

WOOL, a long, soft, curly hair, which covers the skin of several of the ruminating animals, but which is particularly cut or shorn from that of the sheep. Wool resembles hair in a great many particulars; but besides its fineness, which constitutes an obvious difference, there are other particulars which may serve also to distinguish them from one another. Wool, like the hair of horses, cattle, and most other animals, completes its growth in a year, and then falls off as hair does, and is succeeded by a fresh crop. It differs from hair, however, in the uniformity of its growth, and the regularity of its shedding. Every filament of wool seems to keep exact pace with another in the same part of the body of the animal; the whole crop springs up at once; the whole advances uniformly together; the whole loosens from the skin nearly at the same period, and thus falls off, if not previously shorn, leaving the animal covered with a short coat of young wool, which in its turn undergoes the same regular mutations. It is only within the last forty years that chemists have

occupied themselves with examining wool. Berthollet began to occupy himself particularly with it in 1784 and 1785. He has shewn that the caustic alkaline leys dissolve it entirely, and that the acids precipitate it from this solution; in this combination he has sought the mode of action which the alkalies exert upon animal substances, and he has particularly availed himself of it, for explaining the very remarkable energy which exists between these two matters. In this manner he has especially accounted for the action of the lapis causticus, upon the bodies of animals. He has, moreover, shown that the coal of wool was difficult to be burned, like that of all the animal compounds; that wool, treated by the nitric acid, afforded azotic gas, and oxalic acid, with a fatty matter. The facts elicited by chemical research will explain all the phenomena, and all the properties which wool presents, in the frequent and advantageous uses to which it is constantly applied. The warmth which it affords as clothing or covering, its impenetrability by water, its fine colouration, the durability and solidity of its dyes, its destruction by the alkalies, the facility with which grease and oils penetrate it, its slow combustion, the yellowness and loss of tenacity that are produced in it, by long exposure to the air, &c. in a word, all that appertains to its characters, its formation, its use, its so various properties, its destruction becomes clear and easily conceivable by the distinct determination of its nature, and of its composition.

While the wool remains in the state it was first shorn off the sheep's back, and not sorted into its different kinds, it is called fleece. Each fleece consists of wool of diverse qualities and degrees of fineness, which the dealers take care to separate. The wools most esteemed are the English, chiefly those about Leominster, Cotswold, and the Isle of Wight; the Spanish, principally those about Segovia; and the French, about Berry; which last are said to have this peculiar property, that they will knot or bind with any other sort: whereas the rest will only knot with their own kind. Of late a great deal of attention has been paid to wool in this country, as well as several others. Several very spirited attempts have been made to improve it, by introducing superior breeds of sheep, and better methods of managing them. For this purpose several noblemen and gentlemen of the highest respectability met at Edinburgh in 1791, and constituted themselves into a Society for the Improvement of British Wool. Of this society Sir John Sinclair was elected president. The particular breeds of sheep to which the society proposed to direct its attention, were sheep for the hilly parts of Scotland; sheep for the plains, or the Lowland breed; and sheep for the islands. They were to try experiments also with sheep from foreign countries, distinguished by any particular property. In the course of one year, the society acquired by donation or purchase about 800 sheep of different sorts and ages, and many of them from foreign countries; among these were several ewes and rams of the real Spanish breed. About 500 of these were distributed over different parts of Scotland, the greater number of which were sold to gentlemen anxious to promote the views of the society, and well qualified to make experiments on the different breeds which they had obtained. The greatest part of the remainder were taken by different gentlemen, who kept them for the society, and according to their directions, without any expense. It is impossible in this place to state more minutely the various other transactions of the society. It is sufficient to remark that premiums were given by this respectable institution for the improvement of the celebrated Shetland breed; and that, as if it were by magic, in a country where the manufac-

ture of wool was little known, articles manufactured of that material were made, rivalling, and in some cases surpassing, the most celebrated fabrics of other countries.