

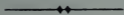
**DR JAMES CROLL,
CARGILL.**



**SELF-TAUGHT SCIENTIST
AND METAPHYSICIAN.**

XXIII.

DR JAMES CROLL, CARGILL.



The life history of this remarkable man, who, by his own efforts and in spite of physical infirmities and other obstacles that to ordinary mortals might seem insuperable, rose from the humble position of a country joiner to that of leader and revolutioniser of scientific thought and investigation, is one of very deep interest. Many a one will feel that it is not so much by what he accomplished, however brilliant and significant the achievement, as by what he endured in the achievement, that he is enthralled; it is the triumph of mind over body, Carlyle's "Everlasting Yea" receiving a new exemplification, and simple faith in the Divine origin and government of the universe being justified and strengthened. Whatever happens, one is at least better for coming into contact, even for a brief moment, with such a pure and heroic spirit. He was born at Little Whitefield, in the parish of Cargill, on the 2d January 1821. His father, David Croil (as he used to spell his name), was a stonemason, whose progenitors had resided in the district for generations back; his mother, Janet Ellis, came from Elgin, and Dr Croll himself thus sets down their respective characteristics:—"My mother was firm, shrewd, and observing, and gifted with a considerable

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amount of what is called commonsense. My father was mild, thoughtful, and meditative, and possessed of strong religious and moral sentiments. This amicable disposition made him greatly esteemed and respected, but he had the misfortune to possess a most anxious and sensitive mind."

HIS SON JAMES

was destined to resemble his father much more than his mother. In 1824 Lord Willoughby, proprietor of the village, having decided to convert it into a large farm, the families were allotted a choice of crofts either about a mile to the southwest or about three miles to the north, and it was thus that the villages of Wolfhill and Burrelton were formed. David Croil and his wife and family settled down at the former place, the house he built for himself being now occupied by Mr Thomson, builder. The site of the old house was in the garden attached to the farm of Little Whitefield, of which Mr James Blair is tenant. Owing to delicate health, even as a child, "Jamie Croll" got his first lessons at home; but he was ultimately sent to the Public School at Newbigging and a voluntary school at Guildtown. In after years the Doctor used to narrate a ludicrous incident supposed to refer to the teacher at the latter. One day he asked the boys:—"Which of all the prophets in your opinion most resembles the Apostle Paul?" An exceptionally dull boy, nearly always at the foot of the class, was the most anxious to be heard, and when he got the chance exclaimed—"It's yer ainsel', sir!" To the astonishment of the class the teacher treated the answer seriously, and in calm, matter-of-course style said—"That's a good boy; you go up to the top of the class

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for that." The Doctor confessed that he was a rather dull scholar himself, never succeeding in acquiring an accurate style of reading, and by no amount of labour ever managing to be even a moderately good speller. More than that, up till eleven years of age he had little or no love for reading. One day, however, he was in Perth, and bought a part of the "Penny Magazine," and

THE TRAIN WAS LIT.

He got other parts, read Dick's "Christian Philosopher," Joyce's "Scientific Dialogues," and everything else he could lay his hands on dealing with physical astronomy, pneumatics, hydrostatics, light, heat, electricity, and magnetism. Principles, not facts, were the only things that interested him. Strange to say he had no relish for chemistry or geology—more particularly the latter, and he used to declare that had anyone told him then that one day he should be a professional geologist he would have regarded the statement as incredible. When between 14 and 15 years of age he was apprenticed as millwright at Collace; three years later he wrought as journeyman at Banchory; and when 22 years of age returned home and attended school at St Martins in order to acquire a knowledge of algebra. His next employment was as joiner, and his first job the new Free Church at Kinrossie, which was built in 1843 after the Disruption for the Rev. (afterwards Dr) Andrew Bonar, who was one of the first to note the distinctly metaphysical mind of the Wolfhill joiner. He followed his trade in Glasgow and Paisley, but in 1846, owing to a diseased elbow joint, had to give it up. He next found employment with David Irons, tea merchant, High

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Street, Perth, and through his kindness started for himself in the same line at Elgin. While here he married Isabella, second youngest daughter of Mr John Macdonald, Forres, the union proving a particularly happy one. After some three years there business fell away, and he returned to Perth. We next hear of his starting a temperance hotel in Blairgowrie, where the Perthshire Arms, Leslie Street, now is. It never succeeded, and after a struggle of a year and a half Mr and Mrs Croll sold off and went to Glasgow. There he got work as an insurance agent, and for various periods acted as such or as temperance agent in Perth, Dundee, Edinburgh, Leicester, and Paisley. After four and a half years of most uncongenial work, he abandoned it in 1857, when turned 36 years of age. This may be regarded as

THE TURNING POINT IN HIS CAREER,

for it was in this year that he published (albeit anonymously) his first book, the "Philosophy of Theism"—the outcome of much hard thinking on the most profound problem that can engage the human mind—the existence of the Great First Cause. The object of the little volume, however, was not to prove this existence but rather to investigate the proper method to be employed in order to do so. Dr James Morison, an acute theologian, founder of the Evangelical Union (with which body the metaphysical joiner had been associated while in Paisley) and an intimate friend of Croll's, regarded the book as an extraordinary production, and one London reviewer, recognising its merit, yet being unable to recognise its author among English thinkers, hazarded the shrewd suggestion that he might be a Scotsman, but as there was no one he knew

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capable of writing the book, the author was probably a German. Back ten years before this, while he was in Elgin, we have something of the genesis of the book, for it was here he first became acquainted with Dr Edwards' necessitarian "Inquiry" into the "Freedom of the Will"—a book which made a profound impression upon him, and which he read and re-read five or six times. Years afterwards he declared it was the most fascinating volume he had ever met with in all his studies. Notwithstanding that, he could not reconcile his ideas of things with the doctrine that man was a necessitated agent, and procured Professor Tappan's reply. It disappointed him exceedingly, and led him on to the recognition of the great principle of "determinism," which he used with such telling effect in after years upon the leading "evolutionary" theories. Every organic power in nature, according to our author, is what it is in virtue of determination. The fundamental question in reference to the production of organic powers is not—what are the forces in action, or on what does their action depend? but, what is that which directs or determines these forces; what directs their action? The publication of the book led to his appointment in 1858 to a place on the staff of the "Commonwealth," a Glasgow temperance weekly. Eighteen months later

HE BECAME JANITOR

of the Andersonian College and Museum, and here he fairly revelled in his new and congenial surroundings. Papers of his on scientific subjects began to appear in the "Philosophical Magazine" and other periodicals, one of which, in 1864, dealing with the cause of the glacial

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epoch, attracted the special notice of Sir Archibald Geikie, and led to his appointment as Resident Surveyor at Edinburgh of the Scottish Geological Survey. There is a beautiful story—the raconteur is no other than Lord Kelvin—of Croll having to sit his Civil Service exam., and getting “plucked” for arithmetic and English! It was pointed out by Sir Roderick Murchison and Lord Kelvin that Croll’s great calculations regarding the eccentricity of the earth’s orbit and the precession of the equinoxes during the past 10,000,000 years might be taken as fair evidence of his arithmetical capacity, and his book on “Theism,” as well as numerous papers in the magazines, as proof of his ability to write decent English, and as a favour the Civil Service Commissioners graciously allowed him to pass! Here he remained 13 years, writing during that period over 50 important articles dealing with abstruse scientific subjects. In 1875 appeared his great epoch-making work, “Climate and Time in their Geological Relations,” in which the great differences of climate which have evidently existed in the same regions at different periods, and which had been an unsolved perplexity to all previous investigators, were explained by him by the change in the eccentricity of the earth’s orbit. The leading idea he had expounded so far back as 1864, but the full and complete exposition was given in the new book. The masterly way in which the complex facts were grappled with and their true significance extorted from them won the admiration of the whole scientific world. His views

HAVE NOT BEEN OVERTHROWN

since. Grant Allen, reviewing the volume in

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the "Academy," said—"It is impossible conscientiously to follow the marvellous logical procession of these subtle dissertations without feeling at once that we stand in the presence of a great thinker capable of working out mathematical and cosmical problems of the first order with extraordinary exhaustiveness, amplitude, and grasp. Not a line but carries with it absolute conviction." Yet the astounding fact remains that the author was not a "mathematician" at all, and performed his marvellous calculations by a sort of pictorial mental system of his own. On one occasion he had been calculating the light or heat received from the sun in a year, and sent the results to the late Professor Tait for examination. The professor sent him his geometrical formula, remarking "Which is what you make it." In 1876 he was made LL.D. by St Andrews, elected a Fellow of the Royal Society of London, and Hon. Member of New York Academy of Science. Little mention has been made of his health, but the fact is he never knew what perfect health was all his life, a weak heart and intense pain in the head being his chief troubles. One day he over-exerted himself reaching up for a drawer of maps; something gave way about the heart, and he was laid aside for several months. He felt compelled to resign, retiring on a miserable pension of £75 16s 8d per annum, and with no alternative but for Mrs Croll and him to give up housekeeping, and go into cheap lodgings. After five years of rather unsettled life, during which he supported himself by writing, handicapped by increasing debility, he finally settled down at 5 Pitcullen Crescent, Perth. In 1885 appeared his "Climate and Cosmology," a sequel to "Climate and

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Time," and in 1889 we have "Stellar Evolution." Some idea of his extremely enfeebled condition may be formed when it is stated that latterly he was unable even to dictate—writing had long been out of his power—for more than half-an-hour a day. Yet

THIS BRAVE SOUL,

conscious that he was started on the last short lap of life, with the swift runner Death close on his heels, drew himself together for a final effort, and just managed to see his farewell message to his fellow-men—"The Philosophical Basis of Evolution"—published, and hear a kindly welcome given it by the "Times," when, with a sigh of satisfaction at the consummation of his life's task, he resigned his hold upon the world, falling asleep on the 15th December 1890. He was buried at Cargill, and his tombstone, which he had been at some pains to get erected himself, bears the following simple inscription:—

James Croll, LL.D., F.R.S., etc., etc.

Died 15th December 1890, aged 69 years.

Circumstances, not inclination, made Dr Croll a scientist; from start to close he was a metaphysician, and often expressed his longing to return to his first love. He never forgot his native place, and paid it frequent visits, usually as the guest of the Rev. G. C. Baxter, U.F. Manse, Cargill, who recalls many interesting anecdotes regarding his friend; the originality, intellectuality, and power attaching to his conversation; the earnestness, amazing lucidity, and force of his argument; most of all, the rare Christian simplicity and humility of the man.