can make it clear. It is sufficient however to say that a descendant of Edward III was Henry VII whose daughter Margaret married King James IV of Scotland—a second infusion of Saxon blood—from which union sprang the English Stuarts. Again the line wanders, this time to Bohemia, for Elizabeth, daughter of James I of England, married Frederick V, King of Bohemia, becoming ancestress of the Electors of Hanover, and the Hanoverian Sovereigns of England, of whom Her Majesty was the sixth representative. Thus the ancient Saxons through the Scotch line, the Norman line and the Hanoverian or Guelph line, all unite in the English royal family.

It is interesting for every student of English history to trace out the line of descent through eleven centuries.

The following we take from an exchange:

King Edward VII through the Georges, is a Guelph. This family was founded in 489 by Anulphus Hunulphus or Guelph, the first of the northern Kings of Italy. He subsequently obtained possession of Bavaria, and the Guelphs ruled there for many centuries, and afterwards held sway in Saxony. One of the Guelphs, William, founder of the House of Lunenburg, had seven sons and eight daughters. The sons agreed among themselves not to divide the dukedom. One, to be selected by lot, was to marry, and he and his children after him were to rule. The unusual arrangement was observed to the letter, and George, the sixth brother, won the matrimonial prize. His youngest son Ernest Augustus, succeeded him, marrying the Electress Sophia, daughter of the King of Bohemia, whose wife was the daughter of our James I. The Electress Sophia, granddaughter of James I, would have succeeded to the British Crown on the death of Queen Anne. But she died seven weeks before that monarch, and her son, George I, ascended the throne.

Projections.

It appears that many teachers and pupils in Nova Scotia had last year much difficulty in teaching and understanding some of the problems in projections as found in the text-book recommended, and in a question given at the Provincial Examination. The text-book referred to—"Mechanical Drawing, by Linus Faunce"—was prepared for the use of the students of the Massachusetts Institute of Technology. The first chapter gives brief but explicit information about drawing instruments and definitions of terms. In the second chapter we have the ordinary geometrical problems without proofs. Then follows a chapter on "inking, tinting, and cleaning drawings." The fourth chapter treats of orthographic projections. Its apparent difficulty arises solely from the newness of the subject to most students and their neglect in the use of concrete

illustrations. By taking two plane white surfaces, hinged at right angles, wires to represent lines, cards to show surfaces, etc., every statement in the text can be understood without any special difficulty.
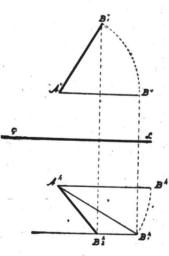
Upon careful examination we were surprised to find that the explanations were so clear and simple, and that the text-book was admirably adapted to its purpose. It seems to have been thought unsuitable simply because the subject was new and unfamiliar, and those reading it did not master each part thoroughly before proceeding to the next.

In order to assist those to whom the subject is new, we will give a solution of the examination question to which we referred, and which was solved by less than one per cent of the candidates.

Problem 5. Draw the two projections of a line 2 inches long, when it makes an angle of 30° with V (the vertical plane) and whose vertical projection makes an angle of 60° with GL (junction of vertical and horizontal planes). The line slopes downward, backward and to the left, and passes through a point one inch from V and H (horizontal plane).

The expression "downward, backward and to the left" was not generally understood even by those who had a fair knowledge of projections. If a line is not horizontal, it is said to slope "downward to the left" when the lower end is to the left, or "downward to the right" when the lower end is to the right. "Backward" means that the lower end is nearer V than the upper end; "forward" that it is farther from V than the upper.

Let GL represent the ground line. Take A^v and A^h each one inch from GL and on the same vertical line. Through A^h draw A^{h}B^h parallel to GL and two inches long. Draw A^{h}B$^h_1$ equal to A^{h}B^h and making an angle with it of 30°. From B$^h_1$ let fall a perpendicular to A^{v}B^v, a line parallel to GL. Then it is evident that A^{h}B^h represents the horizontal

projection of the given line and A^{v}B^v its vertical projection when it is parallel to H and makes an angle of 30° with V.

The length of the vertical projection does not change because the angle 30° which the line makes with V is constant, but the vertical projection must make an angle of 60° with GL. Draw A^{v}B$^v_1$ equal to A^{v}B^v and making an angle of 60° with GL. The point B$^h_1$ must remain