

Fibre, (*fībr*.) *n.* [Fr., from Lat. *fibra*.] A filament, or thread, the minute part of either animal or vegetable substances. The scientific use of fibre will be described with regard to the animal kingdom under **MUSCLE** and **TISSUE**; and with regard to the vegetable kingdom, under **VEGETABLE TISSUE**, **WOOD**, and **WOODY FIBRE**.—In its more popular, but perfectly accurate use, the word *F.* includes the hair and wool of quadrupeds, the threads of the cocoons of silk-worms, &c.; the fibres of the leaves of plants and of their inner bark, the elongated cells or hairs connected with the seeds of plants, and the ordinary materials used in making cordage and textile fabrics. Mineral substances are called fibrous in structure, even when it is impossible to detach the apparent fibres. The only fibrous mineral which has been used for textile fabrics is *Amianthus*, a variety of *Asbestos* (*q. v.*), but that only to a very limited extent. The animal substances used are divided into two classes—the first including hair and wool, and the second the silk of cocoons. Nearly all textile fabrics are made from the first, and the wool of the sheep is the most important division of the class. The hair of the goat, alpaca, camel, bison, and other animals, is also used. The hair of most animals is, however, in general, too short to allow of its being used for textile manufacture. The vegetable kingdom yields the largest number of useful fibres, which are obtained from natural orders very different from each other. The carogenous or cryptogamous plants do not, however, afford any. From exogenous plants, fibres are obtained from the inner bark, as in the case of flax, hemp, &c., and from the hairs of the fruit, as in cotton. In endogenous plants the fibre is sometimes obtained from the fruit, as in the coconut fibre. The spathe of some palms is also used. Some of the slender palms called rattans, and the bulrush, &c., are much used, on account of their fibrous nature, for wicker-work, chair-bottoms, and similar purposes. The most valuable fibres obtained from endogenous plants come from the leaf or leaf-stalk. The fibres of the bark of exogens are readily separated, usually by steeping or continually moistening with water. As this process injures the color of endogenous substances, the fibres are generally separated by beating or passing between rollers. Fibres obtained from fruits, as cotton-fibre, like the wool and hair of animals, exist naturally in a separate state, and only require to be collected and cleaned. Among the useful vegetable fibres, those of flax, hemp, and cotton have long held the first place. The principal additions, of late years, have been New Zealand flax, jute, Sunn or Sunn hemp, coir, Pita flax, Abaca or Manila hemp, Chinese grass, and some others. One of the most important uses of vegetable *F.* is in the manufacture of paper. Among exogenous plants whose fibres are used for economical purposes, are a species of *Gossypium* which produces cotton; the *Bombax villosum*, which produces silk-cotton, or vegetable silk; and the *Asclepias syriaca*, producing the silk-like down of Virginian silk. These three substances are obtained from the fibres of the fruit. Those obtained from the inner bark include the following: several species of *Hibiscus*, producing Deckanee hemp; the *Cochlearia obtusifolia*, from which jute is obtained; the *Linum usitatissimum*, producing flax; several species of the *Crotolaria*; together with other leguminous plants, producing Sunn, Jubulpore hemp, &c.; several species of *Pohmeria*, one of which produces China-grass fibre; the *Cannabis sativa*, producing hemp; and the inner bark and roots of some species of pine and fir. Among the endogenous plants from which fibres are obtained, are the *Phormium tenax*, yielding New Zealand flax; *Agave Americana*, yielding Pita flax; some species of *Musa*, from the leaves of which are obtained Abaca or Manila hemp, and plantain fibre; several species of *Bromelia*, from which are obtained pine-apple fibre, &c.; the husk of the cocoa-nut and the fibre of the stem yield coir; and mats, chair-bottoms, and other important articles in general use, are obtained from the fibre yielded by the leaves of the cotton-grass and other species of the order *Cyperaceæ*, *q. v.*