On the Structure of the Human Placenta. By JOHN DALRYMPLE, Esq., Assistant Surgeon to the London Ophthalmic Infirmary.

In the early part of the present year the author having pursued some anatomical investigations into the structure of the human placenta at term, and having made several drawings of the injected capillaries of the tufts, afterwards had an opportunity of seeing the copies of Weber's drawings, given in the "*Icones Physiologicae*" of Wagner, and transferred to the pages of Dr. Willis's translation of the latter author's *Physiology*. The resemblances of the present drawings to those given by Dr. Willis were so striking, as to go far of itself to prove the correctness of both draughtsmen, and to corroborate the views entertained by Weber of the anatomical conditions of the organ. They differed also from the engravings of Dr. Reid (given in the January number of the "*Edinburgh Medical and Surgical Journal*" for 1841), inasmuch as no where could be seen an artery and vein running, side by side, forming an apparently single vessel, though with a double tube, and terminating abruptly in blunted extremities, where the anastomosis took place between them.

First. It appeared from Mr. D.'s observations that the placenta was made up of the innumerable subdivisions of the umbilical vessels terminating in beautifully coiled and convoluted capillaries, which formed tufts or bouquets of vessels, clothed by a prolongation of the endochorion, derived from the foetal surface of the organ.

Second. That no where did a division of an umbilical artery terminate otherwise than in a branch of the umbilical vein; and each branch as well as tuft of vessels was covered by a prolongation of the before-named membrane.

Third. That each tuft was, in fact, a real villus, the endochorion being covered externally with an epithelium-like tissue, having nucleated cells and corpuscles.

Fourth. The uterine surface of the placenta is covered by the decidua, which does not appear to enter further into the structure of the organ than between the lobules, and the depth to which it thus penetrates varies with the depth of the fissures.

Fifth. That fibrous bands stretch from the foetal to the placental surface of the organ, giving firmness and support to the vessels.

Sixth. That there are no defined cells in the placenta, but that the nutrient fluids of the mother are poured into the interstices of the tufts, which are not bound or connected together by a common cellular tissue.

Seventh. That on the decidual surface of the placenta are thinly scattered here and there blunt conical papillae, about a line and a half in length, made up of innumerable coiled and contorted capillaries. Query? Are these the analogues of the foetal cotyledons of the ruminants?

From these observations, which were given in minute detail, the author has attempted to simplify the functions of the human placenta. He observes, that in the incubated egg, in consequence of the non-connection between the embryo and parent, a nutrient or respiratory organ is indispensable, and hence the more complicated system of vessels. That in the oviparous vertebrata, the vitellary sac, and the omphalo-mesenteric vessels, represent the placenta of the mammalia, which is the absorbent organ of the foetus; but while, in the one case, the nutrient materials of the mother, already aerated by her lungs, are conveyed by the uterine arteries for absorption and nutrition of the embryo; in the other, the materials of the blood are absorbed by the folds of the vitelline sac, and conveyed through the circulation of the young bird, requiring, however, contact with oxygen for a second circulation. Hence a new membrane, or one that is persistent up to the time of inde-

pendent respiration, namely, the allantois; and hence, also, the more complicated system of its vessels. The allantois, as a respiratory membrane, exists only as a rudimentary organ in mammalia; and the function of the placenta being solely that of nutrition by already-oxygenised materials, the cord contains only a simple system of incurrent and excurrent vessels.

ACADEMY OF SCIENCES, PARIS.

November 22.

Alleviation of the Consequences of the Operation for Squinting. By M. GUERIN.

The prominence, deviation, and loss of motion of the eye, which occasionally happen after the operation for strabismus, depend, according to M. Guerin, on the following causes:—

1. Because the tunics and fasciæ of the eye have been detached too freely from the surface of the organ.

2. Because the muscle which has been divided presents one of the following conditions: the muscle has become strongly adherent to the globe of the eye, or to the sub-conjunctival fasciæ; the posterior end of the muscle has become attached to the back part of the globe; or, finally, the posterior portion has neither united with the anterior one or with the eye. The enumeration of the above causes, says M. Guerin, is sufficient to indicate what must be done for their removal; thus, if a muscle remain too long we must shorten it; if it has contracted irregular adhesions, we must destroy them, &c.

In illustration, the author relates a case, the principal features only of which can we notice. A young lady, eighteen years of age, had been operated on in the country for double convergent strabismus. The effects of the operation were, that the eyeballs became very prominent and strongly everted; the power of bringing the eye inwards towards the centre was completely lost. The surgeon endeavoured, but in vain, to remedy these defects by dividing, and even resecting, the external rectus muscle. Five months afterwards the patient was placed under the care of M. Guerin, who succeeded in palliating the evil by the following operation. His first care was to separate completely all the fibrous bands and adventitious substances which confined the eyeball in its everted position, and to draw it with a hook into a natural position; this done, he exposed the internal rectus muscle, and after great difficulty discovered the posterior portion, which had become retracted within its sheath; the orifice of the sheath was enlarged, and the extremity of the muscle drawn forwards with the forceps, and placed in contact with the sclerotica. In order to keep the eyeball from becoming everted, until the body of the internal rectus had united with the sclerotica, two small ligatures were passed through the sub-conjunctival fascia, and attached to the dorsum of the nose; the rest of the dressing was that commonly employed after the operation for strabismus.

On the following morning the ligatures were accidentally detached, and the power of moving the eye internally was in part restored; finally, in eight days the form, position, and motions of the eye were nearly restored to their natural state, the power of abduction being slightly diminished. The same operation was repeated soon afterwards on the other eye with the same success.

ACADEMY OF MEDICINE.

December 7.

FOREIGN BODY IN THE AIR TUBES.

M. A. Berard read a report on a communication relative to a foreign body, which had remained in the air tubes for nine months, without occasioning any