NO. XXXV.—LORD DUNDONALD, 9TH EARL, THE DISCOVERER OF COAL-GAS AS AN ILLUMINANT. By ROBERT CRAIG, Honorary Member.

[Read 25th May, 1899.]

[ABSTRACT.]

WHEN Mr. John Smith exhibited, in January last, "specimens of the substance from which William Murdock first made gas," my intention was to have attended the meeting, and to have pointed out that he (Murdock) was not the discoverer of coal-gas but that Lord Dundonald was. Being, however, prevented from coming that evening through illness, I now send this note on the subject.

I have no wish or intention of detracting from the merits of William Murdock, who if not a man of genius was at least a man of talent, and one who knew how to use both his head and his hands. Of late years it has become the fashion to put him forward as the discoverer of coal-gas, and also as the assistant of James Watt in perfecting the steam-engine, but these are both pure fictions.

The real discoverer of coal-gas as a product from coal, and its first application as a powerful illuminant, was Lord Archibald Cochrane, 9th Earl of Dundonald, a man of transcendent genius. First joining the navy, he then went into the army, but not finding either profession to his mind he settled down to devote his life to science, principally chemistry, at a place, I believe, called Annsfield, near Glasgow.

Amongst his other discoveries was the production of gas-tar—as it is now called—from coal. When working at this at Culross Abbey, in Fife, he observed an easily ignited blue vapour being given off, and fixing an old gun barrel to one of his condensers he lighted the escaping gas at the outer end. This was the first introduction of gas as a curious lighting experiment, but he does not seem to have tried to bring it into practical use, as he was intently pushing his newly discovered coal-tar as a preservative of the bottoms of wooden ships; at that period usually destroyed in about three years by a marine boring worm. To prevent its ravages the timbers were thickly studded with flat-headed nails, but this was done only in the case of the larger ships.

To manufacture the tar he took out a patent and started works at Muirkirk, Ayrshire, where he lighted a shed with gas conveyed through an old gun barrel from a condenser, as he had previously done at Culross. Unfortunately this work was not long in operation, when some one invented copper sheathing for covering ship's bottoms, and this quite superseded Lord Dundonald's patent tar.

Murdock, who had been employed in the erection of the tar works at Muirkirk, or in some other capacity about them, saw the use the gas was put to, and when he afterwards got into the Soho Works at Birmingham, under Boulton and Watt, he put his previously acquired knowledge to practical account, by first lighting the place he worked in with gas which he made, and then, with the assistance of Boulton and Watt, he erected the first gaswork, from which the whole of the Soho Works were lighted, and which was very much on the lines of those of to-day.

Lord Dundonald was using gas as an illuminant as early as 1782, at Culross Abbey, and on his way to London about that time he called on Watt, and explained his gas discovery. One writer says that perhaps Murdock may have afterwards got his knowledge of gas from Watt, but I believe that, as already stated, Murdock learnt the use of gas for himself at the Muirkirk tarworks.

In any case, as the inventor of the gaswork, who brought gas into practical use as an illuminant, Murdock's fame is sure, though probably Watt's knowledge as a chemist must have assisted him—for instance, in the purification of gas by passing it through lime and water. .

Lord Dundonald, the 9th Earl, the real discoverer of coal-gas, was a chemist of profound knowledge, though not a man of business tact, and hence he failed to benefit himself and his family by many of his inventions and discoveries which were far in advance of his time. This is perhaps not the place, nor the opportunity, to say more than that I believe his discoveries deserve an exhaustive paper beyond those of any neglected genius whom I at present remember.