shipbuilders, Roodee-side
Thomas, Shipbuilder; residence, Paradise street
Towers William, sailmaker, block, pump, and mastmaker, New Crane Street.

Trades Directory—Coal Merchants and Dealers

Jones Ellis, Dee lane
Rigby and Hancock, New Crane basin
Thompson William, Dee basin

Newsmen and Carriers

J. F. Moss & Co have Flats loading every day at George's Dock Passage, Nova Scotia, Liverpool & at the New Crane Wharfs, Chester.
Regular conveyance from the Old and New Crane Wharfs Chester, by the London and Chester Union and Shipping Company—Thomas Green, Wharfinger and Agent, Old Crane Wharf, Chester; Jeffery Smith & Sons, Wharfingers and Agents, Cotton's Wharf, London.
BOATS go to FLINT every day at the return of the tide.

These ancillary trades were not the only ones as there was also a limited amount of shipbuilding. In 1698 Celia Fiennes when at Chester recorded that, 'The River Dee which has the tyde comes up much beyond the town, is 7 mile off that it falls into the sea but its very broad below the town, when at high tyde is like a very broad sea; there they have a little dock and build shipps of 200 tunn I saw some on the stocks.'[89] Fletcher[90] gives the following details:

1804

June 10 Contest brig launched from Mr. Cortney's yard
July 26 Defender gun-brig launched from Mr. Cortney's yard

1810

Dec. 26 Launch of the Charles Mills, 580 tons from Mr. Cortney's yard, intended for the East India service.

1813

Aug. 26 Cyrus, sloop of war, of 30 guns, launched from Mr. Cortney's yard.
Aug. 27 The Clarendon West India Man, burthen about 800 tons, launched by Mr. Cortney
Dec. 8 The Levant, sloop of war, launched from Mr. Cortney's yard

1814

Mar. 23 The Mersey, sloop of war, launched by Mr. Cortney.

[89] Celia Fiennes, op. cit., p. 179.
[90] Op. cit., pp. 215, 222, 225 and 233 respectively.

Fletcher tells us that on 24 May the 'Warehouse of Mr. Whittell, roper, on the Roodee, destroyed by fire'. Even down to the early part of the twentieth century the firm of Crichton had a boat building yard at Saltney on the banks of the river, whilst nearby a Lloyd's anchor and chain-proving works was closed less than twenty years ago.

There were two ways into the City from the Crane Wharf: by Dee Lane (now called Canal Street) and by Watergate Street, the latter having been the main way into the city for centuries. Romney[91] talks of 'the glory of its commercial activities', and states that the vast storage accommodation in the vaults under the buildings were the best in the city. He rightly describes it as the 'principal river entrance from the wharfs and the Crane', adding that nearly all marine stores pass through it, especially the Irish traffic. The Linen Hall, constructed in 1778, later used as a cheese market, on the site of which there are now racing stables, the Yacht Inn (lately demolished) and the Custom House[92] and the Custom House Tavern all testify to the 'commercial activity' of this street and support Romney's view.

Had the river been the only means of communication it is probable that 'the Crane' would have sunk into desuetude by the beginning of the nineteenth century. The reason why it continued as an active commercial centre until at least the middle of that century was largely due to the development of the canal system which joined the river at this point, but this is a separate subject.

[91] Op. cit., *sub. nom.* 'Watergate Street'.
[92] *Chester General Dircetory,* op. cit., lists customs dues charged in the port of Chester.