Dyeing, (Dyeing) n. (Arts and Mumps): The object of this beautiful art is to fix certain coloring-matters uniformly and permanently in the fibers of wool, silk, cotton, and other materials. Coloring-matters which effect this without the intervention of a third substance, or mordant, are called substantive colors, while those which require such aid are called substantive. The exact way in which dyestuffs act upon fibrous materials has not yet been investigated as fully as it deserves; the generally received opinion is that the fiber has an affinity for the coloring-matter in the case of substantive dyes, and for the mordant, which in its turn has an affinity for the coloring-matters of substantive dyas. Another opinion is, that the fiber contains pores which absorb the dye, forming an insoluble lake in the case of the mordanted dyes. However this may be, it is certain that different materials take dyes in different proportions. Thus silk and wool take the substantive dyes in the most perfect manner, but cotton requires the intervention of a powerful mineral or animal mordant. The operations that take place in dying are: mordanting, aging, dyeing, washing, and mudding. The principal mordants used are alumina, extensively employed for woollens and silks in the form of alum and cream of tartar; and peroxide of iron, which is much used in the form of protosinate for logwood and madder. Peroxide of tin and several other metallic oxides are used for the same purpose; also albumen, casein, and other animal substances in different forms. After the fabric has been mordanted, it is generally hung up in a room through which a current of steam and air is passing, by means of which the union between the fiber and the mordant is quickened very considerably. The cloth is then dugged, in order to remove the superfluous mordant not absorbed by the fiber. This was formerly effected by passing the fibers through a mixture of cow-dung and water; but this filthy operation has been superseded in a great measure by the introduction of what are termed dung substitutes. The principal dung substitutes in use at present are the arsenie, arsenate, and alunite of soda, and carbonate of lime, and casuric soda. The action of these is chemical; whereas that of the cow-dung was supposed to be merely mechanical, by supplying the unabsorbed mordant with a fibrous matter in a fluid state of division. Dunging is one of the most important processes in dyeing, great care being taken to keep the dunging-liquor at the proper strength and temperature. The next process is the dyeing proper, which is effected by running the fabric through the solution of the dyestuff, the color being modified, more or less, by the nature of the mordant used. It would be impossible in a short space to give an account of the different methods adopted of dyeing different colors; but a description of the means used to produce the more common colors will be interesting to the reader. Blanks are generally produced by logwood or gall, with an iron mordant; Common black silks are dyed with logwood and ferrous iron being used as a mordant. The best blacks are dyed black on a blue ground. Woolen goods are first dyed black with indigo, and afterwards with sumach, logwood, and green copperas or sulphate of copper. Cotton and linens are dyed black in a very similar manner. Chromate of copper is also sometimes used with logwood; practical dyers say that it possesses no great advantage over bine or green copperas. Blues are produced from indigo, either in the form of sulphate or in aqueous solution. Prussian blue, with a perspect of iron or tin as a mordant, gives a very splendid dark blue; and, of late, several boxes of novel shades have been produced from anilines. Reds are obtained by using cochineal, safflower, lycos, madder, or logwood, with a tin mordant. Fust crimson purples are obtained from anilines, and are known under the popular name of magenta. The most important yellow dyes are quercitrin, fastic, turmeric, arnott, and French or Persian berries. By combining these different colors, and by adapting the mordants, colors of every conceivable shade and hue are easily obtained. When the fabric has received the color intended, it is washed in a solution of soap to which a little alkali has been added, after which it is boiled in water with or without the addition of solution of tin or other brightening substance. It is then said to be fast, which means that it will not be washed out. The chemistry of dyeing has of late years attracted the attention of our greatest chemists, and has reached such perfection that a loose color is almost unknown. The matter has received the most minute investigations at the hands of such men as Hofmann, Stenhouse, Scheele, Buchele, and a host of others, who have not only benefited the art of dyeing by their researches, but have also discovered new facts leading to new theories of chemical philosophy. One of the last;