

### The Different Tissues Found in Mummy Muscle

Dr. R. T. Maddox in a paper before the Royal Microscopical Society gave results of an examination of a piece of muscle taken from the triceps of a female mummy. He wished to see if in a piece of organic tissue so long preserved, there would be any distinction of histological elements such as appear in fresh muscle and especially if the striæ characteristic of voluntary muscle could be recognized.

Macroscopically, the piece of muscle examined, looked like a piece from an old cocoanut fibre door-mat or a piece of spent tan. Separate portions of the muscle were treated with various reagents. Those which possessed most advantage were:—

No. 1 Glycerine 4 dr., glacial acetic acid 4 m.

No. 5 Glycerine 4 drs., glacial acetic acid 4m. chloride of zinc 6 gr.

No. 8 Distilled water 3 parts, hydrochloric acid 1 pt.

No. 9 Distilled water 6 parts, nitric acid 1 pt.

No. 16 Boiled a piece for ten seconds in equal parts of distilled water and rectified spirit, then allowed to soak for three or four days.

No 1 permitted dissection of the fibres into smaller bundles but not into fibrillæ.

No. 5 allowed separation into fibrillæ and also brought into view a blood vessel filled with rather coarse granular contents.

Nos. 8 and 9 allowed compression of the fibres until they presented a fine granular appearance in which could be seen fibres of different refractive power, which, under a "high power" could be traced into different planes forming a plexus.

No. 16 allowed the above examination to be carried perhaps a little further. The muscular fibres and fibrillæ were preserved, but minus their striations. The blood vessel with granular contents was easily made out, but whether the contents were due to blood changed by the process of embalming, or the injection of some preservative fluid could not be told.

The fine fibres of different refractive power were traced in the form of a plexus through different levels and were considered to be nerves. Although no striæ were observed in the muscular fibres, yet some of the fibrillæ appeared to be made up of a chain of dots, but how far this was due to original

structure or to the general coagulation in the highly compressed and softened muscle could not be stated.

The author of the paper was not aware at the time that any work had previously been done in this direction, but discussion showed that Czermak in 1852 had examined various histological elements taken from mummies with the following results:

These numbers refer to the figures in the plates of Czermak's article, and sufficiently serve to illustrate his results: 1 The cells with nuclei of a section of the nail of the ring finger of a female mummy. 2 A longitudinal section near the root of the nail. 3 Hair from the head of the female, showing the sheath. 4 A cross section of the hair near the root. 5 The cells of the inner sheath. 6 Henley's and Huxley's layers. 7 A transverse section of the *flexor pollicis longus* treated with water. 8 The cartilage cells of the ear. 9 Section of the cartilage of the patella, with the cells in situ. 10 Cartilage cells from the rib of female mummy. 11 Nerve fibres of the median nerve, in which besides the nerve substance, the axis cylinder can also be seen. 12 A few muscular fibres from the sphincter of the eyelid, as seen in turpentine, showing the striation and other appearances. 13 A section of the fatty layer in the great toe of the adult mummy, with the fat cells in position.

### BACTERIOLOGY AND EPIDEMIOLOGY.

#### Preventive Vaccination of Anthrax —(Translated.)

[THIS, the most recent resumption of the discussion by Pasteur's German critics, on the practical value of preventive inoculations for anthrax or charbon, has a special value inasmuch as we know, that inoculation experiments carried on with blood from victims of the suspected anthrax near Guelph, have showed it to be without doubt anthrax, and hence calls for the serious consideration of local preventive inoculation methods.—ED.]

The *Deutsche Med. Wochenschrift* of 8th Sept. resumes the criticism of Pasteur's methods of inoculation against charbon. It contains an exact account of the protective inoculations made in different countries by Chamberland, of Paris, Lydtin, of Carlsruhe, Pütz, of Halle, Custer, of Zurich, and Csokor, of Vienna. . . . Koch has maintained that, in practice, the method of preventive vaccination of charbon has no value. Here are the facts on which he bases his assertions:

1st. 31 cattle were vaccinated at Gorsleben. Three died in the following year or ten per cent. The vaccinations were not continued, and fol-