growth was 12 lb. In 1872 Sir Thomas sired Sir Thomas 2nd, who cut 14 lb. of wool, an increase of 2 lb. on his sire. . As an indication of the value put on Sir Thomas 2nd, he was sold when six years old for 604 guineas. In 1878 Sir Thomas 2nd got Golden Tom, who cut a fleece of 17 lb. He was sold when four years old for 500 guineas. In 1880 Golden Tom got Treasurer, who cut 18 lb. wool, and was sold in 1883 for 300 guineas. Treasurer got Golden Horn, who cut 20 lb. wool, and Golden Horn got Golden Horn 2nd, who cut 26 lb. In 1890 Golden Horn 2nd sired President, one of the most famous Merino rams ever known in Australia. He cut only 23 lb. wool, but he had with it a quality and evenness which, together with his general symmetry and bearing, made his name a household word all over Australia. He was sold in 1896, when six years old, for 1,600 guineas, the highest price paid up to that time for a Merino ram. In 1895 President got President 2nd, who cut 27 lb. wool. In 1898 President 2nd sired President 3rd, who cut 30 lb. wool. In 1900 President 3rd sired Patron, who cut 36¾ lb. wool. Patron was sold in 1907, when seven years old, for 1,000 guineas.

Thus in a little over thirty years, by selecting those variations in the direction of increased weight of wool, the weight was increased from 12 lb. to 36¾ lb., and this was done entirely within the flock without bringing in any outside blood.

THE MENDELIAN LAW AND SOME EXAMPLES.

The discoveries of Mendel have opened up a new field of thought and experiment in breeding, and explain the reasons for many results. These discoveries were first published in 1865, but their importance was not realized at the time, and it was not until the beginning of the present century that they became generally known even to scientists. As time passes, it is becoming more and more evident that the Mendel laws of heredity are very far-reaching, and it is worth considering them closely in connection with any breeding plans. Most people connect Mendel's results merely with the crossing of long and dwarf peas ; but this was only one of his experiments. He found the same results were obtained with round and wrinkled pea-seeds, with yellow and green seeds, with brown and white seeds, with inflated and constricted pods, with green and yellow pods, and with axial and terminal position of flowers. In all these experiments the first-named quality was found to be dominant and the second recessive.

I will give an example of the working of the Mendel law in the breeding of live-stock. It is well known that red calves sometimes appear in pure herds of Aberdeen Angus cattle, and that red-and-white calves appear in pure Friesian herds of black-and-white cattle. Black and red are Mendelian characters. Black is dominant, and red recessive. A purebred black animal produces germ - cells which contain what is known as the factor for black. A purebred red animal produces germ-cells containing the factor for red. The birth of a new animal arises from the union of two germ-cells. If at some period in the history of the herd a pure-black animal is mated with a pure-red the result will be a union of black and red germ-cells. In the resulting egg which is to give rise to the new animal the black factor is dominant to or conceals the red, which is recessive ; the calf, although black in appearance,