so called from the high celebrity then enjoyed by the productions of that city. But these foreigners could not long keep their art secret, and soon had numerous imitators. In 1765, the French Government, convinced of the value and importance of this method of dyeing, made the processes known to the public. Many establishments were formed in various parts of the country, but it appears that the only successful ones for some years were those at Rouen. From these parts the turkey-red dye gradually made its way into Alsace, Switzerland, Great Britain, and different parts of Germany. At first the cotton was only dyed in the yarn, and it was not till 1810 that the cloth itself was directly dyed with this color at the establishments of Messrs. Koechlin, and at that of L. Weber at Mulhouse. The late Dr. Thompson, of Glasgow, said that the first turkey-red works in Great Britain were established in that city about a century ago by M. Papillon. It appears, however, from a paper on the "Art of Dyeing," read before the Literary and Philosophical Society of Manchester, by Thos. Henry, in 1786, and quoted by Mr. Baines in his "History of the Cotton Manufacture," that M. Berelly, another Frenchman, introduced the dyeing of turkey red into Manchester probably some years previous to its introduction at Glasgow, and that he obtained a grant from Government for the disclosure of his plans, as M. Papillon afterwards did from the Commissioners and Trustees for Manufacturers in Scotland. But the method of Papillon was the most successful. It was in the year 1783 that Mr. Danvers, David Dale, and George Macintosh, engaged Papillon, who was a dyer at Rouen, to settle in Glasgow, and he there founded and carried on for many years, in partnership with Mr. Macintosh, the celebrated turkey-red business later conducted by the firm of Monteith and Co. The period having expired in 1803 when the process was to be divulged, the Commissioners and Trustees above mentioned laid a complete account of it before the public. Since that period turkey-red dyeing has been conducted in Glasgow and also in Lancashire on a very extensive scale. Prior to 1868 madder only was used for the production of turkey-red, and the process adopted was a most elaborate one. In 1868 alizarine was introduced, and this has completely replaced madder in dyeing this red. At the same time the process has been much improved and materially shortened.

BOILING AND ITS EFFECT ON WOOL FIBERS.

To understand how a process is going to act on the wool fabric or fiber, and how the goods are going to finish up after treatment by a set of operations which are necessary to fit them for the market, it is necessary to know in a particular and specific way what the various effects will be of the different elements that enter into the operations in all their details. Perhaps there is no one elemental process that has such a marked effect on the wool fiber and fabric as the boiling in water Sometimes boiling is attended with the very best and most desirable results, while sometimes it means total disaster to cloth and fiber. A process which has such a wide range of effects upon the material, and between such extremes, must naturally be attended with some care and judgment in its use at all times.

Anyone who observes and watches the various work of a manufacturing concern, will observe that dark-colored dye woods are very much easier to clean when it comes to scouring them either in the wool, in the yarn or in the piece, than wools that are white or vat-dyed, says "Textile" in The American Wool and Cotton Reporter. This is perhaps the opposite of what we would expect. Everyone knows that in the coloring of a vat-dye or of a white, there is always more care exercised in the preliminary cleaning to get the yarn or wool perfectly free from all dirt and grease before the dyeing takes place, than there is in the dark colored wools. Of course, theoretically, we know there ought to be no difference, a wool that is to be dyed a dark color ought to be just as clean and free from impurities before the dyeing is undergone as a lighter shade, but practically, we are always a little more particular about a white wool or a light and delicate shade. So that, after coloring, we would expect that the wool that had previously been most carefully cleansed, would be at the later stage most easily cleansed again. But this we find not to be the case. It is the wool that was least particularly washed before dyeing that washes easiest after dyeing takes place. We can discover no reason why this difficulty in cleansing after coloring could be due to the chemicals and materials employed, because in both cases, in the case of the dark colored dyes and in the case of the vat dyes, there is no difference that would affect the body and characteristics of the fiber, such as would show itself in a greater difficulty in removing the impurities that still attached themselves to the fiber of the goods.

The only explanation we know of that can be brought forward to account for the difficulty of cleansing in the vat dyed materials, is just the difference in effect on the wool stock which boiling has brought about. Boiling in water for any length of time softens and disintegrates the gelatinous material which enters so largely into the structure and composition of the wool fiber. This, of course, means that a structural change to a certain extent has taken place in the fiber, which has been subjected to a water boiling. Besides this effect, the fiber has been rendered more elastic and pliable, and the inherent lustre and richness of gloss in the wool fiber has been in some unknown way developed and increased. The boiling in water has had also the additional effect of dissolving and breaking up the fatty and oily particles on the fiber, which helped to make up the grease and dirt present in the wool. This is perhaps the specially cleansing feature of the process, the feature for which the process is intended, while the above mentioned effects are attendant effects which do not really enter into the cleansing of the fibers, but which have to be from the nature of the case. It is an easy and simple matter to compare for purposes of observation and experiment a boiled wool with one that is not. Take a small quantity, a pound or two of wool out of a larger lot, and boil the same portion for about an hour in good clean water. Then take it out and dry it and compare it with the part which was not boiled. The wool that has been boiled will be more elastic and pliable and more agreeable to the feel in every way; it will possess a lustre and gloss that is almost entirely absent from the main body of the unboiled wool, and it will occupy a larger amount of space in proportion, because its various fibers have been partially disintegrated and swollen. It will also be found for some reason or other that the boiled wool will take up in absorption more water than the unboiled, and that what water it does absorb, will be absorbed more quickly. This is partly due to the more open fibers, whose structural make up has been altered, and to the absence of grease and oil which will hold off water from absorption to a certain extent and for a certain length of time. The boiled wool has the same action in absorbing more readily than the unboiled, dyes, mordants or whatever liquids are brought in contact with it, and this fact must be borne in mind in the treatment of the wool in any stages of its manufacture where liquids are employed. By reason of this peculiarity, it will be found well to boil wools that are to be white or vat dyed, in clean water in order to prepare them for coloring, rather than to use alkalies. This, we say, because alkalies affect the fibers more markedly than the boiling in water if the latter is properly done. From these results which follow the rational boiling of wool in water, it is evident just how the boiling process is going to affect the wool cloth and just why the boiling is entered into in certain kinds of goods and at certain stages on all goods. The boiling that the goods