4. The want of adaptability of the patient to his surroundings.
5. Overcrowding in ill-constructed and ill-planned houses.
6. Second-rate food and wine.
7. The want of reliable English doctors.

These deficiencies it is the province of this Society to lessen and remove. Already your excellent *Journal* is disseminating a large amount of useful knowledge, and I have no doubt that the real wants of our expatriated invalids will be adequately provided if they should receive distinct utterance at the hands of a powerful Society like this.

A NOTE

ON

A METHOD OF OPERATING FOR ECTROPION OF THE LOWER EYELID.

By D. ARGYLL ROBERTSON, M.D., LL.D., F.R.C.S. Ed.,
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Ophthalmic Surgeon to the Edinburgh Royal Infirmary.

THE operative procedures for the cure of ectropion of the lower lid that have been employed or recommended by various surgeons are so numerous that the following method of operating which I have recently adopted may have little claim to originality; at the same time as I am unaware of any surgeon having employed exactly the same procedure, and as the results obtained have been eminently satisfactory, I have deemed it advisable to report the method for the consideration of my professional brethren.

The operation consists in making an incision through the skin of the outer third of the lower lid, parallel to and about a line (2 mm.) distant from its margin. When the incision has been carried as far as the outer canthus the knife is directed a little more upwards, and the incision continued for about half an inch. It is then carried horizontally outwards for about 3 lines (6 mm.) and lastly downwards and inwards, nearly parallel to the upward incision, but diverging a little from it below, for the distance of about an inch and a quarter. Fig. 1 indicates the course of the incision.

Fig. 1.

Fig. 2.

The flap of skin thus outlined is then dissected from subjacent parts, and reflected back as shown in Fig. 2.

Next a suitable V-shaped portion of the whole substance of the lower lid is removed at a little distance (say 3 mm.) from the outer canthus. The "strap" of skin which had been reflected is now drawn upwards and outwards till the edge of the lid is brought up to its natural position, and the skin which it then overlaps is outlined by bringing the knife along the edge of the strap, and the portion thus outlined dissected off. Lastly, the "strap" is replaced and fixed in position by several sutures, as seen in Fig. 3.

It is advisable not to remove a large V-shaped portion of the lid at first, as a little more can easily be snipped away if on drawing the lid into position by means of the "strap" a puckering of the edge of the lid indicates that too little has been removed.

This operation is particularly useful in senile ectropion or in eversion of the lid from long-continued palpebral conjunctivitis, when the free edge of the lid has by traction been elongated and the curvature of the tarsal cartilage altered, but

it may be advantageously employed in other forms of ectropion also.

The chief advantages I have found in this method of operating are: (1) that the exact amount of lid tissue that should be removed is easily ascertained; (2) that by means of the strap of skin very efficient and permanent traction on the lower lid is obtained, thus bringing it and fixing it in proper position.

Fig. 3.

Instead of removing the skin that lies under the strap when it is drawn up so as to bring the lid into position, a small portion of the extremity of the strap might be cut off and the effect would be similar. But I prefer the method described, giving, as it does, a larger surface on which to fix the strap.

I have only had the opportunity of performing this operation on three cases, but in all (and one was a very severe and complicated traumatic case) the result was excellent.

For the sketches illustrating the operation I am indebted to the kindness of Dr. Jessie MacGregor.

AN ADDRESS

ON

THE PATHOLOGY OF ANTENATAL LIFE.

Delivered before the Glasgow Obstetrical and Gynaecological Society.

By J. W. BALLANTYNE, M.D.,

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[ABSTRACT.]

AFTER a preliminary reference to the relation between antenatal and postnatal life, in which he pointed out that the postnatal was not independent of, but, on the contrary, largely the direct continuation and outcome of the antenatal life, Dr. Ballantyne described

THE PHYSIOLOGY OF ANTENATAL LIFE,

subdividing it into three periods:

1. *Germinal Life*, about which little was known in the human subject, the period which ended in the mysterious phenomena of germ and sperm maturation, of the expulsion of the polar globules from the ovum, of the atrophy of the female element of the sperm-cell, and of the impregnation of the ovum by the spermatozoon with the resulting formation of the morula mass.

2. *Embryonic Life*, the period beginning with the differentiation of the blastoderm and ending about the end of the second month, the period of evolution or development during which the lines of future growth were laid down.

3. *Fœtal Life*, the period in which the organism showed its vitality chiefly by growth along lines which had been already definitely laid down.

It was necessary to point out, however, that these periods could not be sharply marked off from one another. One part might be in the embryonic stage while the others were in the fœtal. The third month of intrauterine life more than any other was characterised by readjustment and by change, most of the organs passing at this time from the embryonic into the fœtal state.

ANTENATAL PATHOLOGY.

Postnatal and antenatal life were both subject to disease and death, and probably all estimates of the antenatal death-rate fell far below the reality. Dr. Ballantyne then referred

to the want of attention to the morbid anatomy of antenatal life, and discussed the causes of this neglect—for example, its inherent difficulty, the practical impossibility of exact diagnosis, the discouraging results of attempts at antenatal therapeutics, imperfect study of antenatal physiology, conflicting theories of human embryology, and perhaps, most of all, the fact of its being antenatal. There was also a prevalent notion that antenatal was something apart and different from postnatal pathology. His wish was to show that the causes of morbid processes were the same in postnatal and in antenatal life. The effects of these causes might differ markedly, but this was due to altered environmental conditions, and the peculiarities in the structure of the organism acted upon. This was specially evident in the diseases of the newborn infant—for example, jaundice, sclerema, trismus, and Winckel's disease. The peculiar character of such diseases was due to the fact that the usual causes were acting upon organs and tissues which were in a state of transition between the foetal and infantile stages, and it was probably because of this, too, that they were so fatal.

PATHOLOGY OF FETAL LIFE.

Dr. Ballantyne said that a prolonged study of antenatal pathology had led him to the conclusion that the foetus was liable to the same diseases as the infant, the child, and the adult. It enjoyed partial immunity from parasitic skin diseases, and was protected from external violence, and on the other hand was apt to be affected with certain maladies in an aggravated form, and it was exposed to one gross traumatism—parturition. Foetal peculiarities were largely due to peculiarities of environment and physiology. In illustration of this, he described foetal ichthyosis, general foetal dropsy, foetal ascites, hydronephrosis, cystic kidney, foetal endocarditis, and showed a number of diagrams, sketches, and coloured plates. He had some years ago called this peculiarity of foetal diseases their "potential mortality," that is, the foetal environment and mode of life permitted the existence of an amount of disease quite incompatible with the maintenance of extrauterine life; the foetus was potentially dead, and would die as soon as it was born. Foetal maladies also differed in character as well as degree from those occurring after birth, for example, foetal small-pox, in which the face was almost free of the eruption; crusts were seldom formed, and the cicatrices were but feebly marked, because *in utero* the skin was kept moist, and was not under the influence of light and air; foetal typhoid fever, in which, probably because of the quiescent condition of the bowel and the infection being by way of the placenta, it was rare to find any intestinal lesion. At this point reference was made to the relation of the placenta to foetal diseases. By means of the placenta the foetus was able to live with several of its viscera in a far advanced stage of disease, while on the other hand it was exposed to fevers and microbic conditions affecting the mother, altered blood states, such poisons as lead, arsenic, morphine, alcohol.

From recent investigations it seemed possible that infection might occasionally find its way from the maternal blood through the amniotic fluid to the mouth and stomach of the foetus. The placenta in its foetal portion was an organ of the foetus, and being the most vulnerable of its organs, injury to it soon endangered the foetal life. According to Porak it had the power of storing up certain poisons, but this, if it did not poison the foetus, interfered with its own functions, and led to abortion or premature labour. The distinctive *post-mortem* change of the foetus dying *in utero*, maceration rather than putrefaction, was also due to the intrauterine conditions preventing the access of air. He was quite certain that *rigor mortis* occurred. Probably every variety of neoplasm had been met with in foetal life.

THE PATHOLOGY OF EMBRYONIC LIFE.

The morbid states arising during this stage were very peculiar, but it was now beginning to be realised that they were subject to the same laws as general pathology. Teratology was a chapter of pathology. The one function of the embryo was to evolve the three layers of the blastoderm into the complex aggregate of organs and tissues which made up the body of the foetus. When a morbid cause acted on the embryo it interfered with this function, and a monstrosity or a structural anomaly was produced.

Dr. Ballantyne then described the experiments of Dareste, Panum, Warynski, and Fol, Lombarduir, and especially of Féré in this connection—for example, by partially varnishing eggs during incubation, raising or lowering the temperature of the incubator, shaking the eggs or wounding their contents, injecting various substances—alcohol, nicotine, etc.

Just as it was the placenta which to a large extent impressed on foetal pathology its peculiar characters, so the presence of the amnion accounted for much in embryonic pathology, although the allantois and umbilical vesicle doubtless played a part in producing malformations. One of the earliest phenomena in embryology was the development of the extra-embryonic somato-pleure to form the amnion, and anything which interfered with its evolution would disturb growth. Probably defects of the head and tail folds explained anencephaly, spina bifida, and symphysis. Delayed separation of the amnion from the body of the embryo, as in cases of absence of the liquor amnii, would result in pressure, and this would arrest development in the stage then reached, while the other parts would go on developing. In some such way exomphalos might be produced. Fusion of neighbouring parts would be caused by continued pressure. In this way we might get the sireniform fetus.

The morbid changes which resulted from death of the embryo were also determined by the nature of the organism. Maceration was characteristic of the foetus, but dissolution and mummification marked embryonic death. There were some grounds for supposing that the embryo might die, and the rest of the blastodermic vesicle go on growing. Dr. Ballantyne referred here to the investigations of Giacomini. Curious forms of abortion sac were thus produced, in which no embryo at all, or only a stunted nodular embryo, was found. The passage from the embryonic economy to the foetal was accompanied by a great destruction of embryos, explaining in some measure the frequency of abortion at the second and third months. It was not always possible to distinguish between a disease and a monstrosity, because the whole organism did not pass out of the embryonic into the foetal stage at the same time; for example, the limb buds, which were still embryonic when most of the internal organs were in the foetal stage. A morbid cause acting upon two parts of the organism might, therefore, produce a disease in the one and a deformity in the other. This was one reason why the so-called foetal bone diseases and the malformations of the limbs were so difficult to understand. Sharply defined morbid conditions could not always be found either in antenatal or in postnatal existence.

PATHOLOGY OF GERMINAL LIFE.

Dr. Ballantyne pointed out how little was certainly known of this. The great phenomenon of germinal life was impregnation, with its antecedent phenomena of maturation and polar extrusion, and its subsequent phenomena of nuclear division and the formation of the morula mass. Morbid changes at this stage would cause a disturbance of the normal progress of the phenomena of impregnation and segmentation. Reference was made to the experiments of Hertwig, Chabry and Roux, and others, showing that monstrosities could be caused by traumatic or toxic agencies during the segmentation of the ovum of ascidians and echinodermata, and the well-known placental parasites were instanced as possibly due to a similar cause. Double monsters were regarded by many as due to polyspermy or the entrance of more than one spermatozoön into the ovum. It was possible also that such puzzling structures as dermoid cysts might originate in the absence of the normal male element. It was noted that monstrosities by defect were characteristic of embryonic pathology; monstrosities by excess belonged to germinal pathology. The conclusion seemed to be warranted that the same morbid causes—toxic, microbic, traumatic—were at work in the germinal as in the other epochs of antenatal and postnatal life.

Dr. Ballantyne here recapitulated the leading points of his address so as to emphasise the fact of there being a unity in morbid causes throughout all the epochs of both antenatal and postnatal life, varying only according to the environment and structure of the organs acted upon.

He concluded by a reference to hereditary tendencies which were evident in the foetal and embryonic periods of antenatal

life. Many foetal diseases were hereditary—for example, ichthyosis, general dropsy, foetal rickets, etc. Direct heredity could seldom be proved, but family prevalence was very common. He had reported two, and even three, anencephalic foetuses in the same family, and polydactyly was often seen in several generations and in several individuals of the same generation. It was evident that in addition to morbid causes coming from without, we had to deal constantly with hereditary tendencies for or against pathological developments existing already in the organism. This was true of the pathology of all periods of life, antenatal as well as postnatal, and the net result was the health or disease, deformity or malformation of the individual.

REMARKS

ON

A FROZEN SECTION OF THE FIRST STAGE OF LABOUR.*

[WITH SPECIAL PLATES]

By WILLIAM C. LUSK, M.D.,

Assistant Demonstrator of Anatomy in Bellevue Hospital Medical College, Visiting Surgeon to Workhouse, Almshouse, and Incurable Hospitals, New York.

THE frozen section here presented is one of a 7-para, aged 37, who died suddenly during the first stage of labour. The case was first seen by a physician two or three hours after death. He found the fundus about 2 or 3 inches above the umbilicus, and the os internum dilated sufficiently to admit about one half-finger. He then expanded the calibre of the cervical canal by manual dilatation to the extent of admitting three fingers. An old cerebral abscess was found *post mortem*. The body was injected with red starch injection through the right carotid artery, and was frozen in the nearly vertical position.

I and II. (See description of Plates.)

III. Vertical mesial section, the outlines from an original tracing.

Pelvic Measurements.—Obstetrical conjugate 11.2 cm. (4.42 in.) Transverse diameter of brim about 12.4 cm. (4.9 in.) Oblique diameters about 12.7 cm. (5 in.) each. Pelvic floor projection (coccyx partly lacking) about 7 cm. (2.75 in.) The obstetrical conjugate is narrowed by the compressed soft parts 1.27 cm. (0.5 in.) anteriorly, and 1.22 cm. (0.48 in.) posteriorly. The aperture of the inlet was found on subsequent dissection to be padded within its entire circumference by a thick layer of fat, the latter not only narrowing but also deepening the inlet. Estimated narrowing of transverse diameter of brim by soft parts, about 2.28 cm. (0.9 in.) on each side; of oblique diameters, each about 2.54 cm. (1 in.) behind, and 1.5 cm. (0.6 in.) in front.

Uterus.—The shape of the uterus is globular. The longest antero-posterior diameter of the uterine cavity in the plane of the section, including the placental thickness, is 13.7 cm. (5.4 in.). The walls of the uterus posteriorly exhibit above a thickened portion (1 cm. or 0.4 in.) and below a thinned lower segment (0.5 cm. or 0.2 in.), the limit between which is marked by a bulging of the uterine muscle (1.5 cm. or 0.6 in.). Anteriorly the walls show no marked variations in thickness. The fundus is in contact with the breech. The height of the fundus above the brim is 18.4 cm. (7.25 in.) The length of the line of placental implantation measured in the plane of the section is 20.3 cm. (8 in.). The membranes are unruptured.

The Fœtus.—The presentation is an L. O. A. The head is well engaged in the inlet. A scalp tumour has formed, the limits of which are not restricted at the cranial sutures. The angle formed by the intersection of two lines drawn in the respective long axes of the head and trunk measures about 135° and opens posteriorly. The spinal column looks to the left and forwards.

The peritoneum descends anteriorly 1.2 in. below the brim, and posteriorly as far as to a line passing from the lower border of the symphysis to the junction of the fourth and fifth pieces of the sacrum. Laterally it is reflected directly into the middle of each iliac fossa.

*Read in the Section of Obstetrics at the annual meeting held at Montreal.

The bladder is collapsed and flattened between the child's head and the pubic bones. The upper portion is embedded in a mass of fat. The apex reaches just above the brim. The cavity of the bladder was found on subsequent dissection to Y-shaped, the shorter arm of the Y extending downwards and backwards from the neck of the viscus.

The rectum is distended with feces.

The coccyx below its first piece is tilted backwards.

IV. Vertical mesial section with foetal parts of opposite side superimposed, showing child in relief. Shows attitude of foetus. The head is strongly flexed. The right extremities of the foetus are more prominent than the left. The bladder is slightly opened up (Cf. II, Fig. 1).

V. Interior of the left half of the uterine cavity, placenta, and membranes *in situ*. (Cf. VII, Fig. 4). With the exception of a short depth posteriorly, and a small margin anteriorly, this half of the uterine cavity is an almost perfect mould of the segment of the foetus therein contained. The bulging in the posterior uterine wall is here seen to preserve its form as a thickened ridge as far as the left (about 3.2 c.cm. or 1.25 in.), as accommodation for its unrestricted development is provided by displacement of liquid contents of the ovum, that is, as far laterally as to the area of close embrace of the foetus by the uterine wall. (See VIII, Fig. 4.) From the termination of the thickened ridge, and forming an obtuse angle with the same, a much smaller ridge passes downwards and forwards through this area of foetal compression, fitting closely a groove between the upper part of the child's trunk and the umbilical cord, and becomes lost anteriorly.

The membranes are separated posteriorly from below upwards to a point a little more than an inch below the site of greatest thickening of the bulging area, anteriorly to just below the brim. Laterally the line of separation runs a little way below the impression of the umbilical cord.

VI. Interior of the right half of the uterine cavity, placenta and membranes *in situ* (Cf. VII, Fig. 3). Laterally, impressions of the foetal irregularities are distinctly outlined in the uterine wall as well as in the placental mass in this situation. The bulging of the uterine muscle passes on this side from behind forwards, finally merging into the area of placental implantation. As it passes forwards it fits the foetal interspaces.

DESCRIPTION OF PLATES.

I.—Photograph quarter life size of vertical mesial section. Original by the three-plate colour process. Negative by Dr. Edward Leaming.

II.—A.—Photograph quarter life size of vertical mesial section with frozen foetal parts of opposite side placed in exact superposition; the cavity of the bladder is slightly opened up. Negative by Dr. Edward Leaming.

II.—B.—Photograph quarter life size showing interior of left half of uterine cavity with placenta and membranes *in situ*. Negative by Dr. Edward Leaming.

III.—(Quarter life size). 1, Third lumbar vertebra; 2, liquor amnii; 3, left thigh; 4, left forearm; 5, promontory; 6, retraction ring; 7, coronary vein (injected); 8, Presacral pad of fat; 9, left parietal bone; 10, rectum (distended with feces); 11, fifth sacral vertebra; 12, sagittal suture; 13, right parietal bone; 14, cul-de-sac of Douglas; 15, caput succedaneum; 16, membranes; 17, posterior fornix; 18, mucus; 19, fibres of levator ani; 20, vagina; 21, (not yet identified); 22, bladder; 23, symphysis pubis; 24, (not yet identified); 25, uterovesical peritoneum; 26, right ear; 27, umbilical cord; 28, right arm; 29, placenta (injected); 30, cord; 31, right thigh.

IV.—(Quarter life size). 1, Third lumbar vertebra; 2, amniotic fluid; 3, retraction ring; 4, promontory of sacrum; 5, coronary vein (injected); 6, presacral pad of fat; 7, amniotic fluid; 8, fifth sacral vertebra; 9, cul-de-sac of Douglas; 10, membranes; 11, rectum distended with feces; 12, symphysis pubis; 13, uterovesical peritoneum; 14, bladder (slightly opened up); 15, umbilical cord; 16, outer canthus of right eye; 17, placenta.

V.—(Quarter life size). 1, Retraction ring; 2, promontory of sacrum; 3, coronary vein (injected); 4, height to which membranes detached posteriorly; 5, impression of left ear; 6, impression of umbilical cord; 7, approximate location of three collapsed coronary sinuses; 8, height to which membranes detached anteriorly; 9, left limit of bulging; 10, situation of left Fallopian tube.

VI.—(Quarter life size). 1, Situation of right Fallopian tube; 2, situation of right thigh; 3, situation of right knee; 4, umbilical cord; 5, situation of right forearm; 6, impression of prominent right frontal region; 7, approximate location of three collapsed coronary veins; 8, impression of right foot; 9, impression of right hand; 10, coronary vein (injected); 11, promontory of sacrum; 12, retraction ring; 13, impression of left leg; 14, impression of left foot.