

On the substance called Fine Linen in the Sacred Writings. By the Rev. DAVID SCOTT, M.D., M.W.S. &c.

[Abridged from the Edinburgh New Philosophical Journal.]

WHEN I first turned my attention to the fine linen of the Sacred Writings, I imagined I should soon come to a decided opinion; but, on inquiry, I found it involved in great obscurity, chiefly arising from the vague terms which the ancients had employed in describing it.

The indistinct accounts which they have left us, will be some excuse, it is hoped, for the imperfections of this essay, which was undertaken at the suggestion of a venerable member of this society, — Dr. Baird, Principal of the University, and one of the ministers of the city.

Linen, as every one knows, is a manufacture from the fibres of flax, and, in correct language, has the character of fine, when the manufacture is of a superior quality.

Among the Israelites, garments made of linen were worn by the Levites, in contradistinction to those made of fine linen, worn by the priests.

Now, if fine linen be the true translation, we are directly led to suppose, that it was a manufacture from the fibres of flax, but much superior to that of common linen. In Lower Egypt, flax has grown as far back as history reaches; and the art of making linen of the fibres of flax has been cultivated by the Egyptians from time immemorial. Their eminence in this respect has long been acknowledged, though some think that it has been praised beyond its deserts.

As the art of manufacturing linen, whatever may have been its quality, has always been a national pursuit among the Egyptians, there are many, even to this hour, whether they be grave divines, or learned grammarians, who contend, that fine linen is truly and strictly what has that name, in the Sacred Writings.

Convinced, however, that fine linen was not the right rendering of the original term, Calvin, Junius, Tremellius, and others, have rendered it by a term denoting silk; but this rendering must be erroneous, if the product of the vermes bombycina be meant, of which the Chinese, from the remotest antiquity, have formed a delicate and valuable cloth.

When these interpreters, however, come to explain their meaning, we find that it is something resembling silk, growing on trees, soft to the touch, and of which rich and beautiful garments can be made, such as were worn by the Egyptian priests, and those of high rank or in great favour. For instance, we read in Genesis, that one of the Pharoahs clothed the patriarch Joseph in a dress of this kind.

Now, what can this silk be but cotton, which is a downy substance, contained in the pod of a plant, the species of which grow in America, in all the isles of the Archipelago, in Palestine, in Syria, and especially about Thebes in Upper Egypt, through the whole district lying on the east side of the Nile, and west shore of the Red Sea.

Those which produce cotton, are, the *Gossipium arboreum*, *Gossipium herbaceum*, and *Bombax ceiba*. The *Gossipium arboreum*, in all probability, was the shrub from which the cotton of Egypt was first procured;—about the time of the Ptolemies, it seems to have been gathered from the *Gossipium herbaceum*. The *Bombax ceiba* was rather cultivated in Palestine. The cotton of the *Gossipium arboreum* was of a bright and dazzling whiteness. That of the *Gossipium herbaceum* was nothing inferior. What the *Bombax ceiba* yielded, was yellowish; but if the cloth was not so attractive, it must have been owing to the spinner or dyer.

Salmasius, in his *Plinian Exercitationes*, shews that the cotton-plant is abundant in India; and perhaps those are mistaken who think it indigenous in Egypt. Certainly there was a commercial intercourse betwixt Egypt and India from

the earliest times; and whether the cotton-plant was brought originally from India to Egypt, or *vice versa*, it can grow in all warm climates.

We agree with Dr. Vincent* in thinking, that cotton has had its name from a kind of fruit growing in Crete, called *Cotonean* by Pliny, though, in the first instance, it may have come into our language through the French.

Pliny tells us, lib. xiii. cap. 14, that "*Æthiopia produces some remarkable trees which bear wool, the nature of which has been mentioned in the description of Arabia and India;*" and again, lib. xii. cap. 10, the passage referred to by Dr. Vincent, "*They bear pods as large as the cotonean apples, which burst as soon as ripe, and disclose balls of wool, which are made into linen cloths of great value;*" and still more expressly, lib. xix. cap. 1, "*The upper part of Egypt, lying towards Arabia, produces a shrub, which some call *Gossipium*, many *Xylon*, and its wool *Xylina*.*"

By this account, we see that Pliny confounds cotton with linen, for want, no doubt, of a proper term to express it; and Ammianus Marcellinus, lib. 23, confounds it with silk, as some think Virgil does in these two lines of the second Georgic,

Quid nemora Æthiopum molli canentia lana?
Velleraque ut foliis depectant tenuia Seres?

though, in general, his natural history is wonderfully correct.

We may therefore, indeed, lay it down as an established fact, that the Greeks and Romans, as well as the later Jews, often call *cotton*, linen, silk, or wool, as well from imperfect knowledge, as from careless expression; though often they add some circumstance by which it can be distinguished from each of these substances.

The natural colour of cotton is white, and with this whiteness every one is struck as soon as he beholds it. On this ground, several learned men have thought that *shesh*, translated *fine linen* in the English Bible, comes from a Hebrew verb; which signifies to be white.

This whiteness, derived from nature, and not art, cannot be overlooked in any good description of this substance. Thus, Revelations, xix. and 14, "*The armies of Heaven followed him on white horses, clothed in fine linen, (the original term is byssos,) white and clean.*" Thus, in Isidore's Origines, lib. 22, "*White robes of byss, made of a kind of coarser lint;*" and again, lib. 27, "*Byss is a material excessively white and soft, which the Greeks call Papas.*"

It cannot be denied, however, that, by bleaching, linen can be made whiter even than cotton; and from comparing Exo-

* Perip. Nearch. Prelim. Disq.

lus xxvii. and 42, with Exodus xxxix. and 28, we find that *shesh* may denote linen, strictly so called, from this whiteness artificially acquired.

The truth is, if we look to the Hebrew derivation, *shesh* is capable of expressing any white substance; and accordingly it is sometimes used to express white marble, which, like other kinds of marble, is susceptible of a fine polish.

In the reign of James the Sixth, when the common translation of the Bible was printed, the term cotton was unknown, and it was not introduced into the English language till about the beginning of the last century, though the manufacture of cotton, on a small scale, had been attempted during the civil wars, but had failed for want of capital or encouragement.

If our translators knew the thing, in all probability they thought they could not better express what is now called cotton, than by using the phrase *fine linen*, a phrase which all used in their day, and which, as we have seen, had descended to them from the Greeks and Romans, as well as the later Jews.

Cotton cloths are more suited to warm climates than those of linen. After the finest manufacture of linen, the hardness of the fibre in some sort remains, and, on that account, linen cloths are very disagreeable when the body is under perspiration, and even favour the attacks of disease; whereas those of cotton guard the health, and in warm climates are, with great propriety, worn next the skin.

The Egyptians, for this or some other reason, seem to have wrapped cotton cloths about the bodies of the dead, after embalming. "After washing the dead man," says Herodotus, lib. ii. c. 86, "they enclose the whole body in a wrapper of byssos, or cotton, with thongs of leather," &c. In the same manner, Mr. Greaves, who witnessed the opening of a mummy, has these words, (Misc. Works, vol. ii. p. 519,) "These pictures with the gorget, were tied on with brownish lengths of cotton. Under these, the whole body had a covering of fine linen; I think of cotton."

The practice of wrapping the dead body in robes of cotton, I have no doubt, was transmitted from the Egyptians to the Jews, and when we read in the Gospels that the crucified body of Christ was wrapped in *fine linen* (*sindon* is the original word), we will not be thought too rash in asserting that this *fine linen* was cotton.