

Duke one day walking in his garden, observed a Latin copy of Newton's "Principia," lying on the grass, and supposing it to have been brought from his own library, called some one to carry it back. Stone, who was then in his eighteenth year, claimed the book. "Yours," exclaimed the Duke, "Do you understand Geometry, Latin and Newton?" "I know a little of them," replied the young man. The Duke being greatly surprised, and having a taste himself for such studies, proposed many questions to young Stone, to all of which he returned prompt and appropriate answers. "How," said the Duke, "came you by the knowledge of these things?" "A servant taught me two years ago to read," Stone replied. "Does one need to know more than the twenty four letters in order to learn every thing one wishes?" Through the influence of the Duke of Argyle, young Stone made his appearance in London. His first publication was a "Treatise on Mathematical Instruments" in 1723. In 1725 he was chosen "Fellow of the Royal Society." Little is known of his last days, but it is probable he spent them in poverty and neglect.

James Ferguson the son of a day-laborer, was born in 1710 a few miles from Keith in Banffshire. Young Ferguson was literally his own educator in the very elements of knowledge. Acquisitious which have probably never been made by one so young under any circumstances without the assistance either of books or a living teacher, were the discoveries of his solitary and almost illiterate boyhood. It was his father's

practice to teach his children to read and write, as they reached what he deemed a proper age; but James was too impatient to wait till his regular time. While his father was teaching his elder brothers, James would listen to his instructions, and when he was left alone would get the book and work hard to master the lesson; being ashamed, as he says, to let his father know what he was doing; he sometimes applied to an old woman in the neighbourhood to solve his difficulties. He thus learned to read before his father was aware he knew his letters.

When he was about seven years of age, a simple incident occurred which seems to have given to his mind its first bias to what became his favourite pursuit. The roof of the cottage having partly fallen in, his father in order to raise it again, applied a beam to it in the form of a lever. The circumstance attracted the son's attention; and after examining it, he perceived that his father applied his strength to the longer end of the lever; this he concluded was an important circumstance. He proceeded to verify his opinion by experiment. "I thought" says he "that it was a great pity that by means of this lever a weight could be raised but a very little way. On this, I soon imagined that, by pulling round a wheel the weight might be raised to any height by tying a rope to the weight, and winding the rope around the axle of the wheel; and that the power gained must be just as great as the wheel was broader than the axle was thick." The child of seven years had thus, it will be observed, discovered two of the most important elementary