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## WOOL DYEING.

### I.—THE WOOL FIBRE.

IT is a matter of common experience that the quality of the fibre, as indicated by its lustre, strength, and feel (handle), is frequently much poorer in the finished article than in the original raw material, and it is of the utmost importance to enquire whether this cannot be avoided, at any rate partially, by greater skill and care throughout the different manufacturing processes. But in order to comprehend and thoroughly appreciate the effect which the various stages of manufacture—*e.g.*, scouring, dyeing, finishing, etc., will exert upon the wool fibre, it is essential to have a very clear idea of its physical and chemical composition and properties.

What is wool? From the physical point of view it is a peculiar development of the skin of certain animals, and is closely allied to hair and fur. All these are indeed modifications of the same structure, the differences being entirely of degree, and not of kind. In the original wild condition most animals have in fact two skin coverings, the outer one composed of long, straight, stiff *hairs*, at the roots of which grow much finer, softer, and more numerous fibres, forming the *wool* or *fur*. A little confusion arises from the use of the term fur to signify the long hair attached to the skin used for clothing or decorative purposes, in addition to its employment in the more correct sense indicated above. Sealskin is a true fur, the coarse hairs with which the animal is also covered being removed from the skin during the dressing.

By a long course of cultivation and selective breeding, the outer hairy covering with which sheep were originally provided,