

year. The first thing that broke the monotony of his grief was the arrival of Dr Darwin's poem, the *Botanic Garden*, about which the author says, "It was your early approbation that contributed to encourage me to go on with the poem" (*Memoirs*, ii. 113). In 1792 the health of one of Edgeworth's sons took him to Clifton, where he remained with his family for about two years, returning in 1794 to Edgeworthstown. Ireland was, at that time, harassed by internal disturbances, and threats of a French invasion, and Edgeworth offered to establish telegraphic communication of his own invention throughout the country. This offer was declined. A full account of the matter is given in Edgeworth's *Letter to Lord Charlemont on the Telegraph*; and his apparatus is explained in an "Essay on the Art of Conveying Swift and Secret Intelligence," published in the sixth volume of the *Transactions of the Royal Irish Academy*. In the autumn of 1797 Mrs Edgeworth fell a victim to decline. *Practical Education*, a work which embodied the experience of the authors in dealing with children, was published in 1798. "So commenced," says Miss Edgeworth, "that literary partnership which, for so many years, was the pride and joy of my life" (*Memoirs*, ii. 170). In the same year Edgeworth married Miss Beaufort, and was elected M.P. for the borough of St John's Town, Longford. The same year, too, saw a hostile landing of the French and a formidable rebellion; and for a short time the Edgeworths took refuge in Longford. The spring of 1802 brought the depressing announcement of Dr Darwin's death; and the winter of that year was spent by the Edgeworths in Paris, where, among many friends, they particularly valued M. Dumont. On his return home he was gratified by Government accepting of his telegraphic apparatus, which worked admirably. In 1802 appeared the *Essay on Irish Bulls* by Mr and Miss Edgeworth; and in 1806 Edgeworth was elected a member of the Board of Commissioners to inquire into Irish education. From 1807 till 1809 much of his time was spent on mechanical experiments and in writing the story of his life. In 1808 appeared *Professional Education*, and in 1813 his *Essay on the Construction of Roads and Carriages*. He died on the 13th of June 1817, and was buried in the family vault in Edgeworthstown churchyard.

Many of Edgeworth's works were suggested by his zeal for the education of his own children. Such were *Poetry Explained for Young People*, *Readings on Poetry*, *A Rational Primer*, and the parts of *Early Lessons* contributed by him. His speeches in the Irish Parliament have also been published; and numerous essays, mostly on scientific subjects, have appeared in the *Philosophical Transactions*, the *Transactions of the Royal Irish Academy*, the *Monthly Magazine*, and *Nicholson's Journal*. The story of his early life, told by himself, is fully as entertaining as the continuation by Maria, as it contains less dissertation and more incident. (T. GI.)

EDINBURGH, COUNTY OF, or MID-LOTHIAN, one of the lowland counties of Scotland, is situated between 55° 39' 30" and 55° 59' 20" N. lat., and between 2° 52' and 3° 45' 10" W. long. It is bounded on the N. by the Firth of Forth, on the N.W. by Linlithgowshire or West-Lothian, on the S.W. by Lanarkshire, on the S. by Peebles and Selkirk, and on the E. by Roxburgh, Berwick, and Haddington or East-Lothian. The area comprises 362 square miles, or 231,724 acres.

The surface of the county presents a great variety of scenery. The Pentland Hills advance boldly from the south-west to within five miles of the sea, rising to a relative height of from 1000 to 1300 feet. The loftiest summits are Scald Law (1898 feet), Carnethie (1890), West and East Cairn Hill (1844 and 1839), and West Kip (1806). They generally present a rounded appearance, and are covered with heath or grass. The south-eastern corner of the county is occupied by the Moorfoot Hills, which form a continuation of the Lammermuirs, and attain in Blackhope

Scar a height of 2136 feet. Of more or less isolated eminences throughout the county it is enough to mention the Braid Hills and Blackford Hill to the S. of the city, Arthur's Seat towards the E., Corstorphine Hill about two miles to the W., and Dalmahoy Crag about seven miles to the S.W.

With the exception of the Gala, which rises on the south-east side of the Moorfoot Hills and flows south to join the Tweed, and the partial exception of the Tyne, which after a course of about seven miles passes into Haddingtonshire, all the streams, we cannot say the rivers, find their way to the Firth of Forth. The Esk (the largest) drains the district between the Pentlands and the Moorfoot Hills, and falls into the sea at Musselburgh. The southern branch has its sources near Blackhope Scar, receives the Redside and Middleton Burns, and flows past Newbattle Abbey; the northern rises in the Pentlands, and proceeds through much picturesque scenery, past Penicuik, Roslin, Lasswade, and Eskbank; and the union of the two streams takes place a short distance below Dalkeith, within the grounds of Dalkeith Palace. The Braid Burn from Capelaw Hill passes between the Braid Hills and Blackford Hill, and reaches the sea at Portobello. The Water of Leith, with its head streams on the western slope of the Pentlands, flows past Balerno, Currie, Juniper Green, Colinton, Edinburgh, and Leith. The Almond, which has its origin in Lanarkshire, and its right-hand tributary the Breich Water, form the boundary between Mid-Lothian and Linlithgowshire. Most of these streams, and especially the Esk and the Water of Leith, afford a large amount of water-power, well-preserved by means of artificial dams and embankments. The deep ravines which in some places they have formed in the Carboniferous strata through which they flow conceal spots of romantic beauty, in striking contrast to the immediately contiguous scenery. The only lake is that at Duddingston, near Edinburgh; but there are several extensive reservoirs connected with the water supply of the city, viz.—Threipmuir, Loganlee, Harelaw, Clubbidean, and Torduff in the Pentlands, and Gladsmuir and Rosebery on the South Esk. The Cobbinshaw reservoir, situated at the head of the Bog Burn, a tributary of the Almond, is used for the supply of the Union Canal.

The geology of Mid-Lothian is of interest, not only from its intrinsic characteristics, but also as the subject of investigation of many of the most famous among Scottish geologists—Hutton, Hall, Jamieson, Cunningham, Hugh Miller, Fleming, and others. The Lammermuir and Moorfoot Hills are a continuation of the Silurian tableland of the south of Scotland, and consist mainly of strata of greywacke, grit, and shale, greatly contorted, broken, and altered in position. Sandstones, grits, shales, and mud-stones of the Upper Silurian occur in three very limited areas in the Pentland Hills, in the midst of Lower Old Red Sandstone formations. They are abundantly fossiliferous, especially on the North Esk,—*Chondrites verisimilis*, *Amphispongia oblonga*, *Protaster Sedgwickii*, *Pterygotus acuminatus*, various *Strophomenas*, and *Euomphalus funatus* being among the characteristic forms. The Lower Old Red Sandstone formations just mentioned are a massive series of grits, conglomerates, and volcanic rocks, resting unconformably on the Upper Silurian series; the Upper Old Red Sandstone is found only in a few small patches in the hollows of the Lower Silurian. All the four series into which it is usual to divide the Carboniferous system are well represented. The Calciferous Sandstone series breaks up into two groups:—the former consisting of reddish sandstones, and forming the south-western eminences of the Pentland Hills and nearly the whole site of the city of Edinburgh; while the latter comprises white and grey sandstones, shales, limestone, and coal, and furnishes a good portion of the

mineral wealth of the county. The Carboniferous Limestone series consists of strata of white and grey sandstones, shales, fire-clays, coal, and encrinal limestone,—one section being known as the "Edge coals" from the almost-vertical displacement of the beds. The strata of the Millstone Grit are not very extensive—only appearing in a narrow band round the central part of the Dalkeith coal-field, and in a limited area to the south of Penicuik. The history of the igneous rocks which are sporadically distributed through the county is still matter of dispute,—the main question debated being whether the volcanic activity which has left its traces took place exclusively in the Carboniferous period, or broke out again later. The spot round which the discussion has principally been maintained is Arthur's Seat, which is the centre of the intrusive movement, although considerable masses of intrusive basaltic rocks make their appearance in many other localities. Diorite is the principal rock of Corstorphine Hill, and occurs also to the west of Ratho. Marks of glacial action may be observed at Corstorphine, Granton, Arthur's Seat, and on the Pentland Hills; and large beds of boulder-clay are present in the lower districts. Boulders of distant transport are rather rare, but a few apparently from the Ochils or even the Grampians may be discovered.<sup>1</sup>

The cultivated condition of the county is incompatible with a varied or remarkable fauna; but the botanist finds a rich harvest of smaller plants. Arthur's Seat and the Queen's Park, in spite of their proximity to the city, yield a considerable number of very rare specimens. Details may be sought in Professor Balfour's *Flora of Edinburgh*.

The climate naturally differs in different districts, according to elevation and distance from the sea. From observations made at Inveresk, 90 feet above the sea-level, which may be taken as fairly representative, the annual mean of the barometer has only once fallen as low as 29.68 in the twenty-one years from 1855 to 1875, and usually exceeds 29.85. The maximum cold ranged from zero in 1860 to 22° in 1872; the maximum heat from 73° in 1862 to 88° in 1868 and 1873; and the mean annual temperature from 44° in 1855 to 48.2° in 1868. The average temperature of the six summer months beginning with April reached 55.8° in 1868, and sank to 51.6° in 1872. The annual rainfall varied from 16.50 inches in 1870 to 32.89 in 1862; and the number of fair days from 162 in 1872 to 247 in 1869. The greatest rainfall takes place in August at Edinburgh, Meadowfield, and Bonnington; but in January in the Pentlands. According to observations made at Inveresk over a period of 15 years, the wind blew from the N. 31 days, N.E. 40, E. 22, S.E. 24, S. 51, S.W. 119, W. 56, and N.W. 24. The N.E. and E. winds prevail in March and April, and especially in the neighbourhood of the city are remarkable for their cold and blighting character. Snow seldom lies long except in the uplands; but night frosts occur even as late as the beginning of June, severe enough to destroy the young shoots of the seedling trees in the nursery grounds.<sup>2</sup> On the shores of the Firth, along the Almond and Esk, and in some of the richer flats the grain

crops ripen early; two miles nearer the hills and 200 feet higher the harvest is ten days later; and at an elevation of 600 feet another week at least intervenes.

The total area in cereals in 1876 was 88,189 acres. The quantity of wheat grown is gradually diminishing, occupying in 1876 only 4456 acres in contrast to 10,123 in 1856. The average produce in the more fertile districts is 31 bushels per acre, in the poorer districts from 24 to 25 bushels. The roots of the plant are in some seasons attacked severely by the larvae of the crane-fly (*Tipula oleracea*), and the ears sometimes suffer from the wheat-midge. Of other cereals there were in barley 10,123 acres in 1856, and 11,982 in 1876 (the return varying from 42 to 48 bushels); and in oats 23,121 in 1856, and 21,311 in 1876. Beans declined from 802 acres in 1856 to 467 in 1876. The area of sown grasses has greatly extended, being 26,907 acres in 1856, and in 1876, 31,869. The grass-seed is usually put in with the barley crops. Near the city sewage-farming has been carried on to a remarkable extent. The Craigentiny meadows between the city and the sea, comprising 200 acres, have been under sewage cultivation for upwards of 30 years. The produce, now consisting principally of natural grasses, is sold at from £16 to £28 per acre, and the whole realizes from £3000 to £4000 per annum. About 80 acres are under similar treatment at Lochend, 70 acres at Dalry, and 16 at the Grange. The total produce of the whole area under irrigation is estimated at £6000. The acreage of turnips in 1856 was 14,517, in 1876, 13,342. About 16 or 18 tons of swedes, or 22 or 23 tons of common turnips, is considered a good crop for first-rate land. Potatoes hold much the same position as in former years, though the demand for them is not so great. A considerable quantity is despatched to England for seed purposes, while the seed required in the county is obtained from Perth, Lanark, or the neighbouring counties. The number of cattle was in 1862, 13,013, in 1876, 18,661. In the neighbourhood of Edinburgh especially, dairying forms a very important industry: the number of milch cows in the county is probably 11,000 or 12,000, of which 1800 or 2000 are kept in the town or suburbs, and supply about half of the milk necessary for the local consumption. Sheep are returned as—113,479 in 1856, and 168,565 in 1876. Very few horses are bred in the county, but several of the studs are of excellent character. The Clydesdale blood predominates. Pigs form a very small item in the list of stock; and the poultry yard is of distinct importance only in the farms in the neighbourhood of the city. The crop rotations vary considerably in different districts. Oats, potatoes, wheat, turnips, barley, and hay or pasture is a common order; while a five-course shift of oats, potatoes and turnips, barley or wheat, hay, pasture, or a six-course shift (oats, beans, wheat, turnips, barley, grass), is used elsewhere. The average size of farms is 131 acres. According to the returns, out of a total of 1012 holdings 477 did not exceed 50 acres, 116 lay between 50 and 100, 294 were over 100 and under 300, 75 were from 300 to 500, and only 50 were more than 500. Leases of nineteen years are common; the change of proprietor is as frequent as that of the tenants, and in some cases the same tenant has continued to hold a farm under six or eight successive landlords. The average value of the arable land is calculated at from 40 to 55 shillings the acre; that of the upland pastures at from 10 to 15 shillings. The whole of the county has been drained more or less thoroughly, and some portions twice over. Tiles and small stones began to be laid about 1830, with a distance between the drains of about 36 feet; and since 1845 deeper drains, with pipes and collars, have been put into the intermediate furrows. Great improvements have been effected not only in the farm-houses and steadings since 1835, but also in the cottages for the labourers, which now for the most part contain a sitting-room and two or even three bedrooms. Steam thrashing-machines and grinding mills are not uncommon. The reaping-machine has been generally adopted within the last 20 years, except for very difficult ground, or where the crop has been laid by wind or rain. The assistance of the steam plough has hitherto been very partially obtained.

The nursery grounds of Mid-Lothian are more extensive than those of any other county of Scotland; and in the variety and quantity of their productions they are equal to any in Britain. To orchards proper there are devoted about 72 acres; and no less than 775 acres, mainly in the vicinity of the city, are devoted to market gardening. Further details on the whole subject of Mid-Lothian agriculture may be found in Thomas Farrall's paper in *Trans. of Highland and Agricultural Society*, 1877.

It appears from the Owners and Heritages Return, 1872-73, that the county, exclusive of Edinburgh and Leith, was divided among 3237 owners, holding land the yearly value of which amounted to £581,603. Of the owners 78½ per cent. possessed less than 1 acre, and the average value per acre over all was £2, 11s. 3d. There were 9 proprietors holding upwards of 5000 acres, viz., Earl of Rosebery (Dalmeny), 15,568; Sir G. D. Clerk (Penicuik), 12,696; Robert Dundas (Arniston), 10,184; the Stair family (Oxenford), 9609; Heirs of Alex. Mitchell (Stow), 9038; Earl

<sup>1</sup> See Fleming's *Lithology of Edinburgh*; Hugh Miller, *Edinburgh and its Neighbourhood*; Macfarlane, *Sketch of the Geology of Fife and the Lothians*; Arch. Geikie, *The Geology of Edinburgh and its Neighbourhood*, 1871; Sheet No. 22 of the one-inch Geol. Survey Map, with the accompanying memoir; and several other papers in the *Transactions of the Edinburgh Geological Society*.

<sup>2</sup> The mildness of the winter is well illustrated by the fact that Mr M'Nab of the Royal Botanic Gardens reported 138 species of flowers in bloom on New Year's Day 1874, of which 35 were winter or spring flowers, and 103 summer or autumn flowers. The *Galanthus nivalis*, or common snowdrop, blossoms, according to an average of 20 years, on the 25th of January, the *Hepatica triloba* on the 31st, and the *Rhododendron nobleanum* on the 25th of February.



of Morton (Dalmahoy), 8944; G. K. E. Fairholm, 6200; Charles Cowan (Loganhouse), 5677; John Borthwick (Crockston), 5239. The duke of Buccleuch's property, though comprising only 3541 acres, is the highest on the valuation roll (£28,296), with the exception of that of the railway companies.

**Minerals.**—Though not a mining district *par excellence*, Mid-Lothian possesses a considerable amount of mineral wealth. There are 19 collieries, which in 1876 employed 2179 persons and raised 715,803 tons of coal. With the exception of 90,000 tons raised in the parish of West-Calder, this was all obtained in the valley of the Esk. In its general character the coal does not differ from ordinary Scotch coal; but a large quantity of the best cannel coal, used for making gas, is procured at Niddrie Colliery, and from the marquis of Lothian's mines at Newbattle and Dalkeith. The depth of the pits varies from 50 to 180 fathoms. On the east side of the Esk the strata lie at an angle of from 10° to 14°; those on the west side, at Niddrie and Gilmerton, at from 60° to 90°. Of blackband ironstone about 61,262 tons were raised in 1876, principally in the parishes of Lasswade and Penicuik; and 25,172 tons of fire-clay were obtained in the county. In the vicinity of West-Calder there is a large amount of shale, containing from 20 to 30 gallons of oil per ton. The extraction of the oil by distillation in retorts was introduced about 1862. About 258,278 tons were raised in 1876. Limestone is of frequent occurrence:—at Esperton in the south; at Cousland, Crichton, Burdiehouse, and Gilmerton, near Edinburgh; at the Camps, in Kirknewton parish; and at Muireston and Levensat, still further west. Freestone is quarried at Craigeleith, Redhall, Hailes, and Craigmillar. From Craigeleith was obtained the greater part of the stone for the new town of Edinburgh; Hailes furnishes an excellent material for pavements and stairs; and Craigmillar has been appropriated by the builders of the new docks at Leith. Barton Mount supplies large blocks of whinstone, which have been exported to England for docks, and even to Russia, for fortifications; the causeway stones for the streets of Edinburgh are mainly procured from the quarries at Ratho; and a large number of smaller quarries for the supply of road-metal are scattered throughout the county.

**Manufactures.**<sup>1</sup>—Owing its origin no doubt to the development of literature and publishing in the metropolis, the chief manufacturing industry in Mid-Lothian is paper-making. There are 22 paper mills in the county, most of them large and extensive works; and their aggregate annual production is 18,500 tons of writing and printing, and 5000 tons of coloured and wrapping paper. The most important mills, some of them dating from the beginning of the last century, are situated on the North Esk between Penicuik and Musselburgh, all producing writing and printing papers; while on the South Esk at Newbattle coloured papers are manufactured. On the Water of Leith there are eight separate mills, as well as one near Mid-Calder, and another at Portobello. An ancient vat-mill, called Peggy's Mill, still exists at Cramond, producing hand-made hosiery papers, &c. There is a carpet factory on the Esk at Roslin; and the well-known establishment at Lasswade, where velvet-pile and tapestry carpet was produced under Whytock's patent, is now removed to Bonnington. The manufacture of gunpowder is also carried on at Roslin, the works being distributed in the recesses formed by the sudden bends of the river. The Fushiebridge works have been discontinued. Iron foundries exist at Dalkeith, Westfield, Loanhead, Penicuik, Millerhill, and the suburbs of Edinburgh; brick and tile-works at Portobello, Millerhill, Newbattle, Bonnyrigg, and Rosewell; and candle works at

<sup>1</sup> From this enumeration the manufactures of the city are excluded.

Dalkeith and Loanhead. Leather also is manufactured at Dalkeith.

Besides the Scottish metropolis, the county contains the following towns and villages:—Leith and Granton, both flourishing seaports; Portobello, a watering-place about three miles to the east; Musselburgh, an agricultural and fishing town near the mouth of the Esk; Dalkeith, a market-town and borough of barony; Corstorphine, with a convalescent hospital and an ancient collegiate church containing several tombs of the Forrester family, who became possessors of the fee in 1371; Ratho, erected in 1404 into a principality for the eldest son of the Scottish king; Cramond, formerly a place of much more importance than now; Mid-Calder, with a church of considerable antiquity, adorned with the armorial bearings of the Sandilands family;<sup>2</sup> West-Calder, Balerno, Currie, Juniper Green, and Colinton, all manufacturing villages; Liberton, deriving its name from the lepers who once were its principal inhabitants; Gilmerton, mainly inhabited by coal-miners and carters; Lasswade, Loanhead, Roslin, and Penicuik.

The population of the entire county in 1871 was 328,379, of whom 153,892 were males and 174,487 females. Excluding the boroughs of Edinburgh, Leith, Portobello, and Musselburgh, the population of the county proper numbered in 1851, 57,843 persons, and in 1871, 74,126, indicating an increase of 28 per cent. within that period. This increase occurs principally in the parishes of West-Calder, Lasswade, Colinton, Dalkeith, and Kirknewton.

**Antiquities.**—It is believed that Cramond was once a Roman seaport; and various objects of Roman art have been discovered in the vicinity and upwards along the bank of the Almond. On several heights are remains of early military works—the most important being that on Dalmahoy Hill, Braidwood Castle in the parish of Penicuik, and the so-called Castle Greg on the Harburn estate in Mid-Calder parish. "Eirdehouses" have been discovered at Crichton Mains, at Borthwick Castle, near Middleton House, &c., the first being especially interesting from the fact that some of the stones bore the marks of Roman masonry. There are hut-circles and a hill fort on Kames Hill, near Ratho; a large tumulus, with three upright stones, at Old Liston; a smaller tumulus at Newbattle; a kistvaen at Carlowrie; and standing stones at Lochend, at Comiston (the Caiy stone), and several other places. The most remarkable of all perhaps is the "Cat Stane," on the Brigs farm near Kirkliston, which, according to an ingenious hypothesis of Sir James Young Simpson, marks the burial place of the grandfather of Hengist and Horsa. (See *Proceedings of the Antiquarian Society of Scotland*, 1855, 1873, 1875.)

The following are among the most interesting of the residential and ecclesiastical buildings in Mid-Lothian, not within the limits of the larger towns and villages. Roslin Chapel, founded by the St Clairs in 1446, is one of the most highly decorated specimens of Gothic architecture in Scotland, and presents a remarkable combination of peculiarities. Roslin Castle, the seat of the St Clairs, is a fine ruin, occupying a peninsular rock on the banks of the Esk, and must have been a very strong position before the days of cannon. Hawthornden, a little further down the stream, is interesting as the residence in the 17th century of Drummond the poet, as well as for the strange caves in the rock on which it is built. Dalhousie Castle, the seat of the earl of Dalhousie, is a modernized building of castellated style on the banks of the South Esk; and Newbattle Abbey, the seat of the marquis of Lothian, occupies the site of the ancient Cistercian monastery a few miles down the stream. Craigmillar Castle is a fine ruin on a knoll three

<sup>2</sup> See *Proc. of Scot. Antiq. Soc.* 1862.

miles to the south of Edinburgh, which formerly was the residence of the Preston family, and afforded shelter on various occasions to Queen Mary. Borthwick Castle, also a temporary residence of the unfortunate queen, is a double tower on Middleton Burn, still bearing the marks of Cromwell's cannon balls. Crichton Castle, a mile and a quarter to the east, was the residence of the well-known family which produced the celebrated Sir William Crichton, and its ruins show "the builders' various hand." Dalmahoy Castle, near Ratho, is the seat of the earl of Morton, and preserves, besides other valuable antiquities, the only extant copy of the Bible of the Scottish Parliament, and the original warrant for committing Queen Mary to Lochleven. Melville Castle, near Lasswade, the seat of the earl of Melville; Colinton House, the seat of Lord Dunfermline; Calder House, the seat of Lord Torphichen; Riccarton, belonging to Sir William Gibson Craig, Bart.; and Lauriston Castle, once occupied by John Law of Mississippi notoriety, may also be mentioned. Temple, on the South Esk, was at one time the chief seat of the Knights Templars in Scotland.

The history of the county is of little importance apart from that of the city of Edinburgh. Traces of early Celtic occupation still remain in such names as Inveresk, Almond, Leith, Dalry, Dalmahoy, Dalkeith, &c.; though by far the greater proportion of the villages, hamlets, and castles have received their present designation from Saxon possessors. The termination *ton* is very frequent. Within the county lie the battlefields of Boroughmuir, where the English were defeated by the earl of Murray in 1334; Pinkie, near Inveresk, where the duke of Somerset inflicted tremendous loss on the Scotch; and Rullion Green; on the eastern slopes of the Pentlands, where the Covenanters were routed by the royal troops under General Dalziel.

EDINBURGH, the ancient capital of Scotland, is situated in the county of Mid-Lothian or Edinburgh, to the south of the Firth of Forth. The Royal Observatory, which is built on the summit of the Calton Hill, in the north-eastern quarter of the city, is in 55° 57' 23" of N. lat., and 12<sup>m</sup> 43' 05" of time W. long. of the meridian of Greenwich.

The site of Edinburgh is altogether remarkable as that of a large city, and is the chief source of its peculiar characteristics. It occupies a group of hills separated by deep ravines, and is the central feature of a landscape of rare beauty. The county of Mid-Lothian forms towards the south-east a wild hilly district, diversified with fertile cultivated tracts, but, over an extensive area, broken into a rough pastoral country, rising at various points to upwards of 2000 feet above the level of the sea. On the north it is bounded by the Firth of Forth, from the shores of which the ground slopes gradually towards the south till it merges in the range of the Pentland Hills, with its contour diversified by various undulations and abrupt heights. On this irregular ground, amid the outlying spurs of the Pentlands, a bold cliff of trap-rock, which rises through the sandstone strata



Environs of Edinburgh.

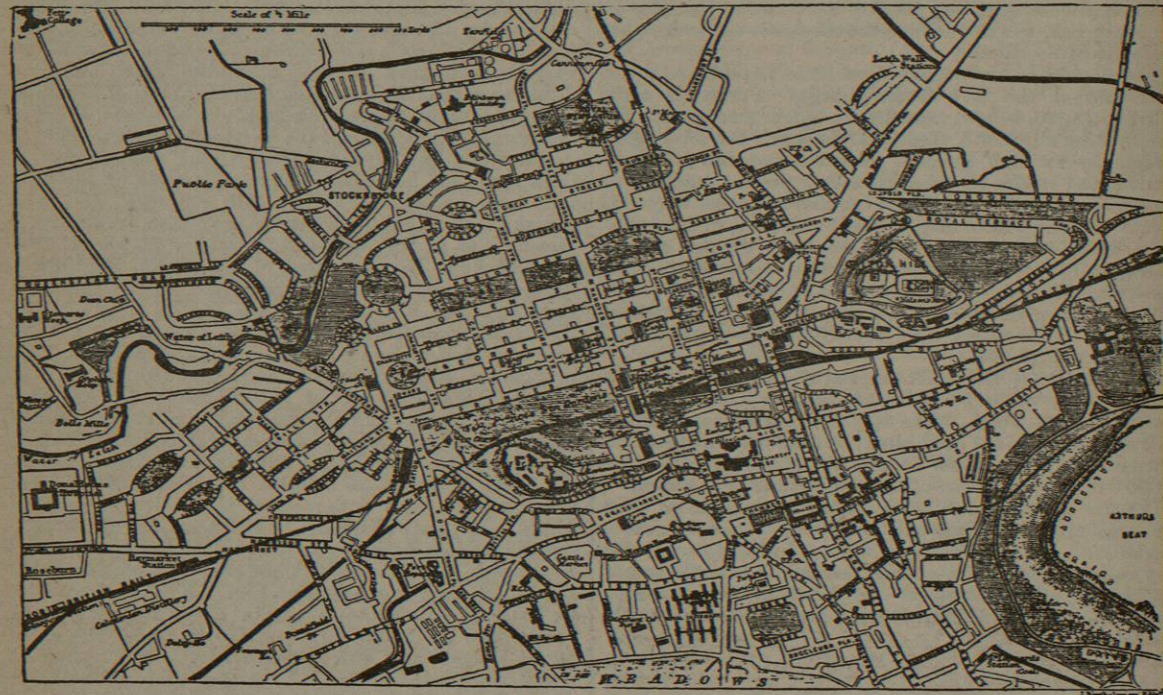
of the astrict, appears to have early attracted attention from its capacity for defence. Maitland, the earliest historian of the city, says, "The situation of Edinburgh plainly shows that its origin is owing to the castle;" and from its standing in St Cuthbert's parish, which surrounds the castle rock, he assumes that the first settlement was in the low ground to the north-west. From this a road anciently led up past the Well-House Tower, along the northern slope of the Castle Hill. By this access Queen Mary and other royal visitants rode up to the castle on various public entries, and then returned through the town, by way of the High Street and Canongate, to Holyrood. Symeon of Durham, under the date 854 A.D., includes Edinburgh among the churches and towns of Northumbria within the bishopric of Lindisfarne, and this is supposed to refer to the church of St Cuthbert. But the first erection of the *Magh dun* fortress, or "Maiden Castle," on the summit of the rock, must have tempted the natives of the district to seek the protection of its defences. Hence at an early period a hamlet grew up along the ridge which slopes from the castle rock towards the valley at the base of Salisbury Crags, distinct from the Kirk-town of St Cuthbert.

In the reign of Malcolm Canmore the Castle of Edinburgh included a royal palace. There his pious queen, Margaret, the grand-niece of Edward the Confessor, died in 1093. It continued to be a royal residence during the reigns of her three sons, and hence the first rapid growth of the upper town may be referred to the 12th century. The parish church of St Giles is believed to have been erected on its present site in the reign of Alexander I., about 1110, and the huge Norman keep of the castle, built by his younger brother, David I., continued to be known as David's Tower till its destruction in the siege of 1572. Before his accession to the Scottish throne, David I. had been earl of Huntingdon, having acquired that manor and earldom in England by his marriage with Matilda the heiress of Waltheof, earl of Northumberland. He consequently frequented the English court, and became familiar with the military and ecclesiastical architecture introduced by the Anglo-Norman kings; and soon after his accession to the Scottish throne he founded the Abbey of Holyrood, which from an early date received the Scottish court as its guests. But notwithstanding the attractions of the abbey and the neighbouring chase, the royal palace continued for centuries to be within the fortress, and there both the Celtic and Stuart kings frequently resided. Edinburgh was long an exposed frontier town within a territory only ceded to Malcolm II. about 1020; and even under the earlier Stuart kings it was still regarded as a border stronghold. Hence, though the village of Canongate grew up beside the abbey of David I., and Edinburgh was a place of sufficient importance to be reckoned one of the four principal burghs as a judicatory for all commercial matters, nevertheless, even so late as 1450, when it became for the first time a walled town, it did not extend beyond the upper part of the ridge which slopes eastward from the castle rock. But the mural defences of the town were an evidence of wealth and growing prosperity; and no sooner was it surrounded with protecting walls than its rapid increase led to the growth of an extensive suburb beyond their limits.

The other three royal burghs associated with Edinburgh were Stirling, Roxburgh, and Berwick; and their enactments form the earliest existing collected body of the laws of Scotland. But the determination of Edinburgh as the national capital, and as the most frequent scene of parliamentary assemblies, dates from the assassination of James I. in 1436. Of the thirteen Parliaments summoned by that sovereign, only one, the last of them, was held at Edinburgh. But his assassination that same year, in the Blackfriars' monastery at Perth, led to the abrupt transfer of the



court and capital from the Tay to the Forth. The coronation of James II. was celebrated in Holyrood Abbey instead of at Scone; and the widowed queen took up her residence, with the young king, in the Castle of Edinburgh. Of fourteen Parliaments summoned during this reign, only one was held at Perth, five met at Stirling, and all the others at Edinburgh; and, notwithstanding the favour shown for Stirling as a royal residence in the following reign, every one of the Parliaments of James III. was held at Edinburgh. James II. showed special favour to Edinburgh by conferring on it various privileges relating to the holding of fairs and markets, and the levying of customs; and by a royal charter of 1452 he gave it pre-eminence over the other burghs. Further immunities and privileges were conferred on it by James III.; and by a precept, known as the Golden Charter, of 1482, he conferred on the provost and magistrates the hereditary office of sheriff, with power to hold courts, to levy fines, and to impose duties on all



Plan of Edinburgh.

accommodation for the increasing population was secured by crowding buildings on every available spot within the protection of the walls, displacing the earlier structures by lofty piles of building within the straightened area, and projecting from them overhanging additions of timber. By those means the northern and southern slopes of the ridge along which the main street of the old town was formed were crowded with the picturesque alleys and closes which contributed so much to the peculiar aspect which the ancient city still retained when in 1808 Scott thus pictured it:—

“Such dusky grandeur clothed the height,  
Where the huge castle holds its state,  
And all the steep slope down,  
Whose ridgy back heaves to the sky,  
Piled deep and massy, close and high,  
Mine own romantic town.”

Within this ancient civic area stand the collegiate church of St Giles—for a time the cathedral of the diocese of Edinburgh,—the Parliament House and law courts, and

merchandise landed at the port of Leith. Those privileges were renewed and extended by various sovereigns, and specially by a general charter granted to the city by James VI. in 1603, the year of his accession to the English throne.

James III. was a great builder; and, in the prosperous era which followed on his son's accession to the throne, the new town of the 15th century spread over the open valley to the south, with the Cowgate as its chief thoroughfare. But the death of James IV. in 1513, along with other disastrous results of the battle of Flodden, brought this era of prosperity to an abrupt close. The citizens hastened to construct a second line of wall, inclosing the Cowgate and the heights beyond, since occupied by the Greyfriars' Church and Heriot's Hospital, but still excluding the Canongate, as pertaining to the Abbey of Holyrood. The new wall long determined the limits of the town. For upwards of two centuries after its erection the requisites

area, and entirely surrounded and in part encroached on by its streets, is the Calton Hill, occupied by the



Arms of Edinburgh.

Royal Astronomical Observatory, the floor of which stands at a height of 349 feet above the sea; and beyond the narrow valley, in which the Canongate and the Palace of Holyrood lie, Arthur's Seat and Salisbury Crags rear their lofty cliffs in boldly picturesque outline, the highest summit rising to the height of 822 feet, and affording a magnificent prospect over land and sea. Bridges connect the different ridges on which the city is built, with crowded thoroughfares underneath. Many of the public buildings occupy lofty terraces, and thereby show to greater advantage than their architectural designs would otherwise secure for them. The valley between the Old and the New Town, and the slopes of the castle rock, are laid out as public gardens; and the Calton Hill and Arthur's Seat furnish promenades and carriage drives of unequalled variety and beauty as the public parks of a large city. Fine white freestone abounds in the immediate neighbourhood, and furnishes abundance of the best building material; while the hard trap-rock, with which the stratified sandstones of the coal formation have been extensively broken up and overlaid, supplies good materials for paving and roadmaking.

Thus on a locality seemingly ill-adapted for the site of a great city, there has gradually arisen one which compares to advantage with the most picturesque and beautiful among the capitals of Europe. Sir David Wilkie came to it in 1799 fresh from a Fifeshire manse, to begin the studies in the Edinburgh school of design which ultimately secured for him his high fame as an artist. When he returned to it in later years, familiar with all that European art had to disclose, he thus gave utterance to his matured impressions:—

“What the tour of Europe was necessary to see elsewhere I now find congregated in this one city. Here are alike the beauties of Prague and of Salzburg; here are the romantic sites of Orvieto and Tivoli; and here is all the magnificence of the admired bays of Genoa and Naples. Here, indeed, to the poetic fancy may be found realized the Roman Capitol and the Grecian Acropolis.”

The name of Edinburgh is a memorial of the intrusion of a new people, when, in the beginning of the 7th century, the race of Ida reared the fortress of Edwin's-burgh on the rocky height, and thereby established the Anglian power on the Forth. But this Teutonic invasion was not the first occupation of the site. Camden aimed at identifying it with the *Στρατόπεδον Πρεπωρίον* of Ptolemy; and although this has been rejected by later Roman antiquaries, the convergence of Roman roads towards the place, the traces of Roman art discovered from time to time within the old civic area, and the evidence of two Roman seaports, at Inveresk and Cramond, both connected with it by roads of Roman structure,—all tend to confirm the idea that Edinburgh was one of the sites occupied by the Roman invaders. On their withdrawal it remained an important stronghold on the southern frontier of the Pictish kingdom. One learned Anglo-Saxon scholar, the Rev. D. H. Haig, in his *Anglo-Saxon Conquest of Britain*, has identified it as the Hill of Agued, the scene of Arthur's victory of Cat Bregon.

For centuries after the founding of the Anglian kingdom of Northumbria, the lowlands extending from the Forth to the Tweed continued to be a debatable land held by uncertain tenure; it was to a large extent settled anew

at £271,858 against a debt of £425,195, which was compounded for by the issue of 3 per cent. bonds of annuity—the loss to the creditors thus amounting to 25 per cent. of their claims.

by Anglo-Saxon and Norman colonists under Malcolm Canmore and his sons. Edinburgh accordingly remained a frontier post beyond the Forth, until it became the capital of the Stuart kings. Then, for the first time, it rose into importance as a town. It shared in their triumphs, and bore the chief brunt in their repeated disasters; and, even after their forfeiture of the crown, some of its most picturesque associations are with the Stuart claimants for the throne of their ancestors. Nevertheless Edinburgh continued till near the close of the 18th century to be circumscribed within the narrow bounds of the ancient city and the burgh of Canongate, with the main street extending along the height of the slope from the Castle to Holyrood Palace, and the Cowgate as the only other thoroughfare admitting of the passage of wheeled carriages. Hence the vehicle in general use was the sedan chair, by means of which the Scottish nobility and gentry paid fashionable visits in the narrow wynds of their ancient capital, and proceeded in full dress to the assemblies and balls, which were conducted with the most aristocratic exclusiveness in an alley on the south side of the High Street, which still bears the name of the Assembly Close.

Beyond the walls of the ancient city lay the burghs of Calton, Easter and Wester Portsburgh, the villages of St Cuthbert's, Moutrie's Hill, Broughton, Canonmills, Silvermills, and Deanhaugh—all of which have been successively swallowed up in the extension of the modern city. The ancient seaport of Leith, though a distinct parliamentary burgh, governed by its own magistrates, and electing its own representative to Parliament, has already extended its buildings, at one point at least, so as to conjoin with those of the neighbouring city.

The progress of Edinburgh during the present century has been remarkable in many ways. In 1801 the population, including the Canongate and other extra-mural suburbs, but exclusive of Leith, was 66,544; in 1871 it had risen to 196,979. But the characteristics of the city and its population are peculiar. From an early date the special associations with the national literature have been identified with the ancient capital. Barbour, indeed, the contemporary of Chaucer, was archdeacon of Aberdeen; and the royal author of the *King's Quair* is chiefly associated with Perth; but in the following reign Edinburgh had become the favourite residence of the Scottish kings. One of the foremost charges against James III. was that he preferred the society of artists and musicians to that of the rough barons of his court. Under the patronage of his son, the printing press was first set up at Edinburgh in 1507. At the court of Holyrood, so long as James IV. reigned, the rivalry of rank and genius involved no conflict. Of the three great poets of the reign, Dunbar is believed to have been a grandson of the earl of March; Walter Kennedy was a younger son of the first Lord Kennedy; Gawin Douglas the third son of the earl of Angus; and Dunbar enumerates six or seven other literary contemporaries. In his *Remonstrance to the King*, he notes among the servitors of his royal master glazing-wrights, goldsmiths, lapidaries, apothecaries, painters, and printers; and some of his own poems appear to have been among the first works issued from the Edinburgh press by the Scottish Caxton, Walter Chepman. Gawin Douglas, the author of the *Palace of Honour*, and the translator of Virgil, was provost of the collegiate church of St Giles; and Roull, another literary contemporary named by Dunbar in his *Lament for the Makaris*, is believed to have been provost of the neighbouring collegiate church of Corstorphine. In the following reign Sir David Lindsay was the leader among the literary men of the Scottish capital; and in 1554 his famous *Satire of the Three Estates* was enacted in the presence of the court, at Greenside, a natural amphitheatre on the north.