

Historical introduction to Britain's waterways

The following is an extract from *Lost Lines and Neglected Navigations* (© Graham Fisher MBE) and was presented as six instalments in *Broadsheet Magazine* (SWCS) throughout 2007.

The cutting of artificial water channels is documented throughout the known world from pre-Biblical times. In Egypt King Menes constructed a canal around 4000 BC, the same period that Egyptians first used ships with sails on the Nile; by 600 BC the 260 miles between China's Yellow River and Huai River were linked by the Wild Goose Canal and by 102 BC the River Rhone had been connected with the Mediterranean Sea.

The influence of canals, in their loosest definition as man made channels that carry water, upon the development of civilisation itself may be more far reaching than at first appears. The Fertile Crescent, an arc-shaped strip of land running from Syria and Palestine towards the delta of the Euphrates, Tigris and the Nile, is considered the cradle of civilisation but it was only through use of irrigation channels that the land became fertile enough to enable the first great societies to flourish. In Mesopotamia, or 'the country between two rivers', agriculture and animal husbandry were the foundations of life. Prior to 7000 BC early Mesopotamians learnt how to use the rivers for their needs and regulated water supply by a series of channels that were dug and filled as necessary depending upon flood or drought conditions. From this it is not too great a leap of faith to envisage the Mesopotamian people also shifting cargo and people by water.

Britain was not left wanting in the development of waterways for transport and her history reflects this. The Foss Dyke, connecting the River Witham with the River Trent, is of Roman origin. It was improved and deepened during the reign of Henry 1st, and again in the 18th Century, and is the oldest man-made waterway in the country still in use today. The Exeter Ship Canal opened in 1566 as a means of by-passing crippling tolls imposed by landowners and was the first canal in Britain to use pound locks, or gated chambers separated by intermediate pounds of water, in place of the more primitive flash locks or navigation weirs.

Pound locks were not a new innovation and were already in use elsewhere. They were known in China in the 1st Century. Probably the oldest, and longest, ship canal still in use is the Grand Canal in China, which links Tianjin and Hangzhou and connects the Huang He (Yellow River) with Chang Jiang. It was originally built in three stages between 485 BC and AD 283, reaching a total length of 1110 miles. The Grand Canal had slipways built into dams along which boats were pulled by gangs but the method led to unacceptable levels of boat damage and pilfering of cargo. In 983 AD the engineer Chhaio Wei-yo devised a chambered lock with a rising gate at either end in which boats could be raised or lowered by using one lockful of water rather than the much greater amount wasted with a flash lock. Large sections silted up over the years but between 1958 and 1972 the entire system was dredged and widened as part of overall work on flood protection, irrigation, and hydroelectric schemes. It still carries millions of tonnes of freight every year.

In Europe the Domenico Brothers of Viterbo devised a canal lock with water openings built into wooden gates in 1481 and by 1485 the Duke of Milan's engineer

Bertola da Novato had built the Bereguardo Canal using the first of what would now be considered modern locks, with mitred gates believed to be based on earlier designs by Leonardo Da Vinci.

Flash locks were to be found widely on British rivers. It is known that the Vikings overcame the problem of shallow water during their raids by building dams or weirs which helped raise the water level and essentially a flash lock was little more than a row of paddles in a weir that built up a head of water. The paddles were then opened by gangs of men or winches either to allow a vessel to be pulled upstream or to flush a vessel downstream, often uncontrollably so. Early weirs and flashes were built primarily to maintain a head of water for milling, with navigation being of only secondary consideration, and their construction was routinely opposed by mill-owners who feared for the loss of their livelihood.

The operation of a flash lock was hazardous and required great skill and strength, with the timing of the removal of the paddles proving critical. If this was done too early the level of water in the higher stretch could drop too soon thereby grounding the vessel. Examples survived until recent times and the last flash lock on the River Thames at Easton Hastings was not finally removed until 1938.

Pound locks proved far superior to flash locks for navigational purposes and by 1576 they were in use on the River Trent, with the River Lee following suit in the following year. However, despite such developments the overall effect was localised and piecemeal and when one considers, for example, the pre-eminence of the River Severn as a major river navigation for centuries past it is curious why, notwithstanding a plan by Telford to improve the navigation beyond Coalbrookdale that was stymied by sponsors of the Montgomeryshire Canal, this was never consistently matched by a commensurate degree of navigational improvements particularly in its upper reaches. In 1803 about 150 men were employed as barge haulers between Bewdley and Coalbrookdale in conditions castigated by Telford himself as *'the present barbarous and expensive custom of performing this slave-like office by men.'* Indeed there were no pound locks on the river until the advent of the Severn Commissioners in 1842, ironically in response to traffic generated by canals, whereupon (excluding the Gloucester & Sharpness line) 5 locks were built between 1843 and 1858 though even then only between Gloucester and Stourport.

Quintessentially what was required was the stimulus of a universally common need. The large-scale expansion of water transport was lacking a catalyst, a unifying driving force that would create a cohesive impetus for development. Lacking, that is, until the industrial revolution erupted across the land.

Prior to the industrial revolution transport had been mostly confined to packhorses and wagons, travelling along ancient dirt tracks that were dustbowls in summer or quagmires in winter, and unreliable river navigations that despite rudimentary modifications were still at the mercy of the fluctuating weather for much of the year.

It had not always been thus; two thousand years ago the Romans created a network of roads that were a vital component in their imposition of efficiency, justice and military might. When the Empire eventually succumbed a besieged Rome recalled her troops leaving the indigenous population to their own devices amidst chaotic scenes

described by the Venerable Bede: *'When the Romans departed the British abandoned their cities and fled in disorder. They were driven from their homes by Picts and Scots and sought to avoid starvation by robbery and violence, their internal anarchy adding to the miseries inflicted on them by others.'*

After the Romans had finally retreated their legacy of roads, like their fine cities, decayed. Almost in desperation the Church offered enticements to anyone who would repair the rutted tracks and at the reformation an obligation was placed upon parishes to maintain road between market towns. But at the dawn of the industrial age neither rutted track nor unreliable river could be called upon to play its part. A system of mass transportation was required as a matter of urgency to feed the demands of the new order. It had to be reliable, it had to be efficient and it had to be cheap. But above all it had to be on a huge scale. And thus the scene was set as, with an aura of the faintly unconventional that seems so often to define archetypical British eccentricity, one of the most seismic transport revolutions the world has ever witnessed was heralded by the romantic misfortunes of a sickly young man.

Regarded as the inspiration for a frenetic period of waterways construction now referred to as 'Canal Mania' (though for some the point is a contentious one as the Sankey Navigation was serving collieries at Parr and Haydock some four years earlier) the totally man-made Bridgewater Canal owes its existence in no small measure to a broken romance when, following the collapse of his engagement arrangements with Lady Hamilton, the disconsolate Francis Egerton 3rd Duke of Bridgewater turned his attentions from problems of the heart to problems of transporting coal from his father's mines at Worsley near Manchester.

The young Francis, sixth son of Scroop Egerton the 1st Duke of Bridgewater, did not enjoy the best of health and to alleviate the ravages of chronic tuberculosis was taken on the Grand Tour. As part of his recuperative travels he had seen, and been impressed by, waterways engineering both at home and on the Continent. He had shown considerable interest in the Grand Languedoc Canal in France, later to become known as the Canal Du Midi, and had also noted developments nearer to home on the St. Helen's (Sankey) Canal. On his return to England he joined the London social set and became involved with Lady Elizabeth Hamilton, a widower and member of the socialite Gunning family. A scandal in the family concerning Elizabeth's sister caused the Duke to break off the relationship whereupon he developed misogynist tendencies to the extent that he would not permit female staff in the house and instead devoted himself to business.

Developing his interests together with his agent John Gilbert he searched for a solution to both transport and drainage problems around the estate. Resurrecting an earlier idea purloined from Scroop the two explored the concept of building a canal to Manchester. Millwright James Brindley became involved as, although not originally from a waterways background, he had been working with the Duke's brother-in-law on a project to link the Rivers Trent and Mersey. The result was a lock-free canal eventually extending in total to almost 40 miles though now more noteworthy for its innovation than its scenery of largely unremarkable flatness.

The first section of the 'Duke's Cut' as it is also known opened in 1761 and included the Barton Aqueduct over the River Irwell, an impressive early example of a canal

traversing a river. Originally made of stone there was widespread concern that it would collapse and it was given the pejorative nickname of Castle in the Air. Although requiring some strengthening shortly after opening it survived until 1893 when it was replaced during the construction of the Manchester Ship Canal by a metal swing bridge that is still in use today.

By 1765 the canal extended into the city, dramatically slashing the cost of coal. Immense capital outlay was quickly countered by high profitability and various branches were added including one that afforded access to the Manchester Ship Canal. The entrances into the Worsley mines complex can still be seen from which coal was transported using crude open boats called 'starvationers' owing to their exposed ribs.

The success of the Bridgewater, though a key element in Canal Mania, did not *per se* immediately spark a rash of canal construction for reasons both pragmatic and logistical. Routes had to be surveyed, Acts of Parliament passed and finance raised. In many cases opposition from local landowners was also intense and so it was some years before the impetus swung into an unstoppable movement, with the peak of Canal Mania considered by many to be around the early 1790s.

In the mid-1760s James Brindley's Trent & Mersey Canal became the first part of what was to become known as the Grand Cross scheme linking the Rivers Trent, Mersey, Severn and Thames by waterways. By this stage the importance of canals was being realised and demand for them was steadily increasing. Eventually the main interconnected network came to extend from mid Wales to the east coast of England and from the northern reaches of England to the south coast.

Other smaller networks, isolated from the main system, were cut. In South Wales many iron masters and coal barons backed canal construction in much the same way as around the Midlands coalfields; the south west spawned its own waterways, as did to a lesser extent various other relatively remote locations around the country. Their development was not necessarily in tandem with their counterparts on the interconnected system and in consequence they often bred their own idiosyncratic boat dimensions and lock sizes, together with a proliferation of novel artefacts designed to overcome changes in level of terrain as epitomised by the lifts and inclined planes along the Bude, Chard and Grand Western Canals. Some of the contrivances, though doubtless borne of serious intent, appear to have been positively Heath Robinson-esque with their boggling combinations of caissons, chains, counterweights, stop gates and balance pipes. Sadly little original evidence now remains and it requires some imagination to enter into the spirit of what must have been at the time a visionary and valiant effort to overcome serious variances in gradient.

Changes in gradient were of course not restricted to the southwest but were a universal problem and the new age was to prove a glorious period for boldness of expression, the legacy of which is still very much extant. The Anderton Lift linking the Trent & Mersey Canal with the River Weaver, Pontcysyllte Aqueduct on the Ellesmere (now Llangollen) Canal, Standedge Tunnel penetrating the Pennines on the Huddersfield Narrow Canal and Caen Hill Locks on the Kennet & Avon Canal are

just a few examples of imaginative engineering talents which even from a modern perspective can appear breathtakingly impressive

The Scottish network, such that it is, was developed using a degree of funding from the Forfeited Estates Fund. The fund comprised monies from the estates of those convicted of treason for their involvement in the Jacobite risings of 1715 and 1745 and revenue from it was diverted for improvement of the Highlands, which included the development of canals. Although the estates were returned to their owners in 1784, the fund continued until being wound up in 1806. Scottish canals were promoted in response to very different requirements from those pertaining to England and Wales, particularly problems of depopulation and a perceived possibility of resurgence in Clan rebellions. In this respect they do not sustain too direct a comparison though the engineers involved, notably James Watt, John Rennie and the ubiquitous Thomas Telford, are all widely associated with waterways south of the border.

Over to the east the Norfolk Broads, situated in an area roughly between Norwich and Great Yarmouth, have been exploited since Roman times when they were open tidal estuaries and marshes. From the Middle Ages they were reclaimed by confining the three principal Rivers Yare, Bure and Waveney, together with smaller ones such as the Chet, within man-made embankments along their lower reaches. To the north the River Ant accessed the North Walsham & Dilham Canal. The Broads themselves are a series of shallow lakes and lagoons said to be the remnants of medieval peat-workings, though in truth no-one is entirely sure as to their precise origins other than to say they have been fashioned by man's activities for centuries. Some Broads are little used and virtually anonymous, others are private waters or inaccessible.

Lying directly east of The Fens there is currently no connection between The Broads or the rest of the navigable inland system, though proposals for such connections have been mooted, and the area is effectively self-contained having its own administrative authority, distinctive history and even spawning its own individual style of trading vessel, the sail-powered wherry. Clinker built and double ended the Norfolk wherry had a large counterbalanced mast to the front which could be easily lowered for passing under the numerous bridges. Each settlement had its own landing or *staithe* where goods could be transferred but with the advent of railways many wherries were converted to leisure use and the last commercial wherry to trade under sail was *Albion*, now preserved by a Trust.

Like the neighbouring Fens, much of The Broads is below sea level. The low-lying marshes require constant management and gave rise to the characteristic Norfolk windmills driving pumps that lift water from the dykes back into the rivers. For centuries the rivers provided the only means of transporting goods around the area though sailing for pleasure has been a staple here for many years, with the entrepreneur John Loynes offering boats for hire as early as the 1870s. The area is also a richly diverse natural habitat of international significance and so, not surprisingly, it is continually subjected to a wide variety of conflicting pressures. The Broads Authority is the body entrusted with the task of maintaining the balance.

Fenland is home to the Middle Level Navigations that, though geographically close to the Broads, have their own distinctive and fascinating history. Following the end of

the last ice age rising sea levels severed Britain from mainland Europe and flooded the area now known as the Fens. The land became separated from the sea by sand banks that in turn encouraged dense vegetation laid down as peat deposits. By the Norman Conquest these had risen in places above sea level and housed several settlements.

Flood banks were built to protect the silt areas from flooding in Roman times and although there is further evidence of reclamation works in the Middle Ages it was the 17th Century before any comprehensive drainage scheme was attempted. Between 1630 and 1655 the Dutchman Sir Cornelius Vermuyden reclaimed much of the land by massive workings that included the cuts of the Old and New Bedford Rivers to bypass the meandering Great Ouse, together with storage areas and drainage channels to provide more direct routes to the outfalls.

The improved drainage led to so much land shrinkage that by the 18th Century pumps were required to lift water from the field dykes to the rivers. Various improvements continued to be made and the cutting of the Middle Level Main Drain shifted the main outfall from Salters Lode to St. Germans about 9 miles away.

The channels not only satisfied a drainage function but simultaneously provided navigational links between areas of population. Consequently they were used for shifting cargoes to market, and latterly railheads though few such sites now remain.

From Vermuyden's time until 1862 the Bedford Level Corporation was responsible for the works but an Act of Parliament of that year led to the formation of the Middle Level Commissioners who have since administered the area. Land shrinkage continues and by the 1960s the levels in the southwest, where there is still a preponderance of peat, had dropped as much as ten feet below sea level. Bevills Leam pumping station was built in 1983 to address this. Improvements are ongoing and despite the Fens having some of the lowest land in Britain the area has witnessed no major flooding for over a century. The Nene-Ouse link is being promoted to facilitate navigation directly through the system and there is now ambitious talk of connecting the Fenland waterways with those of Lincoln.

Over in the English Midlands a major powerhouse in the industrial revolution was the area bounded by Birmingham and the Black Country. It was once said that if an item wasn't made in this area it wasn't made anywhere in the world. Fortunes in the burgeoning iron-making industry, the core of the industrial revolution, were based on three ingredients; coal, iron ore and limestone that served as a flux to remove impurities from the iron as slag. All were to be found in profusion around these parts and so it is small wonder that the area became criss-crossed with canals.

From James Brindley's original line of 1772 connecting Birmingham with Aldersley (the first section opened in 1769 bringing Wednesbury coal into the city) the Birmingham Canal Navigations (BCN) evolved into a conglomeration of waterways on three different levels, namely the Wolverhampton level (473 feet above sea level), the Telford level (453 feet) and the Walsall level (408 feet). The highest navigable point is now Titford Pools (511 feet) though the abandoned Essington Branch was some twenty feet higher. Water supply to such levels was always fraught and when this particular branch lost its mining activity the canal quickly followed suit, a pattern

that was to be widely repeated. Mining subsidence was also a constant problem throughout much of the network.

The term BCN is itself something of a misnomer since much of it lies not in Birmingham but in the adjacent Black Country. The Wolverhampton level alone extends from Smethwick to Wolverhampton, Birchills and Ogley and includes the Dudley Canal from Tipton to Parkhead, the truncated Wednesbury Oak Loop, the abandoned Lord Hays Branch, the truncated Cannock Extension Canal and the Daw (Doe) End and Anglesey Branches.

The BCN is veritably littered with artefacts that even from a contemporary standpoint are hugely impressive, none more so than Dudley Tunnel of 1775 which is an impressive 3172 yards long. The similarly impressive Netherton Tunnel is 3,027 yards long and opened in 1858 to relieve congestion at the Dudley Tunnel, the claustrophobic bore of which had become a serious bottleneck. The new tunnel was the last to be built in the canal age and was of cavernous dimensions allowing boats to pass, with twin towpaths and lighting for 24-hour operations.

At the Windmill End side of the Netherton Tunnel lies the derelict Cobbs Engine House. Built in 1831 it contained a beam engine for pumping water from nearby mines. This served the dual function of draining the mines whilst topping the canals. Water supply problems were endemic but particularly so in areas such as the BCN where the height above sea level was a major consideration and canal companies went to great pains to jealously guard their precious quota.

The Worcester & Birmingham Canal is a typical example of such rivalry. Prior to 1815 when the Bar Lock at Gas Street was punched through to connect with the BCN the latter Company had insisted on a physical barrier, the Worcester Bar, to preserve water supply. This led to costly delays for transshipment. It also meant the Worcester & Birmingham Canal Company had to make expensive provisions for their own water supplies by building reservoirs along their route. One can only speculate how much more viable both companies may have become if they had the wisdom to pool their resources, the more so if they had been remotely aware of the serious competition yet to come.

The advent of rail led to the demise of many canals but the proximity between rail and canal around the BCN ensured profitable trading long after it had ceased elsewhere. By the 1970s the lack of trade and general abandonment had shaved some 60 miles off the network leaving 114 miles or so remaining today. And yes 'tis true, this is still more than Venice. Yet despite the inevitability of change the BCN is still a treasure-trove of lost but traceable waterways.

Early canals were built by a contour method in which the waterway wherever possible followed the natural level of the land. This method kept navigational artefacts such as locks, tunnels and aqueducts to a minimum but did mean that the overall distance travelled was greater than necessary, with corresponding additional costs. When in a later era Thomas Telford adopted his brash approach to taking the canal in as direct a route as possible the overall distances travelled were reduced dramatically, though such a simplistic comparison is not entirely proper since the earlier construction was of a time when large centres of population were not so common and the convoluted

route allowed outlying settlements access to the new transport medium which they otherwise would not have enjoyed. However, the point was eventually to prove largely academic since the seeds of a far more serious drawback that was only to manifest itself many years later had already been sown.

With the exception of such as the Caledonian Canal in Scotland and the Royal Military Canal in the south east of England the canals of Britain were privately funded. Presumably in an attempt to control construction costs many were built to a standard mooted by Brindley using locks about 72 feet long by 7 feet wide and it was this choice of dimensions that spawned the narrowboat. Although other parts of the country adopted different, often larger dimensions the narrow gauge became the standard around much of the Midlands and thereby set the maximum payload at around 30 tons, a vast increase over the days of pack-horse transport but still to ultimately prove short-sighted. Some canals, notably the Gloucester and Sharpness, the Manchester Ship Canal and the Caledonian were built to accommodate sea-going ships and by the time it was realised that the payload of a narrowboat was uneconomic the system was beginning to labour under the two-pronged drawback of prohibitive costs of upgrading and the arrival of the railways. The last major undertaking to be completed in Canal Mania, Telford's Birmingham & Liverpool Junction Canal between Autherley and Nantwich, (now part of the Shropshire Union) opened in 1835 but by this time the railways were already proving to be deadly competition.

The decline in trade caused by the advent of railways forced the waterways to adapt in order to survive and the duplication of locks at, for example, Stoke Bruerne on the Grand Union Canal is an early example of attempts to speed up traffic. In the 1930s a scheme to upgrade the northern section of the Grand Union became one of the last large-scale modernisation programmes to be undertaken on a canal network which, having already endured sustained railway competition, was also now beginning to be hit by the switch to road transport.

Long lengths were dredged and strengthened with concrete bank protection, bridges were widened or replaced and the narrow gauge locks between Braunston and Birmingham replaced with broad gauge locks to allow passage of boats in excess of 60 tons. Many examples of the old narrow locks can still be seen alongside their larger counterparts.

The ambitious scheme was stalled just short of target by the intervention of World War II and the final few locks into Birmingham remained narrow, thereby defeating the original intent. Nevertheless large-scale commercial trade continued along the Grand Union until well into the 1970s and the main line was a vital route in wartime for coal to London and materials for arms manufacture to Birmingham.

Bottlenecks were also caused at tunnels that could only accommodate wide boats travelling in one direction at a time and the traditional working pair of narrowboats remained the staple craft. At one time the Grand Union Canal Carrying Company operated the largest fleet of working narrowboats in the country. Several famous names are also associated with the GU including Fellows, Morton & Clayton (FMC) and Pickfords.

The waterways saw sterling service during World War II during which they were used for the carriage of goods, foodstuff, armaments and even troops. Far from stifling initiatives the conflict seemed to positively encourage them and in 1942 a proposal of breathtaking proportions was announced; JF Pownall's Grand Contour Canal involved a lock-free ship canal on a 310ft contour extending from Hampshire to Newcastle-upon-Tyne and connected to the indigenous river system at various points by boat lifts. At 100ft wide and with a depth of 17ft it was to be the largest waterway of its type ever envisaged in this country and in addition to shipping, in an almost prophetic precursor of more contemporary requirements blamed largely on climatic change, it was also for use as a water transfer conduit. Unfortunately the proposal came to nothing though in an age of increasing concerns for water supply one may wonder for how much longer either this or a similar proposal will be allowed to gather dust.

Despite a history of poor maintenance during the war years and a mammoth backlog of improvements the canals still managed to sustain the carriage of huge tonnages, particularly around the Black Country and the River Severn, and the call-up of boatmen famously led to the so-called 'idle women' largely taking over their role for the duration. Despite this flurry the competition from railways and road transport was already beginning to bite; indeed for some carriers it had already bitten, and the waterways continued to slip into inexorable decline. By the mid-1940s most of the trade had gone, hundreds of miles of canal had fallen into a ruinous state and the future for the rest looked grim.

At the end of World War II the canals returned to their owners amidst grave fears that road and rail competition could herald their final death-knell. In 1946 the Inland Waterways Association (IWA) was formed, originally as a protest body to prevent wholesale abandonment of the canals. Six decades later their voice is a powerful one throughout all facets of inland waterways up to the highest levels and since 1970 the Waterway Recovery Group (WRG), which operates under the auspices of IWA, has become the largest coordinated body of volunteers for the restoration of derelict waterways. In their early days the IWA focussed on the campaign to prevent abandonment of the Kennet & Avon Canal, a campaign that they were destined to win famously but in the meantime affairs were to change dramatically when on 1st January 1948, under the provisions of The Transport Act 1947, most of Britain's inland transport system (of which the canals, unlike their railway counterparts, tended to keep their individual names) was nationalised and placed under various executive bodies responsible to a commission.

The fate of many waterways depended largely on how they had performed in the war. Those towards the east, which were deemed to have contributed little to the war effort, were excluded from nationalisation. So were others that were falling, or had fallen, into dereliction together with several river navigations. Having thus irrevocably altered the face of inland waterways, albeit in a manner that would have been immeasurably worse if not for the efforts of the likes of the IWA, The Docks and Inland Waterways Executive of the British Transport Commission was dissolved in 1953 and replaced by a Board of Management. A decade later in 1963 The British Transport Commission was itself replaced by the British Waterways Board (BWB), the forerunner of today's British Waterways (BW) which came into being in 1988 following reorganisation.

Crucially BWB ended the Commission's policy of wholesale closure and instead identified that many canals, especially the smaller ones, were unlikely to be viable for the mass carriage of freight but ought to be thought of more in terms of their amenity value. Indications in support of this were already well in evidence; the Association of Pleasure Craft Operators (APCO), a body that to this day represents the interests of the pleasure cruising industry, had been formed as early as 1953.

Nevertheless, despite ever more intense competition, commercial freight carrying survived in considerable quantities with several operators continuing to secure long-term contracts. But the final death-knell was heralded by the severe winter of 1963, when boats were frozen in the positions they had moored the night before and remained immobile for weeks on end. It was a devastating blow from which the waterways never recovered; contracts were switched to road and rail and an entire lifestyle stemming back over two centuries effectively came to a close.

In 1968 the Transport Act classified BWB's waterways as being commercial, pleasure cruising (cruiseways), and the remainder. The Board was henceforth obliged to maintain commercial waterways to a sufficient standard to carry freight and the cruiseways to a suitable standard for pleasure operations. The 'remainder' were to be maintained only to such a degree as to sustain their water drainage or other functions and in a manner that was as economical as possible. Hundreds of miles of waterway were consigned to remainder status though fortunately, not least due to the combined effects of pressure from restoration groups and societies together with the advent of the leisure boom, meant that many remainder waterways retained their navigability to at least some degree. For several years past the Government has been lobbied to revisit these categories and remove the stigma of potential loss that is inherent in the remainder classification.

The salvation for the canals must surely have been their renaissance as part of the leisure boom. Social commentators may one day seek to identify a precise date when this came about but certainly the tide was visibly turning by the mid-1970s and there are now many canals and rivers that carry substantially more boats than in their commercial heyday. The changes to how our inland waterway are perceived has been in some instances bold and brash, with the restoration of the Huddersfield Canal – 'the impossible restoration' – and the incredible Falkirk Wheel in Scotland springing to mind. In other instances the changes have been more subtle; a generation ago, for example, new developments were routinely built so as to face away from an adjoining canal. Now they more often blend in with the rejuvenated channel as part of an integral waterways frontage and the real estate value of a canalside outlook has increased manifold.

Today there are still traders who carry on the tradition of carrying freight and there are increasingly frequent instances of larger initiatives, such as on the River Lee, the Grand Union Canal and Scotland's Union Canal, to return freight to the water in commercially sustainable quantities. Yet there is something of a dichotomy here between commerce and heritage; there are those that suggest the age of the narrowboat has passed and the problems of attracting the payloads now carried by rail and road without substantial modifications to the infrastructure, to an extent that destroys that which we are equally eager to protect, are irreconcilable. But conversely there are powerful arguments to suggest the prospect of gridlock on both road and rail

together with the spiralling cost of fuel may eventually force our leaders to reconsider our direction on mass-transport policies. Perhaps indeed Pownall's Contour Canal is, in funereal parlance, not dead but merely sleeping. Whatever the outcome of that particular debate one must remain optimistic that, provided they continue to enjoy conscientious management, an increasing number of historic inland waterways of Britain will be witness to events for at least as long again. In consequence, as the impetus for restoring the network continues apace the future of our **Lost Lines and Neglected Navigations** has never looked more encouraging.