

**A MEMOIR OF JOHN
ELDER: ENGINEER AND
SHIPBUILDER, GLASGOW**

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A Memoir of John Elder: Engineer and Shipbuilder, Glasgow by W. J. Macquorn Rankine

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W. J. MACQUORN RANKINE

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A
MEMOIR
OF
JOHN ELDER,
ENGINEER AND SHIPBUILDER,
GLASGOW.

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PREFATORY NOTE.

THE Author of this Memoir desires to express his grateful sense of obligation to the family, friends, and business connections of the late Mr. ELDER, for the ample information which they have supplied to him, and for the documents to which they have given him access.

W. J. M. R.

GLASGOW UNIVERSITY, 1870.

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MEMOIR OF JOHN ELDER.

JOHN ELDER was born at Glasgow on the 8th of March 1824. His elementary education was obtained in the High School of Glasgow. It does not appear that he applied himself to the study of the ancient classics; but the result of his training in English scholarship became manifest in after-life; for in writing and speaking on those practical and scientific subjects which he understood so well, he showed himself master of a clear, concise, and energetic style of expression.

In arithmetic and mathematics he was a pupil of Dr. Connell, one of the most able and successful teachers of the time; and here he at once gave proofs of extraordinary

talent and application, carrying off the principal prizes of the class.

In every branch of drawing—an art intimately connected with mechanical science—he was a most successful student.

The studies before mentioned constituted the principal part of his early school education. A constitution naturally delicate prevented him from deriving the full benefit of his attendance at the High School, and from pursuing his studies to any considerable extent at a university. A short attendance at the class of civil engineering in Glasgow College was all the university education which he received. He was fortunate in being educated under the eye of his father, whose extensive information and high capacity were devoted to the training of his son, and under whose judicious advice he prosecuted his private studies with that ardour which was so marked a characteristic of his later years. The scientific knowledge of which he gave proof in after-life was not only varied and extensive, but also complete and exact, and free from the defects in thoroughness and

accuracy which so often beset self-taught scholars.

To those who knew him well, and enjoyed the advantage of personal communication with him, it was manifest that his eminence was due not so much to teaching by others as to the fact that he was that rare character—a man of genius; and therefore in a great measure independent of that external control and guidance which are necessary for the training of ordinary students. In other words, his mind was gifted with the faculty of subjecting itself to the systematic labour and discipline which in ordinary cases have to be enforced by academic authority, and with that strong and clear vision which gives the learner the power of finding his way without a guide through all the mazes of science.

He acquired, as his father had done, considerable knowledge and practical skill in music, especially that of the organ.

He served his apprenticeship of five years as an engineer in the works of Mr. Robert Napier, under the direction of his father, working successively in the pattern-shop,