ces should be attended with those casualities, the occurrence of which we have so frequently to lament. How some of these have happened I shall now proceed to narrate, and endeavour to show how best to avoid similar results. At Heaton colliery, near Newcastle upon Tyne, an inundation occurred on the 3rd day of May, 1815, by which 75 lives were lost. The workings had for some time been approaching some older workings to the rise, which were known to be full of water, but as there was no authentic plan a series of drifts was driven in advance, and bore-holes made in front and on each side out of them. Notwithstanding these precautions, however, the removal of the coal near a fault reduced the thickness to such an extent that it was unable to bear the pressure of water against it, and the sad catastrophe was the consequence. I give the preceding as in point of time it might be thought to be attributable to a want of that mining knowledge possessed in the present day. Numerous instances of a more recent date might be adduced to show that the occurrence of such casualties is less to be attributed to a want of care and skill than to defective plans.

An influx of water on the 15th of December, 1864, caused the death of eight persons at the Leeswood Main Colliery, near Mold, in North Wales. The water had accumulated in a goaf, *i. e.*, a space from which all the coal has been removed—which had been made only a short time before the accident. It was known to be full of water, but the lower workings were thought to be sufficiently protected by a portion of coal between two faults on the rise side of the new workings. The plan of the colliery was supposed to show all the workings, and had been made by a competent person, but one portion only had been plotted from actual survey, the remainder having been supplied from information given by a person who had formerly charge of the mine. Relying on the supposed thickness of coal between the workings and the goaf, no borings were kept in advance, and a holing was unexpectedly made with the unfortunate result I have stated.

On the 6th of April, 1859, the workings in the Neath Abbey Company's Collicries, in South Wales, were suddenly inundated by a rush of water from some old workings. It was known there were such workings, but in the words of the manager "he did not exactly know their position." Care was taken to keep drifts in advance of the workings, and bore-holes in front and on each flank of the drifts. Notwithstanding this, however, one of the holes

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