

# Old harbours and landing-places on the east coast of Scotland

by Angus Graham

## INTRODUCTION

Recent work on some of the older Scottish harbours, respectively in the south-eastern counties (Graham 1969, 200) and on the Solway Firth (Graham and Truckell 1977), has prompted the extension of studies of a similar kind to other parts of the seaboard, and the present paper describes some of the results. Whereas, however, the papers just mentioned were primarily archaeological, being based on the observation of existing structural remains, the extension of the field has prejudiced any systematic visiting of the sites, and has thereby severely reduced the archaeological element. The upshot is thus mainly a topographical catalogue, accompanied by historical comment. The stretch of coast covered by the study extends from Dundee to Nairn, a distance of just under 200 miles, and a convenient terminal date of 1850 is provided by a Parliamentary Report of 1847 (*Harbours*, xxxii). No attempt has been made to follow up later commercial and industrial developments at modernised ports such as Dundee, Aberdeen or Peterhead.

The disposition and character of harbours and landing-places in general being naturally

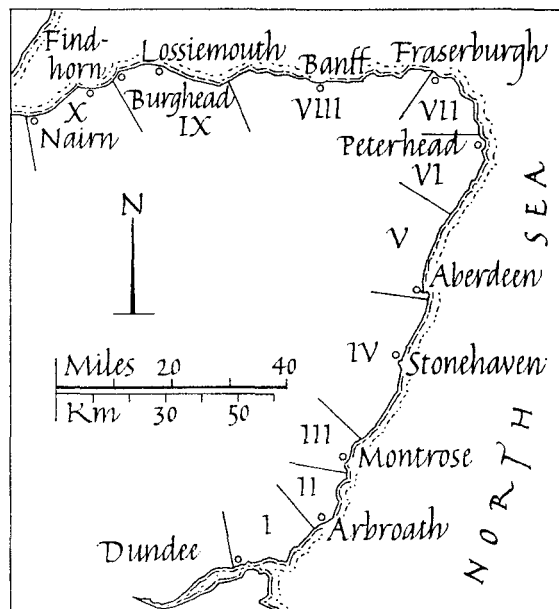


FIG 1 The E coast of Scotland between Dundee and Nairn, showing the ten sections used for the classification of the sites

governed by the physical features of the coast on which they are set, the stretch now under review should be thought of as falling, in these respects, into ten separate sections (fig 1). These are distinguished from one another primarily by the possession of a rocky or a sandy foreshore; in another category may be placed those which are largely rock-bound but which are broken up intermittently by coves or bays; and different again are estuaries, some of which form the sites of harbours of leading importance. Fishing-villages have been included along with the larger places, but those which lack any features of particular interest have not been given detailed treatment, being simply listed section by section with the necessary apparatus of references. The descriptive notes and lists are arranged in topographical order from south to north, or along the Moray Firth coast from east to west. They are followed by some general remarks.

## DESCRIPTION

### *Section 1 From Dundee to Arbroath (exclusive)*

Apart from some rocks near Dundee, and a rocky stretch some 3 miles long N of Carnoustie, the shores of this section are mainly of sand.

### DUNDEE NGR NO 4030

The natural advantages for maritime trading that Dundee must have enjoyed throughout its history are summarised by the Commissioners for Tidal Harbours in their report of 1847 (*Harbours* xxviii): 'Situate on the north bank of the estuary of the Tay – so far a deep navigable river at all times of the tide – in the midst of a fertile and prosperous country, the seat of extensive manufactures, holding a favourable position with respect to the Baltic, whence the chief part of its raw material is obtained, Dundee has great advantages for an extensive coasting and foreign traffic, which have been well seconded by the energy of her merchants and shipowners'. They might well have added that the estuary above Dundee, in its final reach to Perth, is bedevilled by shallows and sandbanks.

The earliest notices of the harbour perished with the rest of the burgh's records during the English occupation of 1547–8, but it is clear that the port was trading with some wine-growing region, very probably Bordeaux, at least as early as 1262, when 16 pipes of wine were landed for transference to Forfar (Jervise 1882 1, 293). In 1393 customs were being collected at the port in a regular manner (*Records*, 1, 414); and an allusion in the burgh's charter of 1447 to anchorage fees 'as use and custom is, and was in tyme by gane' is a further indication that the port was no new institution. The site of the early medieval harbour is given by Maxwell (1884, 103) as a natural haven just W of the Castle Rock, no tributary stream entering the Tay hereabouts to provide a naturally sheltered refuge; he quotes the same charter as stating that it was unsafe, and as authorising the burgesses and merchants themselves to undertake the construction and maintenance of a harbour permitting large or small ships to enter or leave in safety. He believes that this harbour was small, and he gives its boundaries, in the terms of his own day, as Castle Lane on the N, the lower end of Tyndal's Wynd on the W, and the line of Crichton Street, projected seawards, on the W. Whether or not as part of the same operation, a sea-wall was built on Butchers Row and the older harbour behind it was filled up and reclaimed; but this wall was later superseded by the New Shore, set further forward and in deeper water – the term 'Shore' being used here, as so often elsewhere, as the name of a length of combined street and quay, with houses on its landward side and open wharfage opposite. Maxwell's account of these works suffers from a confused chronology – for example, in the passage just referred to he dates the New Shore to the end of the 15th century, but in another (1884, 473) to only a short time before

the building of the Packhouse, the date of which is securely recorded as 1643. Two 'bulwarks' were also erected at some date which must have been earlier than 1567, as in that year they, along with the pier, haven and shore, were described as ruinous (Maxwell 1884, 106); these bulwarks were detached breakwaters partially enclosing an outer harbour (Maxwell 1884, 168), and seem to have been openwork wooden structures of piles and planking, though the rest of the works were of masonry. By 1581 the bulwarks were tending to lean over inwards, and ships were accordingly instructed to attach their cables to the outer timbers and to lead them in through the openwork construction; but this was later filled in and ballasted with material from a pier which was no longer needed. The bulwarks were strengthened in 1582.

From the 17th and 18th centuries some further notes are available on the harbour's affairs. In 1606 and again in 1610 the burgh was applying for an impost for the 'reparatioun of their schore and herbere' (*Records*, 2, 216, 299), and in 1612 the place was described as a 'commodious haven' (Jervise 1882, 1, 294); but in 1668 it was struck by a violent storm and 'utterly demolished' (*Acts*, 7, 659). For its repair an impost was granted on wine sold in the burgh, valid for 5 years, and by 1678 it could be said that the 'harbour, by great labour and expense, has been rendered a very safe and agreeable station for vessels' (Jervise 1882, 1, 294). A Macfarlane document of slightly later date records that 'the toune has a good shoar well built with hewen stone with a key, on both sides whereof they load and unload ther ships with a great house on the shore called the packhouse where they lay up ther merchant goods' (*Geor Coll*, 2, 31). This description seems to agree with that of Defoe, whose continuator records that 'it is rather a mole than a harbour, having no backwater to clean it; and that there are three entrances into it which may contain a hundred sail of ships, but not of any great burthen' (1769, 4, 171).

In 1700 and 1711 impositions for repairs were applied for in the usual way, and in 1717 a fresh subject appears in the records – that of silting, already the subject of a hint in Defoe's account just quoted. In the year that followed, as the town's trade increased and larger ships came more general use, silting evidently became an increasingly serious drawback, and in 1717 the burgesses appealed to the Convention of Royal Burghs 'shewing that their harbour is so filled up that unless it is speedily cleansed it will be impossible for ships to go out and in'. The matter remained under discussion until 1724, when £40 sterling was granted for 'preventing further ruine of their harbour' (*Records*, 5, 174, 191, 274, 349). Makeshift remedies, however, seem to have been going out of fashion as the century advanced, and a series of radical improvements, which set the harbour on the road to its modern form, began in 1770, when J Smeaton was called on for advice. The principal stages of the work carried out thereafter are noted in the *New Statistical Account* (11 (F), 30, 32, 53) of 1833, and individual operations undertaken from time to time are described in the Parliamentary Report of 1847 (*Harbours*, xxviii, 208-19, 226; plan 268); these works, however, are there dealt with at a length which outruns the scope of this paper, while many of the points of detail are unintelligible in the absence of the relative plans and drawings. *What follows can consequently cover no more than the general tenor of events, which seems to be reasonably clear.*

The harbour of Smeaton's day measured only 4½ acres, and comprised two protective piers, E and W, and two detached breakwaters to seaward, these latter providing one main and two narrow entrances. There was also a scouring-basin of ½ acre. At about this time the harbour could be described as 'a crooked wall, often enclosing but a few fishing or smuggling craft' (*New Stat Acct*, 11 (F), 53). It was liable to silting by debris washed in from higher up the Tay, and to counter this tendency Smeaton recommended some re-arrangement of the scouring sluices, and the opening-up of tunnels in the protective piers, to provide freer passage for the tidal currents. These recommendations were only carried out in part, but in 1788 the enclosed area was enlarged

by the building of a pier running W from the end of the E protective pier, and in 1803 a detached breakwater was added. It was in 1814, however, that the crucial point was reached in the harbour's development, when R. Stevenson advised the construction of a series of wet docks running eastwards from the existing harbour behind a sea-wall. With this plan T. Telford agreed, and in 1815 an Act was passed placing the management of the harbour in the hands of Harbour Commissioners, who then proceeded with works recommended in a second report by Telford. There now followed the construction of a wet dock, King William IV Dock, of  $6\frac{1}{2}$  acres, with a tidal entrance-harbour and a graving-dock; its E protection-wall apparently served as a quay on its outer side. The W protection-wall, which was finished in 1820, was 24 ft high and battered to a width of 12 ft on the top; its outer face was of hammer-dressed blocks set obliquely, without mortar, and the hearting was of quarry rubbish. In 1831 there followed, to the W of this work, Earl Grey's Dock, of  $5\frac{1}{4}$  acres, designed by J. Gibb, with a scouring-tunnel and a landing-slip for the Tay ferry from Newport. In 1830 another civil engineer, J. Jardine, considered that Dundee's growing needs could best be met by adding further wet docks to the E of the existing one, and accordingly in 1833 work began on a dock of  $11\frac{1}{2}$  acres in that position. On the Admiralty plan of 1846 it is named Victoria Dock and is marked as 'now building', as is also an 11-acre tidal harbour communicating with it on the E. East again of this last, the same plan marks a 'projected dock' of  $9\frac{1}{2}$  acres. The Parliamentary Report of 1847 (*Harbours*, xxviii) sums up the condition of the harbour at that date, but in doing so seems to borrow largely from a report made to the Admiralty in 1844 by Captain Washington, R.N. That officer wrote, in part, 'Two spacious wet docks, containing an area of  $11\frac{1}{2}$  acres, are already completed and in full activity; another wet dock, of more than double the extent, is laid out; with two tidal harbours, one of 5 acres, now in use, the other of 11 acres; besides graving-docks, patent slips, and every facility for a first-rate commercial port'. He foresees, however, that silting may still take place along the faces of the quays and at the entrances of the tidal basins; and he notes the danger of the rocks in front of the harbour and their influence on the silt-bearing tidal currents.

### *Section II From Arbroath (inclusive) to the River South Esk*

This section of the coast is rocky, apart from some  $2\frac{1}{2}$  miles of sand in Lunan Bay.

#### ARBROATH NGR NO 642403

The earliest phases of this harbour's history can be reconstructed tentatively from a record preserved in the cartulary of Arbroath Abbey (*Arbroath*, 2, 40). This contains the text of an agreement made in 1394 by Abbot John Gedy and the monks, on the one hand, and the townsmen of Arbroath on the other, regarding the building of a harbour. From this we can infer a first phase, of earlier date than 1394, in which the town possessed no organised landing-place and ships must have worked off an open beach. It was to remedy this state of affairs that a harbour was now built at the foot of the High Street, and the second phase thus introduced. The agreement, in free translation, provided that the Abbey should, at its own expense, build with all possible speed, and in perpetuity maintain, a port for the burgh which was safe in the judgement of local experts, and at which ships could call and find a safe and quiet position irrespective of movements of the tide. The burgesses, for their part, should help in the work by removing, at their own expense, all stones, sand, and other impediments to the construction of the port, clear the port of stones and sand whenever necessary for the work, continuing the said clearance from the beginning of the port's construction until the work was complete. They should also fill, set in place, and weight with stones, at the first building of the port, all the

'archas' ordered for the port at the discretion of the magistrates; and for this find certain instruments, namely 'vangas, tribulos et gavyllox ferreos'<sup>1</sup> at their own expense; the Abbot and monks undertaking the provision of other instruments and burdens.

The foregoing interpretation of a far from lucid text suggests the construction of a solid breakwater-pier by means of timber cages reinforced with piled-up stones and boulders. (For what it may be worth in this context, one of Slezer's drawings (1693, pl 40) shows part of the 17th-century version of this pier as being of masonry and timber.) On this showing, therefore, the statement of the *Statistical Account of Scotland* (1793, 7, 343) that the harbour was poorly built of wood could not have been correct; but a mistake of this kind might very well have been made as the author, writing in 1793, could have been deceived by, say, stumps of rotten timbers still surviving on the site some 70 years after the pier had gone out of use. Such remains of an old pier were noted at Waterfoot, near Annan, in 1975, after what must have been nearly a century of disuse (Graham and Truckell 1977, 116).

Whatever the method of its construction, the first harbour was most probably a modest affair. A document of the late 17th or early 18th century (*Geogr Coll*, 2, 46) records that Arbroath possessed a shore, some shipping, and 'a little small trade'. Applications for financial help in repairs were made from time to time, Parliament authorising the burgh to exact shore-dues for the support of the harbour in 1698 (*Acts*, 10, 174a) and the Convention of Royal Burghs making grants, or recommending voluntary contributions from the burghs in general, between 1582 and 1704 (*Records*, 1, 134, 329, 359; 2, 306, 352, 536; 3, 370, 379; 4, 23, 265, 342, 356). In 1716 a crisis seems to have been reached – the term 'ruinous' had been used in 1702, and now a petition was submitted which laid blame on former magistrates and also cited exceptional storm-damage suffered in the preceding winter. An inspection was made, much work was found to be necessary, and in 1723 the place was still ruinous (*Records*, 5, 161, 168, 190, 200, 331); but by 1724 work had begun on a 'new pier and harbour', with a grant of £30 in cash from the Convention and voluntary contributions recommended from the individual burghs. Such expressions as 'building a harbour' and 'the new harbour' are frequently used (*Records*, 5, 349, 433, 457, 461, 482, 512, 553); but the new arrangements are usually dated to 1725 (*New Stat Acct*, 11 (F), 91; *Harbours*, xxix). The site chosen was a fresh one, on the opposite (W) side of the Brothock Water; the new work was of stone, with an entrance 31 ft wide which could be closed with booms operated by a crane. It was dry at low tide, but the water of the Brothock could be sluiced into it to flush out silt; the depth at the entrance was up to 16 ft at high springs and down to 9 ft at neaps. Before 1736 the harbour did little trade except in smuggling and fishing, though the place was of sufficient importance to be marked on Roy's map of 1747-55; in the 1790s about 30 ships seem to have been owned in the town, though two passages in the *Stat Acct* give slightly divergent figures (5, 39; 7, 340).

In 1839 the harbour of 1725, now regarded as the 'old' harbour, was considerably improved, and was enlarged to contain an area of 6 acres. New works included the construction of a sea-wall and an outer harbour, the outer entrance being 100 ft wide and having a depth of 12 ft at the pier-heads; the inner one was 27 ft wide and was provided with booms. The piers were founded on rock, which permitted dredging – a point which suggests a contrast with earlier and less stable foundations simply resting on the foreshore. The sea-wall was of red-sandstone ashlar. The plans, by J Leslie, could not be realised in full for lack of funds, but further work was recommended (*Harbours*, xxix). In this connection it is interesting to see that an Admiralty plan of 1833 shows, in addition, a disconnected stretch of breakwater outside the outer harbour, creating, as it were, an outer compartment for it (*Harbours*, 268). The harbour of 1725 was made into a wet dock in the 1870s.

*Section III From the River South Esk to Milton Ness*

Apart from the mouth of the South Esk, with its tidal lagoon, where there existed the special conditions that are discussed below, this section of the coast contains nothing of interest in the way of harbours or landings. It is sandy throughout its length of about 7 miles.

## MONTROSE NGR NO 7157

The town of Montrose occupies a broad tongue of land which forms the E side of Montrose Basin. The Basin is a squarish tidal lagoon some 1,900 acres in extent, through the S part of which runs the channel of the South Esk to debouch at its SE corner. The river's lowermost reach, a further mile in length, passes the town and reaches the sea between Scurdie Ness on the S and Annat Sand on the N, this latter being the southernmost point of the long sandy stretch mentioned above. The town's quays are set on the N bank of this lowermost reach, with the village of Ferryden opposite. The statement that ships of 50 to 60 tons could come to the E and W sides of the basin (*Stat Acct*, 5 (1793), 26) is hard to square with the topography, but if the SE and SW corners of the basin are meant, rather than the E and W sides, this record would agree with that of 1847 (*Harbours*, xxx), that the tidal river-channel could be used by small craft as far upstream as Old Montrose.

In addition, however, to giving access to inland sites, the Basin evidently played an important part in the functioning of Montrose harbour. The river-mouth reach was difficult to navigate, its entry being noted as dangerous by reason of a sandbank (*Geogr Coll.*, 2, 41). Silting was kept in check by the flushing action of impounded sea-water, rushing out from the basin and reinforcing the river's flow, at every falling tide. It was consequently essential to retain this tidal reservoir in sufficient volume; and the importance of the matter is shown by the vigorous reaction of the town to attempts by inland proprietors to reclaim parts of the Basin for agricultural purposes, thereby reducing the volume of the water retained on the rise of the tide and proportionately diminishing the force of its outflow on the fall. Thus when a scheme was launched in 1676 for the draining of some land belonging to a former provost, and an appeal for help was made to the Convention of Royal Burghs, that body appointed a committee to report on the likelihood of damage to the harbour, with powers to collaborate, if necessary, with the town's magistrates to get the project stopped (*Records*, 3, 659). This was probably the same scheme as is recorded in the *Stat Acct* as having failed through storm-damage before the work was finished (5, 26); traces of it, with the name Dronners (drainers') Dyke, are marked on the OS maps. Further controversy and some litigation attended similar projects in 1817, 1831 and 1841; the last of these would have cut off 10½ million cubic feet of water at every spring tide (*Harbours*, xxxi).

The Macfarlane document just quoted mentions a 'good shore' at the town, and this was no doubt a street with a quay-frontage, as at Dundee (*supra*), seeing that Parliamentary or burghal help in repairing the harbour was applied for at least twice in the course of the 17th century (*Acts*, 10, 145 a; *Records*, 3, 407). Much shipping used the harbour in the early 18th century, it being regarded in 1793 as the 'most commodious' one between the Tay and Cromarty. At that date there was a good wet dock, where ships were built and repaired, and 53 ships were owned there jointly with Ferryden. Smuggling flourished, as everywhere (*Stat Acct*, 5, 36). In 1847 the channel was recorded as 170 yds wide and as giving a depth from 15 ft to 18 ft at the town quays. In 1837 a wet dock had been built to the plans of J Leslie, with an entrance 55 ft wide and a depth at the sill of from 16 ft to 19½ ft. Scurdie Ness was still unlighted, and in consequence ships sometimes gave its dangerous rocks too wide a berth, were unable to turn into the mouth of the river, and piled up on the Annat Sand on the N bank. It was noted that a beacon

was needed there, and also that some awkward spots in the channel needed to be deepened. Craft drawing up to 8 ft could pass the drawbridge, and carry cargoes of lime and coal as far upstream as Old Montrose (*Harbours*, xxx).

*Section IV From Milton Ness to Girdle Ness*

This section of the coast, about 30 miles long, is rock-bound, the rocky formations rising, in many places, to sheer cliffs which make it difficult to approach the navigable coves from the fishing-villages above. A document, probably of 17th-century date, describes the seaboard S of Girdle Ness as 'a whole coast of rocks, which the seamen call an Iron Coast, and of great height all along the shore of Cowie'; adding that S of Stonehaven 'begins again a great tract of Rocks to the Water of Bervie' (*Geogr Coll*, iii, 232).

JOHNSHAVEN NGR NO 795670

In the 1720s Johnshaven was a very prosperous fishing-town, though a record of perhaps a century earlier dismisses it as 'a little shore for fisher-boats' (*Geogr Coll*, 3, 236). In later years, however, the fishing gradually deteriorated as a result of casualties among the crews and the frequent impressment of fishermen into the Navy (*Stat Acct*, 15, 230). By 1795 a small wharf had recently been built, but it was expected to remain unsafe until it could be protected by a breakwater. The ordinary depth of the water was then between 10 and 12 ft. Two years earlier it had been noted that 12 ships, totalling 475 tons, were owned in the village (*Stat Acct*, 5, 39). In 1847 Johnshaven was described as an inlet protected by 'high-water rocks', with no pier or landing-place; it then supported ten fishing-boats and did some small trade in the export of local grain (*Harbours*, xxxi).

GOURDON NGR NO 825707

Though classed in the 17th century among 'little shores for fisher-boats' (*Geogr Coll*, 3, 236), by 1794 Gourdon seems to have absorbed much or all of the maritime business of Bervie q.v. (*Stat Acct*, 13, 3). Its harbour was then neither commodious nor safe, and the fishing was deteriorating. Two further entries in the *Stat Acct* (5, 39; 13, 6) give conflicting figures for the ships owned, but they may have numbered about six or eight. In 1837 there was a small harbour with a quay, accommodating eight or nine small vessels and giving 17 ft of water high springs (*New Stat Acct*, 11 (K), 16.) Ten years later the works included an E pier, half of the cost of which had been met by the Government, and a detached breakwater; the entrance was narrow and crooked, but it was furnished with beacons (*Harbours*, xxxi; plan 268). At that time the place supported 27 fishing-boats, and exported local grain.

BERVIE NGR NO 834724

Listed in the 17th century among 'little shores for fisher-boats' (*Geogr Coll*, 3, 236), Bervie had then been a fishing-town, with landings on the beach, since before living memory, and is marked on Bleau's map. In 1794, however, the fishermen had removed to Gourdon, q.v. (*Stat Acct*, 13, 3), and smuggling, formerly rife, was also in decline. The concentration of shipping at Gourdon, mentioned above, was again noted in 1837 (*New Stat Acct*, 11 (K), 16). It is interesting to find the former status of Bervie as a fishing-village being based in part on archaeological evidence, through the chance excavation of fishing gear and hooks.

## STONEHAVEN NGR NO 8785

Stonehaven Bay is a shallow indentation in the coast, about a mile in length, into which debouch the Cowie and Carron Waters with their mouths less than half a mile apart. Immediately S of the latter, a rocky point called Bellman's Head projects into the bay, cutting off a pocket-like cove between itself and Downie Point, which bounds the bay on the south. It is this pocket, and not the mouth of either of the streams, that forms the site of the harbour and of the old town that it served.

The earliest evidence for a port at what was then called Stanehyve seems to be a confirmation charter of 1587 to George, Earl Marischal, for the town (*villam*) with a free port, port dues, petty customs, anchorage fees, etc (*RMS*, 5, 464). This reference to a free port, however, does not necessarily imply the existence of harbour-works, nor do similar provisions in subsequent charters, of 1592 (*RMS*, 5, 747) and 1612 (*RMS*, 7, 282), help to illuminate this point. Comparison suggests itself with a document which states that the *burgus* at the mouth of the Cowie Water was *vetusta magis quam opulenta* for lack of a shore or sea-port for ships (*Geogr Coll*, 3, 236); but this passage must relate to some period in the more or less distant past as the note goes on to show that harbour-works of a kind were in existence in the earliest years of the 17th century. Thus it records that the first harbour was built by the Earl Marischal on the open shore, that it was ruined by a storm during construction, and that at the time of writing it was being repaired with the help of voluntary contributions from all the burghs in the country. The operations may therefore be associated with the call for contributions made by the Convention of Royal Burghs in 1612 (*Records*, 2, 351); and it is worth remarking that the word used here is 'reparatione', not new construction, while it appears further that the Convention had in fact been receiving similar applications for help in repairs since at least 1601. Continuing involvement of the Earl Marischal in the harbour's affairs is proved by the Convention's instruction that the voluntary payments are to be made 'as they sall be requyrit by my Lord Marschall or his doer'. Similar applications for help in harbour repairs were made to the Royal Burghs in 1649, 1665, 1679, 1698, and 1705 (*Records*, 3, 345, 579; 4, 15, 271, 466); and particular interest attaches to the grant of £300 made, after an inspection, in 1698, as this was cited by the town as a proof of its poverty in applying to Parliament for help in the following year (*Acts*, 10, app., 122 b).

Whatever may have been the character of the harbour in the 17th century, by 1794 it consisted of nothing more than an open-ended basin in the NW corner of the pocket described above (*Stat Acct*, 11, 217). It was sheltered on the SE by a 'high rock', presumably Downie Point, and on the NE by a quay, aligned to the SE but swinging at its end towards the SW, which was no doubt founded on the rocks of Bellman Head. A pier is marked in this position on Roy's map of 1747-55. The writer of the account of 1794 called for this quay to be extended, and for another to be built out towards it to enclose the basin. The depth at its entrance was 22 ft. Later developments are described in an account of 1842 (*New Stat Acct*, 11 (K), 227), according to which, although the harbour was easy to approach in easterly gales, its internal arrangements had formerly been so bad that shipping had avoided it in winter. In 1825, however, it was put into the hands of Commissioners, who spent £8000 on improving it to plans by Robert Stevenson. This work entailed the removal of a mass of rocks at the harbour's entrance, perhaps the origin of the 'stane' in the name 'Stanehyve', and the building of a pier some 500 ft long which ran up, from the S, towards the S end of the old pier, leaving an entrance-gap between them. This arrangement still proved unsatisfactory through lack of an outer breakwater to cover the entrance, but the defect was overcome by returning the end of the S pier landwards for about 100 ft, and building out a jetty some 200 ft long towards it with an opening between them wide enough to



admit a ship. In this way there was formed a protected inner basin in the S part of the pocket, both basins being flanked on the W by a gently-curving 'Shore' some 900 ft long, which may or may not have been formed as part of the same programme. Both parts of the harbour were tidal, except at the entrance, and in 1847 the area was given as 5 acres, with a depth at the pier-head of 15 ft at springs (*Harbours*, xxxi).

The account of 1842 records the usual range of imports and exports, the chief items of the former being coal and lime, and of the latter grain, potatoes, fish and whisky. Steamships were calling, on the run between Leith and Aberdeen.

#### *Section V From the River Dee to Forvie Ness*

The whole of this section of the coast, some 14 miles in length, consists of sandy links broken only by the mouths of the Rivers Dee, Don and Ythan. On the first lies the port of Aberdeen, a major subject in itself; the second seems to have no history as a harbour or a landing-place except, on occasion, for smugglers; and the third is greatly bedevilled by shallows and unstable sandbanks.

#### ABERDEEN NGR NJ 9405, 9505, 9605, 9406, 9506

The harbour of Aberdeen has grown up over the centuries in the estuary of the River Dee, originally an area of sandbanks and waterlogged marshes, roughly triangular in shape and set on an E-W axis; including marshland at the inflow of a small tributary, the Den Burn, it may have measured about  $\frac{3}{4}$  miles from N to S at its inner or W end by  $1\frac{1}{4}$  miles in length from W to E. The Dee appears to have entered it at the SW corner, on a northerly course, and then to have turned eastwards to traverse it by a system of channels, which left between them islets, mainly tidal, locally known as 'inches'. The northernmost of these channels evidently followed a course more or less corresponding with today's Upper and Victoria Docks, and was here reinforced by the Den Burn, which had joined it on its curve from the northerly to the easterly course. It was on this channel that the town's harbour lay, the others cutting through the Inches on various courses which seem to have been liable to change from period to period; their disposition, for example, as shown respectively on the maps of the Rev J Gordon (1661) and G Taylor (drawn in 1773) being markedly different. East of the Inches lay a pool of open water, which narrowed towards the apex of the triangle where the river debouched into the sea.

As a site for a harbour this tidal area suffered from a number of drawbacks, the most serious of which was a bar obstructing the entrance. Coastal currents and northerly winds kept sand in constant movement from the vast reservoir formed by the links and dunes stretching northwards to beyond the mouth of the Ythan (cf. Newburgh); and this sand, when its movement was checked by the projection of Girdle Ness, tended to settle down and form a bar outside the mouth of the Dee. Under certain conditions of tide, the depth of water on the bar might decrease to a few feet only; the bar itself was unstable, and its presence could also make the turn from the open sea into the river-mouth a dangerous manoeuvre for ships. In addition, the tidal area lacked protection from easterly storms, and the channel leading to the town was shallow and obstructed.

Measures of improvement appear, on the available evidence, to have fallen into three principal phases. Records of the first of these begin with a charter of 1281 (Robertson 1839, 275) which mentions a bulwark running southwards from the foot of Shiprow,<sup>2</sup> and thus places the early medieval harbour much in the position of the nucleus of the later port. Nothing further is said as to the size or character of this work, but the N-S alignment that seems to be implied

for it recalls the 'Old Pier' marked on Taylor's plan of 1773 – shown not as connected with the town's quay but as projecting towards it from Trinity Inch opposite, with a narrow gap between its head and the quay at a short distance W of the Weigh-house. Nothing more seems to be on record until 1399, when the 'key of Aberden' is mentioned in a contract; the 'key' is described as a '*platea communis*' in 1413, in 1453 it was repaired, and in 1484 either repaired or rebuilt (*RMS*, 1, 415a; Robertson 1839, 275). In 1844, remains of an ancient quay-wall, then believed to be older than 1400, were dug up somewhere near the Weigh-house (Milne 1911, 389). Other late-medieval improvements were the erection of beacons at the harbour entrance, the clearance of obstructions from the channel, further repairs to the quay in 1512 and 1526, and the installation of a crane in 1582 (Robertson 1839, 276). The work of 1526 called for the use of hewn stone, a fact which suggests that the earlier quay or bulwark may have been of rough drystone masonry and timbering.

A second phase, in which improvement moved at a brisker tempo, seems to have begun at the turn of the 16th and 17th centuries. Thus in 1596 the burgh was authorised to apply for an imposition for the building and repairing of its bulwark, pier, shore and harbour (*Records*, 1, 486), and this language must imply work on a considerable scale. In 1609 a serious attempt was made to deal with the bar, by means of a bulwark, the 'South Pier', on the S shore of the entrance, so sited as to deflect the river's current northwards, directly on to the bar, with the idea that it should wash away the sandbank. This bulwark was of drystone construction with timber stakes, and took 3 years to build (Robertson 1839, 278). The bar, however, continued to give trouble, as the entrance-channel was unable to carry off floods, with the result that water tended to back up and overflow the quays (Clark 1921, 47). In 1610, David Anderson removed the great boulder known as Craig Maitland from the channel by floating it with empty barrels (Robertson 1839, 279).

Conditions existing in the middle of the 17th century are illustrated by a document of the time (*Geogr Coll*, 2, 246). This distinguishes between the '*portus*', which it places a thousand paces from the town, and the '*cothon*', by which it evidently means the quay discussed above; and it records a plan to extend the latter downstream so as to join it up with the former. At this time, high tides covered everything as far upstream as the quay, thereby giving small craft access to the quay while the larger vessels discharged their cargoes '*in portu*'. Work on this scheme was begun in 1623, but was delayed by the wars of the Covenant and was only completed in 1659 (Robertson 1839, 280). A generally similar picture is presented by Gordon's account (1661) and its accompanying plan. Gordon places the quay, with a weigh-house built in 1634, at the quay's head, somewhere just E of Shiprow, and carries it thence to Futty, which occupied an area behind what is now Waterloo Quay. He gives the distance as 500 paces, which agrees pretty well with his plan. The extension of the quay cut off, and permitted the reclamation for agriculture of a large area of what had previously been tidal ground. The Latin text reads '*e macerie arena congesta magno labore demum anno 1659 peractus agger*', but this does not seem to justify the rather improbable statement that the work was faced on both sides with drystone masonry and had a core of sand. Futty is described as stretching along the shore for some 400 paces, and as being inhabited mainly by fishermen and sailors; ships lay at anchor off it, no doubt primarily those of too great a draught to reach the town's quay. It also possessed a dock for building and repairing ships. Beyond Futty lay the fishing-boat harbour of Pockra, where, as at Futty, the plan shows ships lying at anchor.

A third phase in the harbour's development may be thought of as having opened in 1770, with Smeaton's report on really far-reaching improvements. The outline here given of the ensuing course of events has been put together from the sources already quoted without individual

references, to avoid such a plethora of these as would have obscured the tenor of the narrative. The state of affairs that existed when Smeaton arrived is illustrated by the plan prepared by Taylor in 1773, which differs from Gordon's plan in important respects. For example, Taylor shows the main channel of the Dee as separated from the harbour by a block of tidal 'inch', with the harbour sited on a subsidiary channel lying north of the 'inch' and representing the tidal portion of the mouth of the Den Burn. From the main stream, slightly higher up, there branches another subsidiary channel which joins that of the harbour at the downstream end of the extended pier described and planned by Gordon (*supra*), while the main stream itself runs out into the open water off Pockra and Torry. In so doing it passes N of the Point Law 'inch', but also throws off a branch which passes S of Point Law, forming Torry Pool at the village. Torry possesses a pier, and from Torry a long bulwark, presumably the South Pier of 1609, runs eastwards along the S side of the entrance-channel. One of Slezzer's drawings (1693, 19) shows this work as being of timber and masonry. A 'new pier' has also appeared at Pockra. The factual reliability of such plans, however, should not perhaps be taken entirely for granted, as another, of 1746, by G and W Paterson, shows a somewhat different arrangement of channels and 'inches' from those of either Gordon or Taylor; though again the discrepancy may be due to the sandbanks' instability from one period to another.

In 1773, the bar was nearly dry at low water, and accordingly, to deepen the approach, Smeaton proposed building of the great North Pier. This work was of rubble masonry faced with ashlar, some of the blocks weighing over 3 tons and masses of up to 40 tons being used to protect the foundations. The pier was carried out seawards from Sandness, on the N side of the entrance-channel, at right angles to the line of the shore, for a distance of 500 yds; its breadth was nearly 30 ft, and its parapet stood 15 ft above high-water level. Its objects were to prevent the influx of sand from outside the entrance, and to direct the river's deposit into the path of a tidal current which would carry it round Girdle Ness. It was under construction from 1775 to 1781, and is shown on the map of 1773 as a 'design'. In 1789 it was found necessary to narrow the entrance-channel, Smeaton's pier having been sited rather too far to the N, and to this end 'Abercromby's jetty' was built near its W end.

Improvements inside the harbour were recommended in later years by several leading engineers, the names of Rennie, Telford, Walker, Gibb and Stevenson all appearing in the record, as well as that of J Abernethy who was appointed resident engineer in 1840. Rennie was consulted in 1797, and although his recommendations were not carried out it is important to remember that they included the formation of a wet dock. Telford made a report in 1802, and a Bill based on it was passed in 1810 which authorised an extension of Smeaton's North Pier, the construction of a wet dock and spillway, and the diversion of the river's current. By 1829 all these works had been carried out apart from the wet dock, of which only the quay-walls had been completed; the length of the North Pier, no doubt in its extended form, is given as 2000 ft at this date. Other major works of this period were the South Breakwater (1812-15), stretching 800 ft from the S shore at a point outside the entrance and reaching to within 250 ft of the end of the North Pier; and wharfage along the whole length of Waterloo and Regent Quays.

To attempt to describe in detail the whole process of the harbour's development in the first half of the 19th century would not be a rewarding exercise, partly for the danger of obscuring the wood through over-attention to the trees and partly because the process itself continued long after the terminal date of this study. Reference, however, may usefully be made to a general account of what was done between 1840 and 1846 as given in evidence to the Tidal Harbours Commission by J Abernethy, the resident engineer; this shows that, in the course of these years, the harbour as a whole had been widened and deepened, some sand-banks at the entrance had

been dredged away, part of Abercromby's jetty, found to be unserviceable, had been removed, and likewise old warping-posts and cairns of stones which had caused obstruction in the fairway. At the same time, 330 yds of new wharfage had been built and effective leading-lights set up at the harbour-entrance. The depth of water at the entrance was now 19 ft at high springs, and the width between the pier-heads 380 ft; that between Pockra jetty and the point of the 'inch' opposite to it was 350 ft. Navigation at this point was difficult, especially for long steamers, as it was necessary to make a turn of almost 90 degrees.

On a broad view of this phase of the harbour's history, it is the enclosure of the docks that stands out as of prime importance. In effect, the old channel on to which the town's quays had fronted was turned into a wet dock of 34 acres, with a depth of 16 ft and capable of accommodating up to 300 vessels. In 1847 its entrance-lock was still under construction; its gates were mainly of iron. An Admiralty plan of 1833, evidently marking features which were then still unfinished, shows a large dock with a smaller upper dock abutting on its W end, while the Dee followed a course slightly further to the S and corresponding more or less with today's Albert Basin. Further diversion of the river towards the S was authorised only by the Bill of 1868; but its new course is marked, as a project, on the Ordnance Survey's first 6-inch map of the area, surveyed in 1862. It is interesting to find that the engineers and others responsible for the harbour's improvement devoted much attention to the possible effect of the docks on the action of the river at the bar. The question was whether the diversion of the river's course, and the embankment of some 80 acres of tidal ground, would so diminish the amount of backwater available at the fall of the tide as to affect the river's ability to scour out the bar – the same problem, in fact, as was noted above as having arisen at Montrose. The Tidal Harbours Commissioners recognised that, to compensate for the enclosure of the docks, the river's channel should be deepened above the bridge to increase its capacity as a reservoir.

*The Blockhouse.* The defence of the harbour was in the hands of the town itself, not of the central government, just as had been the case at Dunbar in 1781 (Graham 1967, 188). According to Gordon's account (*Geogr Coll*, 2, 482), a fort divided into rooms, presumably casemates, was established on Sandness in 1513 but only completed in 1542; its purpose was to repel attacks from the sea or at least to keep observation on pirates' attempts. It was furnished with brass or bronze guns. When an emergency arose in the course of the 1540s, it was still unfinished and had to be covered with turf and given a 'half-roof' (Robertson 1839, 43); the entrance-channel was also blocked with a boom of timbers and iron chains, which could be opened or closed as required. These arrangements, however, went out of use, and subsequently the blockhouse was only manned when the townsmen were alarmed by inroads of enemies or pirates (*Geogr Coll*, 2, 482).

The structure depicted by Slezer more than a century later (1693, 19) seems to have been oblong on plan with a rounded end which faced the inner end of the channel. The drawing shows wide gun-loops at two levels, representing presumably ground-floor rooms and a high roof-parapet with loops instead of embrasures. A small cap-house suggests an internal stair giving access to the roof in the manner of a Martello tower. The dimensions, whether or not of the same building, have been given as 36 ft by 18 ft, and the thickness of the wall as 6 ft (Robertson 1839, 43). In 1781 the blockhouse was demolished and its ten new iron twelve-pounders were moved to a rather more elevated position; but this battery proved useless when, in the same year, Captain Fall, the American privateer who had attempted a raid on Dunbar, successfully cut out two vessels from under its guns (*Stat Acct*, 19, app. 11).

A further defensive measure was the provision of a watch-tower on the opposite side of the entrance, with a bell to be rung as a warning of the approach of ships (*Geogr Coll*, 2, 482).

## NEWBURGH NGR NK 004255

Newburgh's utility as a harbour, notwithstanding its apparently favourable situation inside the estuary of the Ythan, has been prejudiced by unstable littoral sands and shallow and obstructed water. Such as it was, it seems to have been kept open largely by the backwater of the falling tides, the river's own current not having been strong enough to flush out the sand (*Harbours*, 271). As a document of the 17th century puts it, *arenosa littora portui nocent, qui non nisi minoribus navibus aditur*' (*Geogr Coll*, 2, 235). Collins likewise calls it a 'place only for small vessels' (1776, 24). In 1793 it was described (*Stat Acct*, 6, 63) as a fishing-village in decay, its former total of seven boats having shrunk to a single one, and this was used mainly for the piloting of craft bound upstream (cf Waterton, *infra*). Newburgh's situation was 'exceedingly convenient' for the commerce of the surrounding parishes, and a large number of ships used the river, but it possessed no harbour though one was badly needed. Smuggling was rife, and the six or seven ale-houses were chiefly frequented by sailors, smugglers and fishermen. In 1840, ships were being loaded and unloaded, though the numbers involved are not indicated; mention is made of the boulders and fragments of rock that encumbered the fairway. Eight vessels were then owned in the village, and smuggling had been checked (*New Stat Acct*, 12, 698, 700). All this evidence of maritime activity relates, of course, to comparatively recent times, but that Newburgh possessed some importance at least as far back as the earlier 17th century is proved by the fact that it is marked on Bleau's map. Indeed, the existence of a burial-ground and chapel-site formerly owned by the abbey of Old Deer (*Geogr Coll*, 1, 98) recalls the hospitals or chapels founded at many ferry-terminals and exits from mountain passes, and suggests that the landing-place of a ferry across the Ythan was in use here in pre-Reformation times.

The harbour is now represented by the remains of a quay set on a tidal islet, with causeway connexion to the mainland, a short distance above the inflow of the Foveran Burn. There is nothing to suggest that the structures antedate the 19th century, and much of the work is quite recent. Near the landward end of the causeway, however, there stands a warehouse about 95 ft long, the W portion of which, at any rate, might well be of the later 18th century. The E end seems to be an addition, and the central doorway has been narrowed from a larger opening. An outside stair at the W end is ruinous. The roof is of slate, and there are remains of a loading-pulley. (Visited 1973.)

## WATERTON NGR NJ 971308

This site, in itself insignificant, is interesting on account of its connexion with a stretch of inland waterway such as occurs only rarely in Scotland and nowhere else in the area now under study. The geological structure of the country as a whole naturally rules out inland navigation except in the lower reaches of the Tay, Forth and Clyde and in the Solway Firth; but, as has been mentioned above in the note on Newburgh, the Ythan gave convenient access by water to the riverside parishes for a distance of about 6 miles from Newburgh bar. Of the communities so served the most important was certainly Ellon, traditionally the seat of the ancient Mormaer of Buchan. The town is itself just above the head of navigation, being reached only occasionally by the highest tides, and Waterton could well have acted as its 'port'. An arrangement of this kind would account for the marking of Waterton on Bleau's map, which is otherwise rather surprising. Bleau no doubt reflects the conditions of the earlier 17th century, and Roy (1747-55) likewise marks 'Waterside' in a corresponding position. In 1792 it was recorded that boats could come, at high tide, to 'very near Ellon, and at ordinary tides within half a mile of it' (*Stat Acct*, 3, 99); and in 1845 coal, lime, etc, was delivered in flat-bottomed lighters to 'the meadow of

Waterton, about a quarter of a mile below Ellon' (*New Stat Acct*, 12, 901). The site at Waterton to which this note relates was remembered personally by an old inhabitant, recently deceased, as the terminal for boats from the sea. Today it shows remains of a recent but neglected landing-place, with industrial buildings and stores, some of which were still in use in 1973; one of the latter, which was ruinous, must originally have measured some 200 ft in length, and bore a significant resemblance to the quayside warehouse at Newburgh (q.v.). (Visited 1973.)

*Section VI From Forvie Ness to the Urie Water*

COLLIESTON NCR NK 040285

This place is marked by Bleau, and Groome states (1901, s.v.), without quoting an authority, that in the early 19th century it was famous for smuggling. A document of 1803 supports this reputation, recording fights between preventive officers and the armed crews of luggers here and in neighbouring creeks (Clark 1921, 136). Otherwise the place seems to be mentioned only in 1840 (*New Stat Acct*, 12, 590, 595), when it was described as one of the two fishing-villages in Slains parish, the other being Old Castle. Some old cottages, all modernised, no doubt belong to this phase of its history. The existing harbour-works date only from 1894, and consequently fall outside the scope of this study; but they embody a feature of some interest in connexion with harbour-construction in general, in the shape of a tunnel piercing the foundations of the break-water-pier near the present end of its walkway, evidently designed, like those recommended at Dundee by Smeaton in 1770 (*supra*), for the flushing-out of silt. What are probably the remains of another appear at a point further out, where the walkway is ruinous. (Visited 1973.)

BODDAM NGR NK 134426

In 1795, Boddam and the Ramheads of Peterhead (q.v.) were described simply as the two fishing-towns of the parish (*Stat Acct*, 6, 551); but the apparently factual description given by the *New Stat Acct* (12, 378) in 1840, as a revision of an earlier version drafted in 1837, is at variance with the official plan dated 1834 that was published in 1847 (*Harbours*, 346). The former records a fishing-village owning 23 boats and set, as it were back to back, respectively on the N and S sides of a narrow beach-isthmus joining the rocky mass of Buchan Ness to the mainland, as Bridge Street does today. The latter, however, shows a 'boat haven' on the N side of the isthmus, enclosed on the N by a pier with a returned end, and nothing on the S side; while it adds a basin entitled 'harbour now building' on the site of the existing harbour (134427), some 600 yds away to the N, about which nothing was said in the note of 1840. Obscurity is increased by the relative passage in the report of 1847, which mentions two small harbours, remarking that it might be worth while to 'enlarge and complete' the N one, as it was the nearest shipping-point for the pink granite of the Sterling Hill quarries (*Harbours*, xxxiii). The discrepancies have no doubt arisen through editorial oversight. The modern OS map shows nothing on either side of the isthmus apart from the warning word 'boulders'.

PETERHEAD NGR NK 1345, 1346

The older part of the town of Peterhead stands partly on the nose of a short, broad promontory and partly on the island of Keith Inch, which has been joined to the mainland by a causeway since about 1735 (Arbuthnot 1815, 10n). Greenhill, now likewise linked up, constitutes in fact the easternmost point of Scotland; and it may be remarked in passing that Roy's map of

1747-55 attaches the name Buchan Ness to this projection, and not, as is done today, to the headland at Boddam about two miles to the S. Coastal and North Sea shipping, particularly fishing-craft, must no doubt have frequented the sheltered channel behind Keith Inch at all periods of history, but the idea of a Viking landing-place 'among the Almanythie rocks' (137466), which has been ventilated (Findlay 1933, 14), is insufficiently substantial to be considered here. A factual account of Peterhead, however, dateable on internal evidence to the 1670s and attributed to the then Countess of Erroll (*Geogr Coll*, 3, 229), describes the harbour of her day as 'most commodious', and states that it 'imbosoms itself in the said Keyth Inch, and makes a Defence from the east by the Inch and numerous Rocks round about'.

The earliest positive mention of Peterhead harbour is contained in a grant made to the Earl Marischal in 1587, which includes '*lie Fischertoun de Peterheid cum portis, anchoragiis et piscariis ejusdem*' (*RMS*, 5, 1309). Too much should not be read into the use of the plural '*portis*' rather than the singular '*portu*', as this may be simply a lawyer's expression and not an indication that more than one harbour existed; while conversely a document of 1738 (Arbuthnot 1815, app. 81), at which date two harbours were certainly in use (*infra*), employs the singular form. This grant of 1587 likewise covered the erection of Peterhead as a burgh of barony, and in 1593 it was followed by a contract between the Earl and the feuars of the burgh (Arbuthnot 1815, app. 73) which bound the former to 'build and erect a bulwark in the mouth of ye haven, called Port Henry', and the latter to 'give personal service and concurrence to the erecting of the said bulwark, with aiken timber', and similarly to its maintenance. This and some later references to oaken timbers are interesting hints as to the method of construction employed.

More facts emerge from Lady Erroll's description, just quoted, in respect of what was known as Port Henry. She goes on: 'The harbour in it, called Port Henry, hath its name from one Henry Middleton in Clerkhill who, in the said E. George his time' – i.e. the Earl of 1593 – 'was instrumental under the said Earl to have this erected from an open shore to a secure Harbour. . . . it hath on the South side a bay that is called the South Road, which will contain several hundreds of ships most securely at Anchor except when the wind bloweth from the east'. The South Road was presumably the large natural anchorage of Peterhead Bay, and a further note, that it contained 'a North harbour, very secure', called Saltcoat Hive, points to some harbour-works at the S. end of the Keith Inch channel.

Port Henry is further discussed by Arbuthnot, who had had charge of the Peterhead harbours in the 1790s. Writing in the early 19th century, he records (1815, 13) that there were then two harbours North and South, formerly known respectively as Port Henry and Sackit-hive. The basin of the former contained about three-quarters of an acre, with a depth of 11 ft at high springs; its entrance-channel was very narrow, but it admitted craft of up to 100 tons. It was defended on the N by a pier of large stones, and on the E and SE by a mound and parapet recently formed with rubbish excavated from the South Harbour (*infra*). Though the 'North Quay' was built of very rough material and without cement, it had, according to Arbuthnot, withstood storms undamaged for more than 200 years; but this statement seems to conflict with an earlier record of its having been almost ruined at some date which must have been very early in its life (*Geogr Coll*, 2, 237; Findlay 1933, 52). The *New Stat Acct* likewise notes, in 1840 (12, 372), that it was very roughly built with masses of undressed granite, that it had never had to be repaired, and that the original oak timbers used as mooring-posts were still 'in a serviceable state'.

A final record of Port Henry, now destroyed in the expansion of the modern harbour, is preserved by the Ordnance Survey on its 6-inch maps of the 1868 and 1968 editions. The latter marks the trace of the harbours' vanished N quadrant as lying just below the converging ends of Brook Lane and Ellis Street; while the former, surveyed before the building of the modern

Port Henry Pier, shows it as a semi-oval enclosure among rocks, in a corresponding position and outside the then NW limit of the harbour. With this showing a plan of 1834 (*Harbours*, 346) is in general agreement, except that it marks the basin as sub-rectangular and enclosed by piers or wharfrage. There can be little doubt that the 'bulwark' of the Earl's contract survived, whether repaired or not, in the NE breakwater-pier.

Port Henry has called for this longish digression as having been a major feature of the Earl's programme of improvement, and also as throwing some light on the constructional methods of the day. But with the opening of the 18th century the principal interest shifts to the Keith Inch channel, and to the water immediately adjoining it to N and S.

The course of events in this area has been well described by Arbuthnot (1815, 14; app. 78), and an adequate idea of the harbour's growth can be obtained by following his lead. Thus it appears that, until about 1735, the Keith Inch channel was open, and that it was only then that it was blocked, to give land access to the island, by 'a mound composed of several thousand tons of rough material and rubbish', derived presumably from the deepening of a basin which already existed here in 1700 (Findlay 1933, 54). Roy's map of 1747-55 shows such a basin, with what seem to be a pair of piers at the entrance, and also indicates that the block constituted a fairly wide strip of dry ground and was not simply a causeway. A basin must certainly have existed in this position for many years, as Collins, in 1682 (ed. 1776, 24), noted two little piers, only suitable for small vessels, and Defoe 'two little piers for fishing' (1769, 4, 188). In both cases the second member of the pair of piers must presumably have been Port Henry. A process of enlargement, deepening and repairs, described in detail by Arbuthnot, went on during the 18th century; and the condition of the S harbour, as it was in 1795, is recorded in the *Stat Acct* (16, 598). There were then two 'excellent' piers, respectively on the S and W, which, with Keith Inch on the E, formed a basin capable of holding 60 ships. The S pier was 460 ft long, up to 42 ft wide, and 40 ft high at its head; the W pier was 633 ft long and 26 ft high, and both were well built of large granite blocks. This last statement should be read in conjunction with one by Arbuthnot (1815, 16), to the effect that only 2 years earlier (1793), the S quay had been damaged by a storm, 300 tons of 'pavement and cribs' having been thrown down into the harbour. The stones used in the building of the quay had been too small, its W end had not been founded on solid rock, and the 'hearting and packing' had also been 'very indifferent'. A point of some social interest arises from the note in the Old Statistical Account, namely that the whole fishing community was concentrated in the Ronheads quarter, in the NE part of the town and conveniently close to Port Henry - which was, in fact, still used by fishermen well into the 19th century (*New Stat Acct*, 12, 372). 'Fishers town' is likewise marked in the Ronheads area on the plan of 1834 mentioned above, and similar segregation of fishermen at other sites will be considered later.

With the developments of the later 18th and earlier 19th centuries are associated some of the great pioneers of contemporary civil engineering. In 1771 the S harbour was in disrepair, and a new plan was obtained for it from J Smeaton on which work started in 1773.<sup>3</sup> Notwithstanding the resulting improvements, by 1807 the basin was still too small for the demands of the shipping; J Rennie was consulted, and an Act of Parliament was obtained for enlarging the South Harbour and for building, in addition, a completely new North Harbour. In the S Harbour, accordingly, the bottom was further deepened, the W pier was lengthened, and a quay 300 ft long was built on the E side, the capacity of the basin being thus increased to some 100 to 120 vessels. The new N harbour was begun at the same time, with a protective bulwark of debris excavated from the S harbour; but in 1815 increased accommodation was again found necessary, and works planned by T Telford were carried out between 1818 and 1822. They were finished by the Stevenson firm in 1827. An additional protective pier was due for completion



about 1840 on the exposed N side, and the harbour was then expected to be ready to accommodate steamers. A passage through the block in the Keith Inch channel was opened in 1849 or 1850 (Findlay 1933, 221) for communication between the N and S harbours; this had been under discussion at any rate since the days of the Statistical Account, and the plan of 1834 already marks 'proposed opening'.

The financing of all these works called for a variety of expedients, beginning with the Earl Marischal's impost of 1593. Grants and assistance of one sort or another were received from time to time from the Privy Council, the Convention of Royal Burghs, the superiors (after 1728 the Merchant Maiden Hospital), the Commissioners for Forfeited Estates, and private sources, but details are not relevant here. A review of the port's trade, and of the fortunes of its fishery, would outrun the scope of this paper, but it must be realised that fishing was of basic importance to the whole economy of the town. Findlay discusses these matters at considerable length (1933).

#### *Section VII From the Urie Water to Kinnaird's Head*

This section, some 16½ miles in length, is again sandy for the most part, with long bays interrupted by rocky points.

#### LOCH OF STRATHBEG NGR NK 0659, 0758

Bleau's map, which enjoys the authority of Gordon of Straloch, shows a sizeable estuary at Rattray, near the SE end of the existing loch, and not at the N end, where a small stream now discharges. One of the Macfarlane papers (*Geogr Coll*, 2, 236), evidently of later date than 1720, states that the small bay or inlet (*sinus*) of Strathbeg was formerly dignified by a port (*portu nobilis*) but in the writer's time was almost blocked by sand, the remains of the village (*oppidum*) of Rattray, which had shared the fate of the port, still being visible. With this showing Roy's map of 1747-55 is in general agreement, as it marks a sand-dune flanking the seaward side and a tidal opening at the SE corner. The mention of a settlement or castle on at Rattray confirms the location in this quarter of the original outlet to the sea; but notwithstanding the expression '*portu nobilis*' the place can hardly have been more than a fishing-village, perhaps analogous with the one on the Loch of Spynie (*infra*). The matter is clarified by the *Stat Acct* (11, 418n), which records that, about 1720, a gale blew a sandhill into the loch's outlet and cut its communication with the sea. Another contemporary account of the same occurrence (*Stat Acct*, 6, 2) is interesting as showing that the value of marram grass for stabilising wind-blown sand was already understood, and its preservation for that purpose recommended.

#### ST COMBS NGR NK 057631

Two unnamed fishing-villages are mentioned in Lonmay parish in 1795 (*Stat Acct*, 16, 633), of which St Combs is probably one. Forty-five years later only one village is mentioned (*New Stat Acct*, 12, 229), supporting 13 herring-boats and a further 13 smaller craft. A point of interest is that the earlier writer found it worth while to remark on recently built houses which possessed tiled roofs and were regularly set along a street, in a way which suggests a contrast with more primitive arrangements in other villages of the kind. In 1847 the place was described (*Harbours*, xxxiv) as giving shelter to 46 fishing-boats, but as possessing no pier or harbour accommodation.

#### FRASERBURGH NGR NK 0066

The origins of Fraserburgh harbour are closely associated with the name of Alexander Fraser of Philorth, who, if the chronology of our various sources is trustworthy, appears to have

looked after the town's affairs throughout a remarkably, though not in fact impossibly, long career. Thus we are led to conclude that he founded the place as a burgh of barony about 1563, that is to say 50 years before it was erected as a burgh of regality, again through his influence, in 1613 (*Geogr Coll*, 2, 236; *Stat Acct*, 6, 10). An alternative account (Groome 1901, s.v.) gives 1569 for the foundation of the burgh of barony, but the discrepancy may not be important. Established, however, is the record (*Acts*, 3, 170) that between the dates of the burgh of barony grant and its confirmation the burgh had 'reformit and rebiggit ane sufficient heavyne', used by both native and foreign vessels. Groome dates this work to 1576, and attributes it to Sir Alexander Fraser. More details about Fraser's operations are given in the Macfarlane document just mentioned, and are worth quoting in detail. '*Molem autem lapideam*', it says, '*magnis sumptibus oceano objecit, primum loco iniquiore, dein translatis alio operibus portum munivit, unde hodie locus frequentior*' (He threw out a stone bulwark against the sea, at great expense, at first in a bad position, but then, moving his works elsewhere, he built a port, as a result of which the place is today used by more ships). It is perhaps allowable to expect that, given a certain amount of chronological confusion, these operations of Fraser's may in fact be the same as those mentioned in the Act of 1579, but no certain conclusion can be drawn.

By the same charter as erected the town as a burgh of regality (1613), the burgesses were made responsible for the harbour's upkeep; but in this they seem to have been less than successful, as in 1728 a report was made to the Convention of Royal Burghs that the harbour was going to ruin (*Records*, 5, 481). It may well have been to meet this danger that Lord Saltoun, as is recorded by Defoe's continuator (ed. 1769, 4, 227), built in 1738 'an excellent new pier and bulwark, all of freestone', thereby making the harbour 'as safe and commodious as any on the East Coast'. No doubt it was this phase of the harbour's development that was recorded on Roy's map of 1747-55, which shows a N and a S pier enclosing a sub-oval basin; but these works, as well as Fraser's *moles lapidea*, seem to have been overlooked by the Parliamentary Report of 1847, as this states that a stone pier was built in the bay 'as early as 1745' (*Harbours*, xxxiii), with the implication that no stone construction had existed before that date. However this may be, in 1793 the harbour was described as small but good, with a depth of 11 ft inside and 20 ft outside at high springs, and good anchoring ground in the bay (*Stat Acct*, 6, 10). Seven vessels were owned in the town at the time, engaged in coasting and foreign trade, and shipbuilding was also carried on. The writer suggests that the harbour should be enlarged, and a breakwater, presumably additional to Lord Saltoun's of 1738, should be built to control a current.

The developments of the 19th century can be reconstructed from the *New Statistical Account* and the Parliamentary Report of 1847. Thus at the beginning of the century the harbour was still small and insecure, and accordingly a North Pier was built between 1807 and 1811 (or 1812) to plans supplied by Rennie. This structure was of granite. Disabilities evidently persisted, but after a South Pier had been built, in virtue of an Act of 1818 and under Stevenson's direction, and also a Middle Pier in 1830,<sup>4</sup> Fraserburgh could rank as the best tidal harbour in eastern Scotland. The area enclosed was 8 acres, with a depth of 15 ft at high springs in the outer portion and 12 ft in the inner. Enlargement and other improvements have of course continued since the terminal date of this study. The *New Statistical Account* records that, in 1840, 8 ships and 220 herring-boats were owned locally; while the Parliamentary Report of 1847 gives figures of 341 ships entering the harbour in 1846, of which 34 were foreign, and 300 fishing-boats, of which 109 were owned in the town. The export trade was chiefly in agricultural produce and fish; imports were such usual commodities as timber, coal, salt, lime and consumer goods.

An interesting light is thrown by the report of 1847 on the scale and scope of coastal shipping in the years preceding the arrival of railways, good roads and steam navigation, in

remarking on the advantage enjoyed by Fraserburgh through its position on the track of trade to the Moray Firth ports and the Caledonian Canal.

*Section VIII From Kinnaird's Head to Port Gordon*

This section, about 40 miles long over its minor irregularities, is mainly rockbound, but it contains numerous coves, bays and inlets, and not least the estuary of the Deveron, which have provided sites for important harbours and fishing-towns.

MACDUFF NGR NJ 7064

At the end of the 17th century, the navigational hazards of the Deveron estuary (*infra*) were evidently turning the attention of the Banff burgesses towards the fishing-village of Downe, on the E side of Banff Bay and about a mile distant from the burgh, as in 1698 the Convention of Royal Burghs authorised a grant of 500 marks to Banff 'towards the building of a new pier at the town of Downe, which they are to purchase' (*Records*, 4, 265). No action seems to have followed, as in 1732 Downe still consisted of no more than 'a few fisher houses' (*Stat Acct*, 1, 475), and Roy's map of 1747-55 shows no buildings on the site; but in 1783 the Earl of Fife began the construction of a harbour, devising the name of Macduff for the new settlement from his family's name of Duff. Another record, of 1847 (*Harbours*, xxxiv), dates the beginning of construction to 1820, not to 1783; but this cannot be right as the *Statistical Account*, as quoted above, further states that the work on the harbour was going on at the time of writing (1791), and that ten vessels and six fishing-boats were already owned in the place. An outer harbour was attempted about 1822, but this was destroyed by a storm although its remains served as a breakwater for the inner works; and in 1842 the harbour was described as 'very commodious' and as possessing some import and export trade (*New Stat Acct*, 13 (B), 290). The report of 1847 further states that, although the harbour had a westerly aspect, it still suffered a 'heavy run of sea'; that the depth of water was only 11 ft to 14 ft at high springs, and that a low-tide harbour was much needed. The building of a breakwater giving a depth of 22 ft at low springs was recommended to this end.

The three existing basins no doubt represent enlargements made in 1877 and later.

BANFF NGR NJ 6868

Banff is essentially the river-mouth port of the Deveron, and is marked by Pont in one of his MS surveys as well as by Adair, Bleau and Roy. Its earlier history, like that of Macduff, seems to have been largely influenced by the behaviour of the currents in the estuary, the shifts and vagaries of which bedevilled the navigable channels. A tradition existed (*Stat Acct*, 20, 350) that the river originally debouched on the E side of the estuary, beside the Craig of Downe, but that changes in the course of the channel and the formation of awkward sandbanks called for the construction of a harbour in some better position, and that a fresh start was accordingly made at Banff itself, on the W side of the water. With this may be compared a record (*Geogr Coll*, 2, 234), attributable to the 17th century, which states that Banff was a small and unimportant place, lacking a harbour (*importuosus*), and that the inhabitants were consequently unequal to sea-faring business; while the Latin expression used (*defecta portu*), though a solecism on any showing, may possibly suggest not so much the mere lack of a port as the loss of one which had existed at some former time. The 'lost' harbour could then be thought of as the one on the old channel, and not actually at Banff at all. The statement in the *Stat Acct* (20, 350), that 'of

old' craft had entered the estuary and lain 'where the bulwark now is', does not help to clarify the question.

This same authority states that an early attempt at construction W of the river was made in 1625, that the work was continually subjected to delays and misfortunes and was only finished in 1775, but that by the date of writing (1798) 'a most useful and commodious harbour' existed. Eight brigantines and 14 sloops were then owned in the burgh, and a considerable trade was carried on. This was, however, by no means the whole of the story, as already in 1613 application had been made to the Convention of Royal Burghs for 'support to the helpe of thair kirk and herberie', and a grant of £100 had been made in 1615 (*Records*, 2, 418; 3, 12). In 1727, again, a voluntary contribution for the building of a harbour was recommended (*Records*, 5, 460). Parliament, likewise approached, went no further than to authorise, in 1696, a public subscription in all kirks (*Acts*, 10, 46 a); but by this time, perhaps as a result of the delays and set-backs just mentioned, eyes were again being turned towards the Downe site, and in 1698 a grant of 500 marks towards its development was obtained, as has been noted above under Macduff. It was evidently hoped that construction on the E bank would increase the force of the current and discourage the piling-up of alluvial sand which, in 1701, was 'like to render the existing harbour useless' (*Acts*, 10, 338 b). Defoe's continuator noted in 1769 that Banff had two small harbours, but that large vessels could not come near them (ed. 1769, 4, 226); and this suggests that both the eastern and the western harbours were functioning at the time though neither in a satisfactory way.

At the beginning of the 19th century, the problem was evidently tackled with considerable vigour, but the precise course of events is difficult to reconstruct as the authorities (*New Stat Acct*, 13 (B), 46; *Harbours*, xxxiv) differ as to dates and points of detail and positive criteria are lacking. According to the *Harbours* report, however, the existing arrangements had grown up through a series of makeshifts, to meet the drawbacks of shallow water, invading alluvial sand, and exposure to NE gales; they comprised an inner and an outer basin, opening towards the NNE and formed by a N quay and an E pier, within which were a W pier and two jetties. In 1806 enlargement was attempted by the enclosure of an inlet on the north; and in 1818 Telford planned an outer N pier, to enclose a basin, but this was damaged before completion and was still insecure in 1837. It was then repaired with clamps and chain cables. In 1836 this N pier was held to be useful in preventing 'swell and agitation' in the old harbour, this latter being then regarded as the safest in the whole Moray Firth. None the less, in 1847 measures to increase its security were under discussion, including further reconstruction, dredging, and the deflection of the river's outfall.

#### PORTSOY NGR NJ 590666

Portsoy is marked on Bleau's map, but the first harbour seems to have been built by Sir Patrick Ogilvie of Boyne, perhaps not long before 1701, in which year customs duties on marble from his quarries were remitted for 19 years in recognition of the expenses that he had incurred (*Acts*, 10, 278). In 1724 the place was credited with 'a safe harbour and Bullwork' (*Geogr Coll*, 1, 73). A new harbour was built by the Earl of Seafield between 1825 and 1828, but the pier enclosing it was demolished by storms in 1839 (*New Stat Acct*, 13 (B), 191), and in 1842, the date at which the last of these events was recorded, only the old harbour was in use. At that time some eight to ten vessels were owned in the place, and a similar number of foreign ones, mainly from the Baltic, traded there. Exports consisted mainly of grain and herrings. In 1847 Portsoy was classed as a 'small pier harbour', having an inner and an outer basin (*Harbours*, xxxv).

Most of the existing structure probably represents rebuilding carried out in 1884, but the variety of the types of masonry – e.g. rough blocks, small squared blocks, and courses of stones set vertically, this last paralleled at Burghead – points to work of more than a single period. A bollard on the central jetty, formed from a large undressed block, has an air of considerable antiquity; while some of the old warehouses that front on the harbour probably date from an early stage in its development. (Visited 1973.)

#### CULLEN NGR NJ 510674

Royal Burgh though it was, Cullen could be described at some undetermined date in the 17th century as hardly worthy of the name of even a modest township, on account of its lack of a port (*Geogr Coll*, 2, 256). In respect of this latter point, the debased Latin expression '*defecta portu*' is used, as it was in the case of Banff (q.v.), with the possible implication that a harbour had once existed but was no longer fit to use; and support for this suggestion may perhaps be seen in the marking of Cullen on Bleau's map and in the existence in 1619 of a '*decayit harbarie*', for the repair of which help was then asked from the Convention of Royal Burghs (*Records*, 3, 87). This request does not seem to have been successful, but in 1699 a grant of £500 Scots was authorised for the repair of a pier, the harbour and a bridge (*Records*, 4, 282). Nevertheless, both Defoe's continuator (ed. 1769, 4, 225) and the parish minister of 1794 (*Stat Acct*, 12, 145) noted the lack of a harbour, the latter remarking that one was badly needed to serve for the import of coal.

Improvement thus seems to have come only in 1817 (*New Stat Acct*, 13 (B), 340), with the building of a small but substantial harbour, which was itself improved and enlarged with an additional quay in 1834. The writer of this note records that in his time (1842) Cullen harbour was one of the best in the Firth, giving depths of water at the pier-head of from 8½ ft to 12 ft. In 1847 Cullen was classed as a 'small pier harbour' (*Harbours*, xxxv) and was noted as liable to silting with sea-sand. The main imports were coal, salt, staves and barley, and the exports herring, dried fish, timber, oats and potatoes.

Earlier construction has no doubt been much altered and disguised by improvements effected in 1886-7; the styles of masonry now visible are quite varied, including smallish coursed blocks, dark in colour, in the N and W piers, and some better-dressed work in the outer part of the former and at the end of the latter. The central jetty has been covered with cement. Industrial archaeology can record an iron capstan on the N pier, 3 ft 6 in high by 4 ft in diameter, with sockets for ten bars; its centre is inscribed BLAIKIE BROTHERS ABERDEEN 1848, and may be compared with one at Pettycur, Fife, made at Leith and dated 1813 (Graham 1969, 262). (Visited 1973.)

#### PORTNOCKIE NGR NJ 487687

The existing harbour at Portnockie dates only from the 1880s, and during the period of this study the place was no more than a fishing-village. It was so described, along with Cullen, in 1794 (*Stat Acct*, 12, 145) when seven boats were owned there, and in 1847 it still possessed no harbour (*Harbours*, xxxv). As a fishermen's settlement, however, it may go back to the 17th century, as some calculations, admittedly based on uncertain evidence, date the building of the first of the houses to 1677 (*Harbours*, 401). It is marked on Roy's map of 1747-55. As at Findochty (q.v.), examples of vernacular building can be seen in some old fishermen's houses beside the harbour. (Visited 1973.)

## FINDOCHTY NGR NJ 461679

In 1794 the parish of Rathven contained four 'fisher-towns' – Buckie, Findochty, Portnockie and Portessie – of which only the first two were regarded as possible sites for piers or quays (*Stat Acct*, 13, 400, 408). Findochty is marked by Pont on one of his MS plans, and a harbour had in fact been projected in 1602, when the proprietor had applied for help in its construction to the Convention of Royal Burghs (*Records*, 2, 149); but the Convention had 'continued' the business and no decision appears to have been taken. There was still no harbour at Findochty in 1847 (*Harbours*, xxxv).

With the foregoing record, which implies the existence of a sea-going community at the beginning of the 17th century, it is difficult to reconcile the tradition that the first settlement was made in 1716, by a group of fishermen from Fraserburgh (*Stat Acct*, 13, 401); but however that may be – and it is possible that the colony was so formed, but has been given too late a date – it is clear that until the later 19th century the boats must have worked off the open beach, with no better shelter than was given by the natural inlet, at the cost of much hardship and danger (*Stat Acct*, 13, 408). A block of early fishermen's houses beside the harbour deserves notice as an example of vernacular building; they are set in close parallel rows, separated by narrow footways and with their gable-ends turned seawards, with the object in both respects of countering northerly gales. (Visited 1973.)

## BUCKIE NGR NJ 417656

The fully developed modern installations at the fishing port of Buckie, and the neighbouring subsidiary works, are naturally well outside the scope of the present study – apart, perhaps from the object-lesson of Buckpool harbour, choked up by sand and gravel washed in through the entrance. Some facts, however, about the port's traditional origins may be quoted from the two Statistical Accounts, read in conjunction (*Stat Acct*, 13, 399; *New Stat Acct*, 13 (B), 260, 262).

What is called a fishing-station is said to have existed here since the middle of the 17th century, and in 1723 a single crew removed to Buckie from Gollachy (Port Gordon) as they found it 'safer and more commodious' than their former base. This early settlement, presumably the 'Buckie Shore' of Roy's map (1747–55), seems to have been on the W side of the Burn of Buckie, but no evidence is forthcoming for the date of the one on the E, where the ground had a different proprietor. By 1794 the fisheries had come to support 14 boats and a yawl, the latter for inshore work, while merchants and other traders owned six sloops of from 18 to 60 tons burden. A harbour was thus badly needed, and negotiations for building one were going on but had so far borne no fruit; the fact that two proprietors were involved seems to have retarded progress. No positive date is given for the earliest harbour's construction, but in 1847 some improvements had recently been made to works then in existence (*Harbours*, xxxv). In 1842, Buckie had 117 large fishing-boats and 28 small ones. (Visited 1973.)

## PORT GORDON NGR NJ 396644

Though the adjoining village of Gollachy evidently existed early in the 17th century, being marked on one of Pont's MS surveys, Port Gordon is said to have been founded as a fishing-village only in 1797, by the Duke of Gordon (*New Stat Acct*, 13 (B), 262). His harbour, of 1804 (*Harbours*, 336), was replaced by the existing structures in 1870–4. In 1842 ships of considerable burden were using the place, trading largely in coal, salt and grain; seven large and ten small fishing-boats were at that time owned in the village. Though the existing harbour, itself now derelict,

is later than the end of this study, two of its features may be noted for their general interest. These are an opening in the W pier, to admit tidal currents for the clearance of silt from the basin (cf Dundee, *supra*), and a niche to hold a barometer, similar to one still in place at Dunbar. (Visited 1973.)

*Section IX From Port Gordon to Burghead (inclusive)*

Most of this section, which is about 20 miles long, consists of tidal sands backed by dunes, and it is largely conditioned by the estuaries of the Spey and the Lossie. The exception is a rockbound stretch west of Lossiemouth, but this contains little of interest in the present context.

GARMOUTH NGR NJ 3464

Garmouth appears in the form of 'Germuch' on Bleau's map of 'Moravia', which incorporates material from Timothy Pont's papers, but this is not evidence of a harbour. The mouth of the Spey, in fact, was never suitable for a harbour, having always been bedevilled by bars and shifting channels, and two 17th-century records describe it respectively as '*importuosus et navibus parum tutus*' and '*nullo portu insignis*', admitting only small craft and that with difficulty (*Geogr Coll*, 2, 307, 429). Similar language was used of the 'harbour and town of Germagh' in 1775, when the harbour was said to receive no ships of burden, being 'choked with sand and shut up by a bar' (Shaw 1882, 1, 301); and when Charles II landed there in 1650 he was rowed in from a ship lying off shore and was carried from the boat to dry land by a local man (Shaw 1882, 1, 301, 309). In 1794 Garmouth lacked a landing-place, and the people of the parish preferred to use Lossiemouth, or Speymouth (*Stat Acct*, 15, 4). Changes, however, were on the way, as in 1784 a Hull company bought Glenmore forest on the upper Spey and floated their logs down the river, forming the village of Kingston, named after Kingston-upon-Hull, on a site adjoining Garmouth, and there setting up a ship-building and boat-building yard and a depot for the export of timber (*New Stat Acct*, 13 (E), 52). Whatever harbour existed at Garmouth in 1829 was damaged by the great flood of that year, and was subsequently 'far from good'; and in 1847 the place was classed simply as a river-mouth with a trade in timber and boat-building (*Harbours*, xxxv). No traces of harbour-works or building installations could be seen in 1973, but some of the cottages on the sea-front were said locally to have survived from before the great flood.

SPYNIE NGR c NJ 231658

The former fishing-village of Spynie disappeared long ago, with the interruption of its access to the sea, but it must be noticed here as its history helps to illustrate that of its important neighbour Lossiemouth (*infra*). The topography of this coastal area lying between the Findhorn and the Spey seems always to have been unstable owing to periodical invasions of wind-blown sand, which have altered the courses of streams and the disposition of lochs. The Loch of Spynie and the adjacent lowermost reaches of the River Lossie were evidently subject for centuries to sand-storm influence, complicated since the Middle Ages by human efforts at improvement through drainage and defensive embankment. Piecemeal improvements of this kind were evidently in progress long before wholesale drainage operations began in 1807. The whole subject has been studied and discussed by R Young (1871, 5ff), and although a full review of his conclusions would outrun the scope of this paper some of his points are essential. Thus he makes a good case for believing that, at some time during the Middle Ages, the Lossie followed a course W of its present bed, and actually ran through the Loch from somewhere near Spynie to an outlet well down the estuary, thus giving the castle and village direct access to the sea and creating con-

ditions under which a sea-fishery could function. S Ross (1976, 16) envisages the river breaking through a shingle ridge at Caysbriggs and turning the Loch into an arm of the sea; but he fails to make it clear whether he attributes the break to the river turning westwards from a channel generally similar to its present one or to a current from the present loch-area fed from the W by the river, thought of as pursuing a materially different course. However this may be, an 18th-century writer (Shaw 1882, 2, 115) states that Spynie possessed a harbour until, at some date which has not been recorded, 'by an unexpected casualty the lake ceased to be connected with the sea'; and it seems safe to assume that the 'casualty' was a violent sand-storm which blocked the outlet, as a similar storm sealed up the Loch of Strathbeg (q.v.).

With all these points in mind, we need not hesitate to accept the Bishop of Moray's account of the Spynie fishermen navigating their boats to the sea in 1383 (*Moray*, 192), as discussed below under Lossiemouth.

#### LOSSIEMOUTH NGR NJ 2370, 2371

The mouth of the River Lossie has a long history as a port, particularly in its relationship with the Royal Burgh of Elgin. The port is mentioned as early as 1383, in a '*protestatio*' then lodged by the Bishop of Moray against a '*petitio*' by the Earl of Moray which he held to have infringed his rights (*Moray*, 192). This document, though most interesting throughout, is too long to reproduce here, but its most immediately relevant points may be resumed as follows. (i) The port of 'Losey' and the fishing-grounds concerned in the case were openly and commonly ('*palam et notorie*') known to be within the limits of the episcopal estates. (ii) Former bishops had habitually kept sea-fishermen ('*piscatores piscium marinorum*') living with their wives and families in the village of Spynie, who took their boats down to and returned from the sea through the port ('*per dictum portum*'), by the bishop's right, and with the knowledge and consent of the Earls and the Elgin burgesses. (iii) The bishop's predecessor had improved and deepened the channel in the port – even sinking some small craft in the process – and had done so neither by force nor secretly nor by anyone's leave ('*non vi, non clam, non precarie*') but as the port's regular overlord. (The choice of these expressions suggests that the bishop was preparing to justify a claim based on prescription.) It thus seems allowable to infer that a port which was of interest to the Earl of Moray and the Elgin burgesses, and was not merely a fishing-station, existed in the estuary in 1383 and had probably so existed for a longish time. Its precise position cannot be estimated with confidence, as the sandy waterway is certain to have shifted more or less in the course of the centuries; but the bishop's language shows that it was somewhere well downstream of his fishing-station at Spynie, and in the river or estuary itself, not in the loch. Harbour-works are unlikely to have amounted to more than say, the maintenance of a cleared stretch of landing-beach, such as was required, for example, at Kirkcudbright in the 17th century (*Kirkcudbright*, 937, 1027). The port and fishery are mentioned again in 1551 (*Moray*, 223).

A harbour in the proper sense seems to have come into being, as the result of a longish and somewhat obscure process, at the turn of the 17th and 18th centuries. In 1685 the burgh council of Elgin called in a German engineer recorded as Peter Bruce, and identifiable as the Peter Brauss who, in 1676, carried out Sir William Bruce's plans for supplying Edinburgh with water from Comiston Springs (RCAMS 1951, lxxi n);<sup>5</sup> and on his advice decided that a harbour was necessary and could be made at a place called Elginehead, already the burgh's property and distant from it less than three miles. It has been suggested (Rampini 1897, 278) that an object of this move may have been to cut out the port of Findhorn, and so pre-empt the overseas trade of Forres, to which Findhorn belonged. An imposition was accordingly applied for to meet



the cost (*RPC*, 11, 335). Elginhead has not survived as a place-name, but the site was probably the same as that of the Old Harbour as marked on the OS maps (*infra*). In the negotiations with the Privy Council the projected harbour was described as 'an grate work and wast expenses to build and maintain the same'. Approval was obtained in January 1686, and it was hoped that the harbour would be ready by August of the same year (*ibid*, 439, 448, 451); but this was not the end of the story, as appears from other records. Thus we find the burgh making application to Parliament for an imposition to finance the building and repair of its harbour (*Acts*, 10, 231a), as the result of which a draft Act for the completion of the work was read and laid on the table in 1703 (*Acts*, 11, 47b). At the same time the matter was under discussion with the Convention of Royal Burghs, which in 1700 authorised a grant of 200 marks for the building of a pier in the mouth of the Lossie (*Records*, 4, 300). Resuming the subject in 1702, the burgh reported that a convenient site had been found – whether or not the same as the 'Elginhead' of 1685 – and in view of the general utility of the proposed work the Convention recommended voluntary contributions (*Records*, 4, 383). In 1728 a further petition was lodged on account of increased expenses (*Records*, 5, 480), and in 1729 a visiting committee of inspection recommended an additional grant of £20 (*Records*, 5, 492). Another account (Groome 1901, s.v. Lossiemouth), for which no authority is given, provided for the origin of the Old Harbour in a different way. This states that Elgin, in 1698, feued ground from Kinneddar for the harbour; that an awkward sand-bar existed, and that an attempt was made in 1780 to increase the scour of the current by building another pier on the opposite bank. Whichever of these accounts is preferred, and however the apparent conflict in their dating is composed, the place was reported by Defoe's continuator (1769, 4, 232) as having been ruinous and choked with sand, evidently at some date before 1721.

These difficulties apart, however, it seems probable enough that works constructed at the turn of the 17th and 18th centuries were at least the progenitor, if not actually the physical core, of the Old Harbour as known in more recent times. The OS maps show this latter as a quay with a short pier projecting from its SW end, flanking the left bank of the river for some 600 ft and finishing about 300 yds downstream from the N end of Seatown. More or less opposite its NE end, and some way back from the river's right bank, among the tidal sands, there is marked 'Old Pier', shown as some 500 ft in length and disposed in a manner which would agree perfectly with Groome's suggestion of a work designed to concentrate the current and keep the channel clear. It is thus possible that the two pieces of construction in this part of the estuary may differ in date by as much as some 80 or 90 years. At the end of the 18th century Lossiemouth, as Elgin's seaport, was carrying on the usual local trade; and it could still be called a 'fishing town' though only one sloop and two fishing-boats were actually owned there at the time (*Stat Acct*, 4, 78; 15, 94).

The last phase of development before 1847 is described in the Parliamentary Report (*Harbours*, xxxv). The Old Harbour having suffered dilapidation, and the channel between the stone piers being sanded up, Elgin obtained powers in 1834 to build a new harbour on a fresh site. This was at Stotfield, north of the earlier works, where a 'fishing town' was noted in 1792 (*Stat Acct*, 4, 78) and 'old Stotfield harbour' in 1842 (*New Stat Acct*, 13 (E), 149). The new harbour, represented today by the modern installations at Brandenburgh, consisted of a pair of communicating basins aligned from east to west, with a south-going inner basin ending some 250 yds N of the N end of the old quay. The new basins, which gave a depth of 12 ft at high springs, were largely quarried out of rock, and the resulting debris was used to build the massive breakwater that protects their seaward (N) side. The N quay and the inner basin were improved and extended shortly before the preparation of the Parliamentary Report; and since the end of the period covered by the present study the port has been modernised and deepened. By 1842 considerable trade

seems to have been passing through it, and steamers from Leith and London were making their appearance (*New Stat Acct*, 13 (E), 156). (Visited 1973.)

#### HOPEMAN NGR NJ 145699

Apart from a statement by Groome (1901, s.v. Hopeman), unsupported by quoted authority, that Hopeman was founded in 1805, the earliest piece of relevant evidence seems to date only from 1833. This consists of a plan by George McWilliam,<sup>6</sup> which shows the harbour in the same position as the present one and with a small bay just west of it marked 'Boat Hythe'. A record of 2 years later states that the harbour had 'of late been allowed to go almost completely to wreck' (*New Stat Acct*, 13 (E), 40), and one of 1847 that there then existed a cove in the rocky coast, which was chiefly used for the shipping of stone from a quarry, covered by a pier which made 'a sort of outer and inner harbour' (*Harbours*, xxxv). The latter had an entrance 36 ft wide. The outer harbour in this context was presumably the boat-landing (hythe), protected as it was by the built harbour-works on the rocks to the E of it. The village then supported 38 fishing-boats and also did some small local trade. The pier was breached in a gale in 1844–5 (the significance of the double date not being explained), and the gap was subsequently made into a boom-gate. Groome states further that the wrecked harbour was replaced by another in 1838, and that this was enlarged in 1865 and further improved in 1868 and 1901. Comparison of McWilliam's map with that of the Ordnance Survey suggests that the harbour of before 1844 was a narrow, oblong basin on a N-S axis, with a pier crossing and overlapping the N end in a manner which left an entrance in the NW corner; while the sides of the rebuilt structure were not neatly parallel, and that the N pier returned sharply southwards to an entrance about one-third of the way down the W side. At high springs the water was 17 ft deep at the pier-head. It is remembered locally that the entrance, presumably this one, was widened when steam drifters were introduced. Wooden wedges, evidently analogous with those in use at Dunbar and North Berwick, can still be seen securing the blocks of the harbour walls; but to which phase of construction they belong does not appear.

#### BURGHEAD NGR NJ 108690

Of the earliest Burghead, with its great vitrified fort and presumed Pictish associations, exceedingly little is known as the remains were largely wrecked about 1818 (Young, H W 1891, 435ff). Mere notice in Collins' *Coasting Pilot* and on Roy's map (1747–55) do little to dispel the mirk; but the site provides an interesting example of a promontory fort whose landward connexion gave natural shelter to shipping. Some parallels which come to mind are Carradale fort and the vanished 'mote' at Kirkcudbright. The earliest substantial reference to the place has been found in a plea by the parish minister of 1793 for the construction of a harbour (*Stat Acct*, 8, 391). He lays stress on the natural advantages that the site possessed – good shelter, fine bottom, an adequate depth of water, and freedom from the shoals and sandbanks that obstructed harbours set, as Burghead was not, in the mouths of tidal rivers. The place was, at that time, a fishing-village, which also did some seaborne trade. Improvement began in 1809 (*Harbours*, xxxvi; plan 346), when a good harbour was built showing well-squared unmortared blocks with a moulded string-course some 4 ft below the top of the wall. At low-tide water-level the blocks are set vertically (cf Portsoy). The plan, which is dated 1835, shows a basin about 650 ft long, aligned along the SW side of the promontory and with its entrance protected by a breakwater-jetty projecting SSW. In 1834 this breakwater was extended by 40 yds, with a further extension in 1839; the corresponding changes in the masonry can still be seen. A depth of 16 ft at high

springs was thus obtained. The report of 1847 likewise notes how the westerly aspect and sheltered position of the harbour made for safety; in 1835 the harbour was used by some 400 vessels, 12 being owned in the village (*New Stat Acct*, 12 (E), 40). Trade was carried on with Leith, London and continental ports, and steamers were making their appearance.

*Section X From Burghead (exclusive) to Nairn*

This section, 16 miles long, is of sand throughout, and includes the notorious dunes of the Culbin Sands. The only ports are in the estuaries of two major rivers, the Findhorn and the Nairn, themselves greatly bedevilled by shoals and shifting currents.

FINDHORN NGR NJ 038644

Findhorn was the port of Forres, as Lossiemouth was that of Elgin, and a suggestion of rivalry between them in the 17th century has been mentioned above. Situated just inside the mouth of the River Findhorn, where the bag-shaped upper estuary, Findhorn Bay, narrows towards its discharge, it is marked on one of Pont's MS surveys with ships at anchor off the village and behind a formidable bar; and it is also noted by Bleau, Roy and Collins, the last-named describing it as a 'tide haven' only accessible at high water (1776, 25). Before 1715, however, it occupied a different site, later known as Old Findhorn, which in that year was swamped by the sea in the course of a single night (Grant and Leslie 1798, 154).

The general picture of the harbour presented by the records is not entirely lucid. A document of 1723 (*Geogr Coll*, 1, 231) notes the place as a 'harbour for ships', while another, of perhaps rather earlier date, (*ibid*, 2, 307), describes the river as '*piscosus et portu nobilis*'; Defoe's continuator (ed 1769, 4, 230) mentions a 'small sea-port'; Shaw states (1882, 2, 152) that 'the bar at the mouth of the river allows no ships of burden to enter the bay, yet a good trade is carried on by small merchant ships and fishing-boats'; while his editor adds comments from Grant and Leslie (1798) to the effect that the pier was 'commodious' but limited in size, the harbour capacious and safe, and the depth of water on the bar adequate. The channel had then lately been altered, and a ship of 300 tons had reached the pier. These improvements had perhaps been made possible by work done under an Act of 1778 (Shaw 1882, 2, 156). On the other hand, the parish minister of 1791 describes the harbour as accessible only to small vessels on account of a shifting bar (*Stat Acct*, 1, 464); while one of his colleagues, in 1796, urged the building of a canal from the harbour to Forres (*Stat Acct*, 17, 453), the river being navigable only to the tidal limit. In 1842 the harbour was described as largely natural but as possessing two quays of hewn stone, one of them recently built, with a 'breastwork', presumably a stretch of riverside wharfage, joining it to the old pier (*New Stat Acct*, 13 (E), 210). The bar is also mentioned. In 1847 there were two good piers, which could be reached in fine weather by craft drawing up to 12 ft (*Harbours*, xxxvi). The bar moved periodically from E to W, and then built up again at its E end. At this date a trade was carried on largely in coal and lime, and in sleepers cut from local plantations of larch. Nineteen herring-boats were owned in the village; 214 vessels had made calls in the course of the year and, apparently in addition to these, 68 steamers.

NAIRN NGR NH 889570

In virtue of its position at the mouth of a sizeable river, Nairn must always have been more or less concerned with the sea, and especially, no doubt, on account of fishing; but the shallowness and instability of the sandy estuary evidently prejudiced the development of a useful harbour. Defoe's continuator (1769, 4, 230) calls Nairn a 'sea-port town', and records that the

port was 'capable of receiving small vessels'; but the parish minister of 1794 (*Stat Acct*, 12, 392, 388) gives the lack of a pier as one of the town's two main disadvantages – the other being the absence of manufacturing industry. In his time the only local shipping consisted of six fishing-boats based on the town and a further two in other parts of the parish; but it was believed that the river could be deepened and straightened, to increase its scouring action, and a pier built to take ships of considerable burden. No harbour-works seem, however, to have been put in hand before 1820, when Telford was consulted, but later a good deal was done, and is on record (*Harbours*, xxxvi; Groome 1901, s.v.; *New Stat Acct*, 13 (N), 4).

From its general northerly course, the natural channel of the estuary had originally turned sharply eastwards on approaching the shore and before breaking out to the sea, but in 1820 Telford prescribed a plan which eliminated this final turn by cutting a direct opening, and which also provided for the building of a wharf and a harbour. These works were seriously damaged in the great flood of 1829, but they were succeeded by others on similar lines which no doubt corresponded with the 'wharf-harbour' shown on a plan of 1835 (*Harbours*, 346) and, in essentials, with those in existence today though these latter embody many modern additions. This plan shows the wharf as a stretch of the W bank of the estuary running back from high-water mark to a point some 300 yds below the bridge. In the event, the alteration of the channel's course was probably of doubtful value, as it was recalled, in 1847, that within living memory a ship of 200 tons had negotiated the old channel, whereas at the date only fishing-boats and 'coasters' were able to enter, the entrance being narrow and shallow though with a rise of 14 ft at springs. To counter these drawbacks it was decided to build a breakwater, which was marked as 'now building' on the plan of 1835 and was still under construction in 1847; it appears to have been a slightly curving work, running out on a northerly alignment from high- to low-water mark and flanking the E side of the access-channel for some 400 yds. The contractors, Messrs Leslie and Mitchell of Inverness, recommended that it should be built of rubble-stone and timber, on account of the high cost of digging the deep foundations that would have been needed to obtain rock foundations for a masonry structure; they suggested a system of main piles, of Memel timber, 10 ft apart, 'with sheeting piles on the inside face to keep the hearting from being undermined. The remainder of the west face to be planked with half-round timbers and the interior filled with stones and gravel.' They also recommended that the new work should be a pier and a roadway as well as a breakwater. This detailed description of a structure of wood and stone makes an interesting parallel with the stone-filled, timber-fronted quays that are common on the Solway Firth, and contrasts with the masonry construction usual in Fife and the Lothians.

In 1847, Nairn was still described as a fishing-station, supporting 12 large boats and 62 herring-boats. In the previous year 71 vessels had used the harbour (*Harbours*, xxxvi), and the usual type of local trade was being carried on (*New Stat Acct*, 13 (N), 4).

*List: sites of minor interest*

*Section I*

BROUGHTY FERRY. NO 464304. *Geogr Coll*, 2, 22; *Stat Acct*, 4, 244; *New Stat Acct*, 11 (F), 553; *Harbours*, xxix.

MONIFIETH. NO 4937. *New Stat Acct*, 11 (F), 553. *Harbours*, xxix.

WEST HAVEN. NO 573346. *Harbours*, xxix.

EAST HAVEN. NO 593360. *Harbours*, xxix.

*Section II*

AUCHMITHIE. NO 682442. *Geogr Coll*, 2, 22, 44; *Stat Acct*, 12, 167; *Harbours*, xxxi.

ETHIE HAVEN. NO 694488. *Stat Acct*, 3, 282.

BODDIN. NO 714535. *New Stat Acct*, 11 (F), 258.  
 USAN. NO 725544. *Geogr Coll*, 2, 22, 42; *Stat Acct*, 2, 497; *Harbours*, xxxi.  
 ULYSSES HARBOUR. NO 725544. Alternative name for Usan, q.v.

### Section III

FERRYDEN. NO 716566. *Geogr Coll*, 2, 22; *Stat Acct*, 2, 497; *Harbours*, xxx.

### Section IV

SEAGREENS. NO 779658. *New Stat Acct*, 11 (K), 292; *Harbours*, xxxi.  
 CATTERLINE. NO 870782. *Stat Acct*, 6, 198, 202, 210; *New Stat Acct*, 11 (K), 318.  
 CRAWTON. NO 880796. *New Stat Acct*, 11 (K), 226.  
 COWIE. NO 876865. *Geogr Coll*, 3, 236; *New Stat Acct*, 11 (K), 260.  
 MUCHALLS. NO 903918. *Geogr Coll*, 3, 236; Roy's map; *Stat Acct*, 12, 594.  
 STRANATHROW. NO 905921. *New Stat Acct*, 11 (K), 245 (mispaged 445), 260.  
 SKATERAW. NO 914934. *Geogr Coll*, 1, 247; 3, 236; *Stat. Acct*, 12, 494.  
 ELSICK. Probably same as Skateraw, q.v.  
 DOWNIES. NO 927950. *Stat Acct*, 4, 453; *New Stat Acct*, 11 (K), 178.  
 PORTLETHEN. NO 933962. Bleau's map; Roy's map; *Stat Acct*, 3, 453; *Harbours*, xxxi.  
 FINDON. NO 944974. *Geogr Coll*, 3, 236; *Stat Acct*, 4, 453; *Harbours*, xxxi.  
 COVE. NJ 954004. *Stat Acct*, 7, 195; *New Stat Acct*, 11 (K), 196.  
 BURNBANK. NJ 961020. *New Stat Acct*, 11 (K), 208.

### Section V

TORRY. NJ 951053. *Stat Acct*, 7, 204; *New Stat Acct*, 11 (K), 208; see also under Aberdeen.  
 FUTTY. NJ 954058. See under Aberdeen.

### Section VI

OLD CASTLE. NK 051299. *New Stat Acct*, 12, 595.  
 SANDEND. See Whinnyfold.  
 WHINNYFOLD. NK 081331. Bleau's and Roy's maps; *Stat Acct*, 5, 433; *New Stat Acct*, 12, 979.  
 WARD OF CRUDEN. NK 094356. *Stat Acct*, 5, 433; *New Stat Acct*, 12, 978.  
 PORT ERROL. NK 094356. References as for Ward of Cruden.  
 BULLERS OF BUCHAN. NK 109380. References as for Ward of Cruden; Groome (1901), s.v.  
 LONG HAVEN. NK 120403. *Stat Acct*, 5, 433.  
 BURNHAVEN. NK 126441. *New Stat Acct*, 12, 381.  
 BUCHANHAVEN. NK 128473. *New Stat Acct*, 12, 370.

### Section VII

INVERALLOCHY. NK 042653. *Geogr Coll*, 1, 55; *New Stat Acct*, 12, 296; *Harbours*, xxxiv.  
 CAIRNBULG. NK 043651. *Geogr Coll*, 1, 55; *Harbours*, xxxiv.  
 BROADSEA. NJ 984674. *Stat Acct*, 6, 9, 13.

### Section VIII

SANDHAVEN. NJ 967674. *Geogr Coll*, 1, 52; *New Stat Acct*, 12, 399.  
 PITTULLIE. NJ 961675. *Geogr Coll*, 1, 52; *Stat Acct*, 5, 98; *New Stat Acct*, 12, 399.  
 ROSEHEARTY. NJ 931678. *Acts*, 8, 307; *Geogr Coll*, 1, 41; *ibid* 2, 143; *Stat Acct*, 5, 98, 105; *New Stat Acct*, 12, 399.  
 ABERDOUR. NJ 885646. *Geogr Coll*, 1, 49; *New Stat Acct*, 12, 269.  
 PENNAN. NJ 846655. *Geogr Coll*, 1, 41; *Stat Acct*, 12, 577; *New Stat Acct*, 12, 269.  
 CROVIE. NJ 808655. *Stat Acct*, 1, 475; *New Stat Acct*, 13 (B), 272, 291.  
 GARDENSTOWN. NJ 799648. *Stat Acct*, 1, 474; *New Stat Acct*, 13 (B), 271, 291; Groome (1906), s.v.  
 WHITEHILLS. NJ 655656. *Geogr Coll*, 1, 74; *Stat Acct*, 19, 307; *New Stat Acct*, 13 (B), 239; *Harbours*, xxxv.  
 BLACKPOTS. NJ 658658. *New Stat Acct*, 13 (B), 239; *Harbours*, xxxv.  
 SANDEND. NJ 555665. *Geogr Coll*, 1, 73; Roy; *Stat Acct*, 3, 62.  
 PORTESSIE. NJ 439665. *Stat Acct*, 13, 401; *Harbours*, xxxv.

*Section IX*

COVESEA. NJ 188710. *Stat Acct*, 4, 79; *Harbours*, xxxv.  
 CUMMINGSTOWN. NJ 131691.

*Section X*

No sites.

## DISCUSSION

The first impression gained from a general view of the harbours' history is that of the primacy of fishing among the causes that led to their development. The expressions 'fishing-station' and 'fishing-town' constantly occur in the records, referring to all types of fishermen's establishments; and in fact fishing-villages and landing-places other than regular harbours have had to be included in the study on account of the practical difficulty of drawing distinctions between, say, a primitive fishing-settlement working off a beach at the head of a natural cove, the same with a protective breakwater thrown across the cove's mouth, and the same, still further improved, and accommodating small vessels engaged in coastwise trade. And even where no works existed, it was always open to a coastal community to trade by rowing-boat with craft anchored off shore. Some of the establishments were so modest that a minister, writing in the Statistical Account, might sometimes simply remark on their existence in his parish without mentioning their names. The villages on the 'iron coast' of Kincardineshire seem all to have been small and poor; the influence of a rocky foreshore being further suggested by the comparatively large numbers of sites in the lists for Sections IV and VI. The term 'fishing-town', however, did not in itself imply either small size or poverty, as in 1793 it was applied to so considerable a place as Lossiemouth, the burghal port of Elgin; and in fact all the organised ports and harbours of later times seem to have had an element of fishing in their ancestry. In what light, however, a fishermen's quarter in a burgh or prosperous community, such as Ronheads (Ramheads) in Peterhead, was regarded socially by the rich and respectable burgesses may perhaps be open to question.

The steps by which small and primitive establishments of fisherfolk came to increase in numbers, to grow in size, and to turn into regular ports no doubt varied greatly from one site to another, but it is possible to point to a few sets of circumstances which seem to recur pretty commonly. In the first place, the local population as a whole was increasing, markedly so in the course of the 18th century; and here it is interesting to find the minister of Gamrie parish, in which lie the fishing-villages of Gardenstown and Crovie, noting in 1791 that one of the 'principal causes of increase had been the number of fishing-towns on the coast', others being the subdivision of large farms and improved agricultural management. Other pointers to the growth or multiplication of the coastal villages are supplied by such records or traditions as those of the origin of Portnockie about 1677, apparently from nothing; an influx of Fraserburgh fishermen into Findochty in 1716; the provision of fishermen's houses at Portessie for the first time in 1727, in response to a similar influx from Findhorn; and the removal of fishermen from Bervie to Gourdon, apparently for the sake of better landing-facilities. The increased protection that harbours provided for fishermen presumably tended to encourage more men to go fishing; while the improved conditions created by the fishing-harbours would in turn have increased the amount of trade, both coastwise and across the North Sea, that is so often mentioned in the Statistical Account. The principal export cargoes seem to have been fish and grain; and it is noticeable how often lime is mentioned as an import, being needed everywhere in the days of agricultural improvement. Coal, too, was another universal import, replacing the traditional

peat. Nor must the flourishing contraband trade be forgotten. Thus at a time when the lack of even passably good roads prejudiced all movement by land, a harbour or improved landing-place would have been of great value in any and every parish. Moreover, ordinary travellers, perhaps with business in Edinburgh, might well have welcomed sea-transport to save them from real hazards of an overland journey. A fact which seems strange today is that traffic to and from the Caledonian Canal should have been of real importance to the harbours on the Moray Firth.

The fortunes of a fishing-community were often controlled by a powerful feudal superior; Spynie, for example, was owned in the 14th century by the Bishop of Moray, and the following at least, are known to have developed harbours on their lands – Alexander Ord of Findochty, (Findochty 1602), Sir Patrick Ogilvie of Boyne (Portsoy 1701), the Earl of Fife (Macduff 1783), Lord Gardenstown (Roseheartly before 1791), the Duke of Gordon (Portgordon 1797), Sir William Cumming Gordon (Cummingstown 1808) and Sir John Forbes of Pitsligo (Sandhaven 1840). It is perhaps worth noting that less is heard about harbour-development by lairds, for the improvement of their own estates, on the eastern seaboard, in Kincardine, Formartine and Buchan, than on that of the Moray Firth. This fact, when allowance is made for inhospitable foreshores, may perhaps be associated with the qualities of the respective hinterlands, Moray and Nairn possessing superior climate and soils, or possibly with differences in approach to questions of estate management. In the case of the major ports, it is true that Peterhead was founded, in 1587, on the initiative of the 5th Earl Marischal, and Fraserburgh, in 1613, on that of Alexander Fraser of Philorth. At Arbroath, credit for the earliest harbour of 1394 is shared by the town and the Abbot, and at Lossiemouth both the Bishop of Moray and the town of Elgin, backed by the Earl of Moray, seem to have taken an interest in the estuary's navigability; but there is no evidence to suggest that Dundee, Montrose, Aberdeen, Findhorn or Nairn were other than burghal projects. Apart from actual foundations, help in repairs and maintenance was constantly being asked of the Privy Council or of the Convention of Royal Burghs; and such help, when granted, commonly took the form of an 'imposition' on ale sold in the burgh, or of a recommendation to the burghs in general to organise voluntary contributions.

It will have appeared from the descriptive notes that harbours and landings occupy, in general, one or other of two main types of site, on the one hand coves and inlets which give natural protection in stretches of rocky coast and on the other the estuaries of rivers. The longish stretches of sandy foreshore hardly come into the picture. It seems fair to assume that under primitive conditions landings would have been made on shores where small craft could take the ground, or alongside projecting rocks artificially smoothed off – a practice of which examples have been noted at several sites in Galloway, one of them associated with a Dark Age galleried dun (Graham and Truckell 1977, 129) and also on the Firth of Forth (Graham 1969, 238, 276). As landing-places both inlets and estuaries had their drawbacks – in the case of the former a northerly or easterly storm could rapidly turn a sheltered and supposedly dependable anchorage into a dangerous lee-shore, while concealed off-shore rocks and insidious coastal currents might call for exact local knowledge. River-mouths and estuaries, again, were highly vulnerable to silting, and about this more will be said shortly. On early works of improvement extremely little is recorded, but no doubt a cove could be improved by building a pier out seawards, and two piers, side by side, particularly if covered by a breakwater, would have possessed some of the advantages of a regular harbour-basin. Basins, in fact, which obviated the constant necessity of pulling boats up the shore to beyond the reach of the waves, must have been needed everywhere, as can well be understood from a comment made in 1794 by the minister of Rathen parish (*Stat Acct*, 13, 408) – 'The united exertions of men and women are employed in dragging the boats up the beach, to secure them from being broken by the waves, and a similar effort must

be made in launching. These daily operations are very hurtful to the boats, and sometimes fatal to the men.'

To return to established facts, although the port of Dundee was functioning as early as 1262, nothing is said about the harbour-works, if any, that existed there at the time, nor does the record of 14th-century operations in the Lossie estuary mention any wharf or pier; but the evidence from Arbroath shows clearly enough that quite sophisticated structures could be built on this coast at least as early as 1394, and this work, as being our earliest positive exemplar, deserves a word of notice. The surviving description, in rather obscure Latin, suggests a pier with a core of timber caging filled with and weighted down externally by stones; but whether the word '*archae*' (chests) refers to gabions filled with loose stones, or to a structure of drystone masonry faced with and reinforced by timbers, remains an open question. As distinct from combined drystone masonry and timbering, hewn stonework seems to have been in use by 1526 at Aberdeen and by 1579 at Peterhead, while a *moles lapidea*, whether hewn or otherwise, appears at Fraserburgh at about the latter date. In whatever way free-standing piers may have been arranged, at a riverside site the readiest resource would have been to build a wharf flanking a section of the bank, perhaps at a point where vessels had formerly been beached; this method was constantly employed on the Solway Firth right down to the end of small-scale coastwise navigation early in the present century, rough drystone masonry being faced with a crib-work of timbers. The choice between masonry and timbering for quay construction may sometimes have been influenced by whether the foundations would rest on rock or mud; and here it is interesting to find that contractors, working at Nairn in the 1840s, advised the employment of piles and timbering to obviate the expense of digging down through sand and mud to reach underlying rock. On the other hand, timber uprights could certainly be founded, if required, on bases of rock, as is shown by rock-cut postholes at two sites in Fife (Graham 1969, 235, 280). The occurrence of diverse masonry styles in, say, the same stretch of a quay-face need not, of course, be regarded as more than a sign of repairs or alterations.

Works of a different class from piers and wharves are to be seen in lengths of 'bulwark' standing in detached positions. Their function was no doubt largely protective, when they acted as breakwaters, but many were designed to reduce the formation of bars, and the deposition of silt, by controlling and directing currents, whether estuarine or coastal. The long stretches of sandy foreshore mentioned above were reservoirs of loose sand ready to be blown over neighbouring land by the wind, sometimes with disastrous results, or to be carried coastwise by currents to build up bars blocking the mouths of rivers. The Culbin Sands disaster of 1694 and the gradual southward advance of the Sands of Forvie are typical examples of windblow, while others can be seen at the Loch of Strathbeg and Spynie. Suitably sited bulwarks could serve to direct currents against bars and sandbanks, washing them away or at least reducing their height, or at sites where no river debouched, preventing their accumulation. Aberdeen provides the most notable examples of such measures, designed to manipulate estuarine currents while also harnessing the 'backwater' of the river itself – that is to say, the water stored inside the estuary by rising tides and released with their fall to increase the river's scour. Where no stream ran through a harbour, as at Dundee, an artificial scouring-basin might be contrived, to produce the same effect. There is nothing to suggest that detached bulwarks, as such, differed in methods of construction from ordinary piers, except, perhaps, at Dundee, where an improbable-sounding system of openwork timbers is recorded.

Conspicuous by their absence are structures of two distinctive types which are found at several sites in Fife and the Lothians. These are, firstly, massive breakwater-piers which embody quays and also enclose the associated harbour-works within a protected pool as at Dunbar,



Cellardyke or St Andrews; and, secondly, long piers pushed out across tidal flats, almost in the manner of causeways, to reach isolated pier-heads standing in deeper water, as at Torry, Torryburn or Crombie. These causeway-piers may, however, have been simply a local response to special conditions not met with on the NE coasts.

In the great pioneering days of industrial development, several of the leading engineers were consulted regarding the improvement of the principal ports – notably Smeaton and Telford at Dundee, Aberdeen and Peterhead, Telford again at Banff, Findhorn and Nairn, and one or other of the Stevensons at Dundee, Aberdeen, Peterhead and Fraserburgh.

As was mentioned at the beginning of this paper, its archaeological content is necessarily limited, as only a few sites could be visited and at these no more than cursory observations could be made. The rest of the study, however, suggests that these harbours merit much closer investigation, both as architectural subjects and as monuments of economic and social history. Planning, construction methods, and styles of masonry all call for architectural assessment, while in matters of smaller scale a good deal could probably be learned about wharfside machinery and fittings such as warping-posts, mooring-posts, capstans, bollards and rings. In respect of social history, the building of new harbours and the enlargement and improvement of old ones must reflect local economic conditions, particularly in the fishing industry; while old warehouses and fishermen's dwellings, where these survive, together with the lay-out of the streets adjoining certain of the harbours, help to illustrate the life of the former seafaring community. On these and other similar grounds the study may be said to point to an attractive field for further and more intensive investigation.

#### ACKNOWLEDGMENTS

I wish to record my indebtedness to all who have helped me at one stage or another, especially to Miss J Gordon, for informed suggestions, to Mrs Beaton and Mrs Jones, for details regarding Burghead and Hopeman, to Dr A Ritchie, for editorial advice, to Miss M Wilkes and the staff of the National Library Map Room, to Mr J G Dunbar, and to Mr I G Scott, who drew fig 1.

#### NOTES

- 1 *Archae* were probably timber cages or gabions filled with stones and placed on the foreshore to form the core of a protective pier. *Vangae* were picks or mattocks; *tribuli*, properly military engines of some sort, may here have been shear-legs or derricks. *Gavylox* were probably crow-bars.
- 2 This street still exists, but in general little can be learned by attempts at close correlation of ancient records with modern topography, on account of the far-reaching changes in the lay-out and naming of streets effected in the later 18th century, together with the more recent commercial and industrial development of the waterfront as a whole.
- 3 The following narrative description is adapted from *New Stat Acct*, 12, 373ff, to which reference should be made for facts in greater detail. A very full account is also given by Findlay 1933, 210ff and *Harbours*, xxxiii, is also relevant.
- 4 Groome (1901) gives this date as 1837; as always in his *Gazetteer*, he quotes no source or authority.
- 5 For this identification I am indebted to Mr J G Dunbar.
- 6 This plan was kindly made available by Mrs Jones, Cranloch, Elgin.

#### REFERENCES

- Acts* *The Acts of the Parliament of Scotland*, Record Edition.  
*Arbroath Liber S. Thome de Aberbrothoc*, ed Bannatyne Club, 1848, Edinburgh.  
 Arbuthnot, J 1815 *An Historical Account of Peterhead*. Aberdeen.

- Clark, V E 1921 *The Port of Aberdeen*. Aberdeen.
- Collins, G 1776 *Great Britain's Coasting Pilot*. London.
- Defoe, D 1769 *A Tour through the Island of Great Britain*, 8th ed. London.
- Findlay, J T 1933 *A History of Peterhead*. Peterhead.
- Geogr Coll* Macfarlane, W *Geographical Collections relating to Scotland*, 1906–8, Edinburgh.
- Gordon, Rev J 1862 *Aberdoniae Utriusque Descriptio Topographica*. Spalding Club, Aberdeen.
- Graham, A 1967 'The old harbours of Dunbar', *Proc Soc Antiq Scot*, 99 (1966–7), 173–90.
- Graham, A 1969 'Archaeological notes on some harbours in south-eastern Scotland', *Proc Soc Antiq Scot*, 101 (1968–9), 200–85.
- Graham, A and Truckell, A E 1977 'Old harbours in the Solway Firth', *Trans Dumfriesshire Galloway Natur Hist Antiq Soc*, 52–109.
- Grant, Rev J and Leslie, Rev W 1798 *A Survey of the Province of Moray*. Aberdeen.
- Groome, F H 1901 *Ordnance Gazetteer of Scotland*. Edinburgh.
- Harbours* Parliamentary Papers, Reports of Commissioners, *Harbours*, 32, London, 1847.
- Jervise, A 1882 *Memorials of Angus and the Mearns*. Edinburgh.
- Kirkcudbright Kirkcudbright Town Council Records: 1606-1658*. Edinburgh, 1958.
- Maxwell, A 1884 *The History of Old Dundee*. Dundee.
- Milne, J 1911 *Aberdeen*. Aberdeen.
- Moray Registrum Moraviense*, Bannatyne Club, Edinburgh, 1837.
- New Stat Acct The New Statistical Account of Scotland*, Edinburgh, 1845.
- Rampini, C 1897 *A History of Moray and Nairn*. Edinburgh.
- RCAMS 1951 Royal Commission on the Ancient and Historical Monuments of Scotland, *Inventory of the Ancient and Historical Monuments of the City of Edinburgh*. Edinburgh.
- Records Records of the Convention of Royal Burghs*, Edinburgh, 1866–1918.
- RMS Registrum Magni Sigilli Regum Scotorum*, 1882–1914.
- RPC The Register of the Privy Council of Scotland*, Edinburgh, 1887–
- Robertson, J 1839 *The Book of Bon-Accord*. Aberdeen.
- Ross, S 1976 *The Moray Book*. Edinburgh.
- Shaw, Rev T Lachlan (ed) 1882 *History of the Province of Moray*. Glasgow.
- Slezer, J A 1693 *Theatrum Scotiae*. London.
- Stat Acct The Statistical Account of Scotland*, Edinburgh, 1791–9.
- Young, R W 1891 'Notes on the ramparts of Burghead, as revealed by recent excavations', *Proc Soc Antiq Scot*, 25 (1890–1), 435–47.
- Young, R 1871 *The Parish of Spynie*. Elgin.