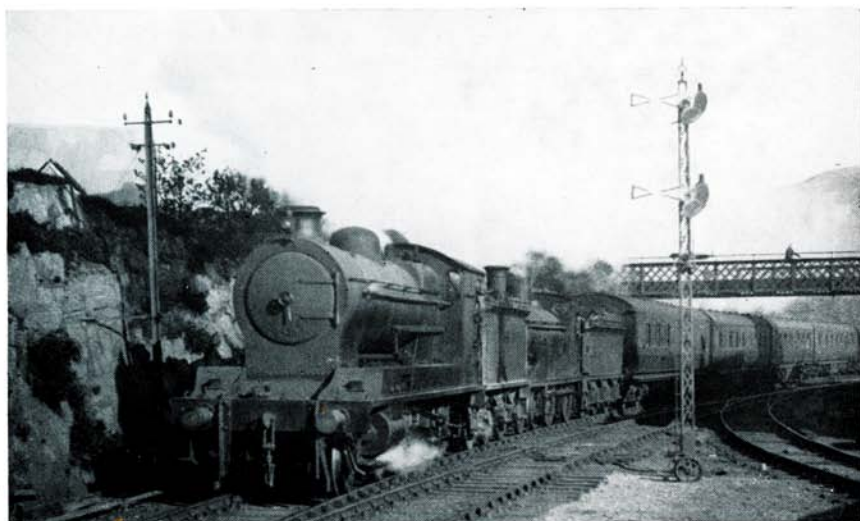


The Highland Centenary—1

By H. A. VALLANCE



Photo]

[F. R. Hebron

Special train leaving Kyle of Lochalsh about twenty years ago, hauled by two former Highland Railway locomotives, Cumming 4-6-0 No. 17955 and Drummond 4-4-0 No. 14401, "Ben Vrackie"

THE present month sees the centenary of the opening of the railway from Inverness to Nairn, with a formal ceremony on November 5, 1855, and for public traffic the next day. Out of this 15 miles of single track, at first completely isolated from all other railways, grew a system of associated lines, which in 1865 became the Highland Railway.

The coming of the railway to the Highlands had been long delayed. As early as 1845, the Great North of Scotland Railway had been promoted to link Aberdeen with Inverness, and form a northern extension of the trunk route authorised in that year from Carlisle to Edinburgh, Glasgow, Perth, and Aberdeen. This decidedly circuitous outlet to the South found but little favour in the Highland Capital, and a more direct route, running eastward, along the coast, from Inverness to Nairn, and thence inland, across the Grampians, to Dunkeld and Perth, was projected. A branch from Nairn was to serve Forres and Elgin. The moving spirit of this scheme was Joseph Mitchell, a civil engineer, and a native of Inverness,

whose name was to be associated with railway development in the Highlands for many years.

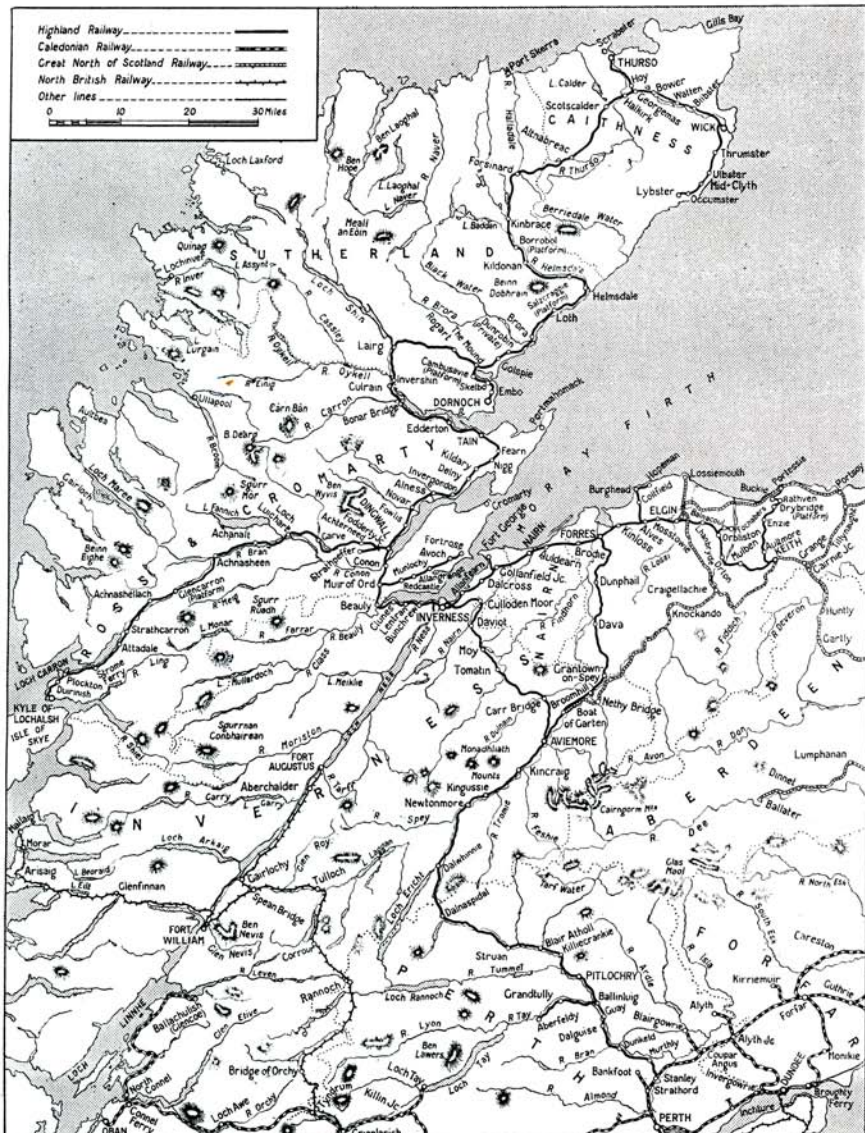
Both companies introduced Bills to Parliament. The advantages of the direct route, as regards distance, were obvious, but strong objection was taken to the long stretches of single line proposed, and the steep gradients by which the Druimuachdar Pass, in the Grampians (nearly 1,500 ft. above sea-level), and a summit of more than 1,300 ft. between Nairn and Strathspey were approached. The result was that the Bill for the line to Perth was rejected, and the Great North of Scotland Railway was authorised from Aberdeen to Inverness on June 26, 1846.

Before any construction could be undertaken, the Great North was involved in the financial crash that followed the Railway Mania. Recovery was slow, and it was not until September, 1854, that the 39 miles from Kittybrewster (in the outskirts of Aberdeen) to Huntly were opened. Long before this, it had become obvious that the company would be in no

position to complete its undertaking for a considerable time, and steps were taken in Inverness to place the western part of the line under independent ownership.

A modest beginning was made when the Inverness & Nairn Railway was authorised on July 24, 1854. The Great North opposed the scheme on the grounds that

the line would invade the territory assigned to that company by Parliament but eventually withdrew its objection on a rather vague understanding that it would be granted running powers into Inverness as soon as the two railways were physically connected. Failure to place this arrangement on a proper legal



The Highland Railway in its final form, after the opening of the line to Lybster in the summer of 1903

footing lay at the root of a long and bitter dispute between the two companies in after years.

When the Inverness & Nairn Railway was opened, in November, 1855, a scheme was well advanced for extending the line to the east. At first, it was proposed to proceed only some twenty-one miles, to Elgin, and wait for the Great North to complete the line thence to Aberdeen. The latter company, which was about to undertake a 12-mile extension from Huntly to Keith, felt unequal to bearing the whole expense of the rather heavy engineering works in Lower Strathspey, between Keith and Elgin, and suggested that it should assist the Inverness Company to build this section.

After some months of negotiation, it was agreed that the Great North should contribute £40,000 towards the construction of the line, in return for the right to appoint two directors of the company. The Inverness & Aberdeen Junction Railway was authorised on July 21, 1856, and was opened from Nairn to a temporary terminus at Dalvey (on the west side of the River Findhorn, near Forres) on December 22, 1857. The remainder of the line was brought into use in 1858—from Dalvey to Elgin on March 25, and to a junction with the Great North at Keith (55 miles from Inverness) on August 18.

Thus was railway communication established between Aberdeen and Inverness. It was obvious, however, that a circuitous route to the south could be no more than a temporary measure, and that a shorter line to Perth, through the Central Highlands, was a geographical necessity. Moreover, an intolerable position speedily arose at Aberdeen, where the terminus of the Great North (opened to passengers in 1856) was on the Waterloo Quay, half a mile from Guild Street Station, the terminus of the line from Perth. If trains from the south were late, the Great North would not guarantee the connection, and passengers frequently were stranded.

Despite the growing agitation for a shortened line to Perth, the directors appointed by the Great North to the Aberdeen Junction Company appear to have adopted a high-handed attitude, and the board meetings at Inverness were far from harmonious. Matters were fast coming to a head, when, early in 1860,

the Great North disposed of its £40,000 holding, and withdrew its nominees from the board. Reasons for this drastic step are not far to seek. It already had become obvious that the Great North was in no position to exercise an effective measure of control over the Aberdeen Junction Railway. Moreover, by 1860, the Great North was committed to financial support of a number of nominally independent undertakings for the construction of branches in Aberdeenshire and Banffshire, and the decision to release other capital is scarcely surprising.

The line through the Central Highlands was promoted as the Inverness & Perth Junction Railway, and Joseph Mitchell surveyed a route which differed materially from his scheme of 1845 only in that the junction with the Inverness & Aberdeen Junction Railway was to be at Forres instead of Nairn. The section of some eight miles, from a junction with the Scottish North Eastern Railway at Stanley, seven miles north of Perth, to Dunkeld had been authorised on July 10, 1854, as the Perth & Dunkeld Railway, and opened on April 7, 1856. It was proposed that the Perth Junction Company should absorb this local undertaking.

The 104 miles of railway from Forres to Dunkeld were authorised on July 22, 1861, and the line was opened in sections during the summer of 1863—from Dunkeld to Pitlochry (13 miles) on June 1; from Forres to Aviemore (36 miles) on August 3; and from Pitlochry to Aviemore (55 miles) on September 3. The distance from Inverness to Perth by the new route was 144 miles, compared with 198 *via* Aberdeen. A shorter route could have been secured by selecting a more direct line from Inverness to Aviemore, but this was not then considered desirable, because it would have side-tracked the whole of the Inverness & Aberdeen Junction Railway.

Unlike the railway from Inverness to Keith, on which the only major engineering works were the masonry bridge over the River Nairn, and the girder bridges over the Findhorn and Spey, the new line to Perth included some outstanding structures. Near Dunphail, the Divie was crossed on a seven-span masonry viaduct, 477 ft. long and 105 ft. high; a deep ravine in the Pass of Killiecrankie was spanned by a similar viaduct of ten arches, 54 ft. high; and the railway crossed the Tay at Dalguise on a two-

span girder bridge 515 ft. long. Smaller masonry bridges were required over the Braan, near Dunkeld, and the Garry, at Struan. The latter was remarkable in that its main span crossed not only the river but also the stone bridge carrying a road over the Garry at this point.

On the other hand, only two short tunnels were required—one in the Pass of Killiecrankie (128 yd. long), and one north of Dunkeld (350 yd. long). South of Dunkeld there was a third tunnel of 310 yd., which had been built for the Perth & Dunkeld Railway. With these three exceptions, there were no tunnels on any part of the Highland Railway.

Again, unlike the Inverness & Aberdeen Junction Railway, the new line crossed two high summits, and was severely graded. At Perth, Forres, and Inverness, the railway was only a few feet above sea-level; but at the summit of the Druimuachdar Pass (53 miles north of Perth) the altitude was 1,484 ft., and at Dava Summit, less than fifty miles further north, it was 1,052 ft. Both these summits were approached by long ascents, with gradients as steep as 1 in 70 or 1 in 80. Such had been the progress made in less than two decades that opposition to the scheme on these grounds was as unavailing in 1861 as it had proved effective in 1845. Druimuachdar remained the highest summit on a standard-gauge railway in Great Britain until the opening, in 1902, of the Leadhills Light Railway in Lanarkshire. This line (now abandoned) reached a height of 1,498 ft.

A period of consolidation began in 1861, with the amalgamation of the Inverness & Nairn and the Inverness & Aberdeen Junction Railways. Some twelve months later, the Inverness & Ross-shire Railway became part of this combined undertaking, about three weeks after the first section from Inverness to Dingwall had been opened. In February, 1864, the Perth & Dunkeld Railway was absorbed by the Inverness & Perth Junction. Fusion between the Aberdeen Junction and the Perth Junction Companies followed in February, 1865; and on July 29 of that year, the whole system became known as the Highland Railway, with headquarters at Inverness. At the time of its formation, the company owned about 240 route miles, and exercised running powers over $7\frac{1}{2}$ miles of

the Scottish North Eastern (later Caledonian) Railway between Stanley Junction and Perth.

The development of the railways north of Inverness was determined by the geographical features of the country. The only feasible route to the extreme north was one keeping as closely as possible to the east coast, but the Beaully, Cromarty and Dornoch Firths, which bite deeply into the land, necessitated a circuitous route; and further north, the high cliffs at the Ord of Caithness forced the railway inland for a considerable distance. The result was that the distance of about 80 miles (measured in a straight line) between Inverness and Wick became 161 miles by rail.

The advance to the north was begun by the Inverness & Ross-shire Railway, which was authorised on September 19, 1860, and opened to Dingwall on June 11, 1862, and extended to Invergordon on May 23, 1863. The engineering works included a hand-operated swing bridge over the Caledonian Canal (one of the few opening bridges on a Scottish railway) and masonry viaducts over the rivers Ness and Conon. The gradients were relatively easy. An Act was obtained in 1863 to carry the railway on to Bonar Bridge, $57\frac{1}{2}$ miles from Inverness. This extension was opened in 1864—to a temporary terminus (closed five years later) at Meikle Ferry, near Tain, on June 1, and to Bonar Bridge on October 1.

The passenger station at Inverness, which faced south-west, with its frontage in Academy Street, was not adapted for through running. It was decided to provide additional terminal platforms on the western side for the Ross-shire trains, which approached from that direction. The two lines diverged immediately beyond the station, on either side of the locomotive works, and the third side of the triangle, affording physical connection between the two, was provided by part of the branch to the harbour built by the Inverness & Nairn Railway.

Additions were made to the station from time to time, until there were four platforms in the southern section and three in the northern, although the layout remained practically unaltered. Since Inverness was the terminus for almost all incoming trains, advantage was taken of the unusual arrangement of lines to facilitate the interchange of passengers

by reversing trains from the south into the north side of the station. Similarly, trains from the north reversed into the south side, but those from the Keith line usually ran direct to a platform in the southern section.

The route to the north was continued by the Sutherland Railway, which was authorised on June 29, 1865, from Bonar Bridge to Brora (33 miles). The company encountered serious financial difficulties, and was able to complete only the 26½ miles from Bonar Bridge to Golspie, which were brought into use on April 13, 1868. The engineering works were heavy, and included the viaduct, com-

railway, at his own expense, along the coast for 17 miles, to Helmsdale. The Act for this line was obtained on June 20, 1870, but construction was well in hand by that time. The 14 miles from Dunrobin (a private station serving Dunrobin Castle, the seat of the Duke) to a temporary terminus at West Helmsdale were brought into use on November 1, 1870.

For the time being, the line was completely isolated, and the Duke purchased a small 2-4-0 tank engine, and a few coaches and wagons for working it. The railway was opened throughout from Golspie to Helmsdale on June 14, 1871, and the Highland Railway then



Reproduction of a photograph taken in 1863, showing the rail and road bridges over the Garry at Struan. A girder bridge was built for the second track when the railway was doubled in 1900

prising a central girder span of 230 ft. and five masonry arches, over the Kyle of Sutherland, at Invershin, and rock cuttings near Lairg. In contrast to the relatively easy undulations of the Ross-shire Railway, the gradients were severe, and the summit of the line, 488 ft. above sea-level, some two miles north of Lairg, was approached from the south by five miles at 1 in 70 and 1 in 72, and from the north by a seven-mile climb, for the most part at 1 in 80.

When it became known that the Sutherland Company would be unable to complete its undertaking, the third Duke of Sutherland took steps to extend the

took over the working. The tank engine, named *Dunrobin*, was retained by the Duke for hauling his private saloon on his journeys north of Inverness.

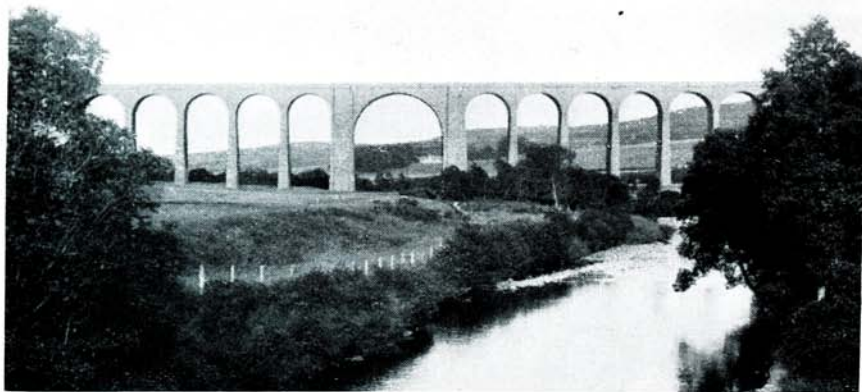
The circuitous inland route of 60 miles from Helmsdale to Wick was built by the Sutherland & Caithness Company, under powers obtained on July 13, 1871, and opened, together with a 6¾-mile branch from Georgemas to Thurso, on July 28, 1874. From the coast at Helmsdale, there was a long but broken rise, with a ruling gradient of 1 in 60, for nearly thirty miles to the County March Summit, 708 ft. above sea-level, north of Forsinard, and a similar descent to Georgemas,

whence the gradients to the terminus at Wick were easy.

A line across Ross-shire, from Dingwall to the west coast, was authorised as the Dingwall & Skye Railway on July 5, 1865. The 53 miles to Strome Ferry, on the shores of Loch Carron, were opened to passengers on August 19, 1870, although

complete form, and in the summer of 1884 the route mileage became slightly over 400.

Of the additions to the Highland Railway after the amalgamations with the northern lines, by far the most important was that which shortened the route from Perth to Inverness to 118 miles. A



The viaduct over the River Nairn near Culloden Moor, on the direct line from Aviemore to Inverness. The main arch has a span of 100 ft.

goods traffic had begun a fortnight earlier. It had been intended to place the terminus ten miles further west, at Kyle of Lochalsh, but this section was abandoned on the grounds of expense, and a pier, from which steamers plied to the Isle of Skye and the Outer Hebrides, was built at Strome Ferry. The extension to Kyle of Lochalsh eventually was undertaken by the Highland Railway, and opened on November 2, 1897.

The gradients on the Strome Ferry line were exceptionally severe. The ruling gradient of 1 in 50 occurred for nearly four miles on the ascent to a summit at Ravens Rock, some six miles from Dingwall, and at several other places. From the summit of the line (646 ft.) at Luib, four miles west of Achnasheen, a steep descent of 14 miles carried the railway down to sea-level at the head of Loch Carron.

The Dingwall & Skye Railway was vested in the Highland Railway on August 2, 1880, and the lines in Sutherland and Caithness lost their nominal identity on July 28, 1884. These amalgamations consolidated the system almost into its

direct line from Aviemore to the Highland Capital was proposed on several occasions, but it was not until its territory was threatened from the south by a line from Glasgow to Inverness, *via* Fort William and the line of the Caledonian Canal, and from the east by the Great North of Scotland Railway, that the Highland Railway took definite steps to effect the improvement. Both these competitive schemes provided abortive, but powers for the new line from Aviemore were obtained on July 28, 1884. Construction proceeded slowly, and the line was amended on two occasions. The $6\frac{3}{4}$ miles from Aviemore to Carr Bridge were opened on July 6, 1892; the 17 miles to Daviot followed on July 8, 1897; and the final 11 miles to Inverness were brought into use on November 1, 1898.

The engineering works were very heavy, and included a viaduct of nine steel spans, supported on masonry columns, with a maximum height of 143 ft., over the River Findhorn, at Tomatin, and a masonry viaduct of 28 arches, and 128 ft. high, over the River Nairn, at
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Culloden Moor. Near Slochd Mhuic Summit, 1,315 ft. above sea-level, were two deep cuttings and a masonry viaduct of eight arches, over 100 ft. high. On much of the long ascent from Inverness to the summit, the gradient was 1 in 60, or very little easier, and the shorter rise from Aviemore, was almost as hard.

The final additions to the system were nominally - independent standard - gauge light railways from The Mound to Dornoch, and from Wick to Lybster, which were brought into use on June 2, 1902, and July 1, 1903, respectively. With the opening of the Lybster line, the route mileage of the company became 506.

(To be concluded)