mus glands in acromegaly have not been demonstrated. That pathological changes of the pituitary occur in almost every case of acromegaly is true, but pathological changes are also found in this body in cases in which there has been no overgrowth of the bones or any other symptom or signs of acromegaly.

Frederick A. Baldwin.

PITYRIASIS.—Pityriasis is an affection of the skin in which there is slight redness accompanied by a branny desquamation. The term was formerly used to describe many scaly conditions of the skin, but it is gradually passing out of use, as the conditions are now described under other headings.

Pityriasis of the scalp is described in the article on *Eczema;* it is the dry form of dandruff in which the scales do not adhere, but fall whenever the hair is brushed.

Pityriasis of the face and neck is usually found as ill-defined slightly scaly patches with very little redness. This condition is described by most authors under seborrhœa or seborrhœic eczema. (See article on *Seborrhœa.*)

Pityriasis rosea, Pityriasis rubra, Pityriasis rubra pilaris, and Pityriasis versicolor are described elsewhere. (See the articles on *Pityriasis Rosea, P. Rubra,* and *P. Rubra Pilaris,* in THE APPENDIX, and that on *Tinea* in Vol. VII.)

Howard Morrow.

PIXOL is a cheap substitute for lysol made by mixing one pound of green soap with three pounds of liquid tar (Pix liquida) and slowly adding a solution of three and one-half ounces of potash in three pints of water. The resulting liquid is miscible with water, and is used, in five-per-cent. dilution, for disinfecting the hands, linen, etc. It is claimed to be about as strong as carbolic acid.

W. A. Bastedo.

PLACENTA, ANATOMY OF.—The placenta (ὁ πλακοῦς, a cake) is a discoid, spongy body attached during pregnancy to a portion of the inner wall of the uterus. It is connected by means of the umbilical cord with the fœtus, and forms for it the organ of respiration, nutrition, and excretion. After the expulsion of the child, it becomes separated from its area of attachment, and together with the fœtal membranes is cast off as the so-

FIG. 3810.—Decidua Vera, Fourth Month. × 16. (From J. Whitridge Williams' "Text-book of Obstetrics," Appleton & Co., New York, 1903.)

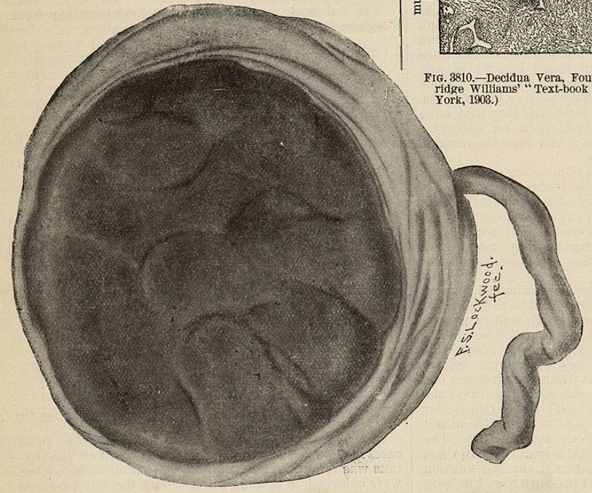

FIG. 3809.—Maternal Surface of Mature Placenta, Showing Cotyledons; Membranes Turned Back. × 2/5. (From J. Whitridge Williams.)

called *after-birth* (Nachgeburt, l'arrière-faix). The portion of the placenta which is attached to the uterine wall is rough and irregular and is known as the maternal surface, while that facing the fœtus is smooth and covered by the thin glistening amnion, which overlies the smooth surface of the chorion and is closely applied to it.

The recently delivered placenta at term is smaller, but at the same time somewhat thicker than it is when in utero, the change resulting partially from the compression to which the organ has been subjected during labor, and partially from the escape of the greater part of the blood contained in its interior. The organ is spongy in consistence, and varies considerably in shape, size, and color. In single pregnancies,

as a rule, it is more or less rounded, though it may be ovoid or oval, reniform, crescentic or lobulated. It measures from 15 to 20 cm. in diameter, and from 2 to 4 cm. in thickness, generally thinning gradually toward

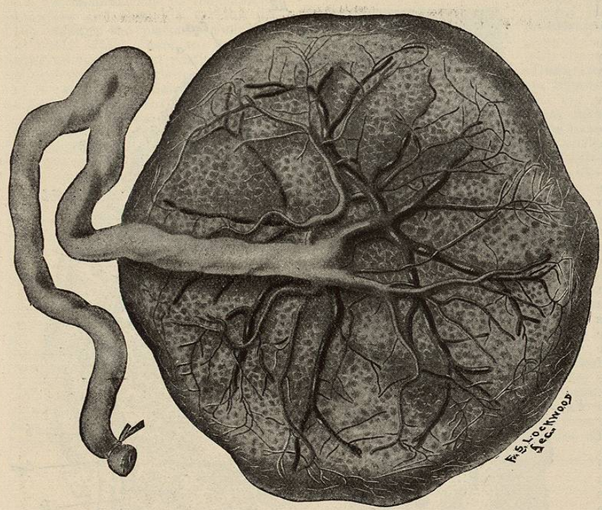

FIG. 3811.—Fœtal Surface of Mature Placenta. × 2/5. (From J. Whitridge Williams.)

the edges, which fade away into the thin fœtal membranes. Sometimes, however, the thickness is fairly uniform up to the very margin. Its weight varies from 500 to 600 gm., being usually about one-sixth of that of the child, though in syphilis, nephritis, and some other conditions it may be relatively heavier.

The placenta presents two surfaces for examination, the *maternal* and the *fœtal* (Figs. 3809 and 3811). The former varies considerably in appearance, but is usually dark red in color, varying according to the amount of blood contained in its substance and the density of its structure. It is divided into a number of irregularly shaped areas, the *cotyledons,* which are separated from one another by shallow fissures. They vary considerably in number, sometimes as many as thirty being observed, and may measure from 1 to 8 cm. in diameter. The cotyledons are not primary divisions of the placenta, but appear first at the fourth or fifth month (Minot). The outer layer of the entire maternal surface consists of a thin investment of *decidua,* which dips down to form the cotyledonary divisions, and at the edges of the placenta is continuous with the inner coating of the membranes. The decidua is transformed uterine mucosa; while the placenta is in utero, it constitutes the boundary between the chorionic villi of the placenta and the uterine muscle, and separates in the final stage of labor, so that its outer or compact portion is carried off as part of the placenta and membranes, the spongy or glandular portion remaining attached to the muscle wall (Figs. 3810 and 3816). Scattered over the maternal surface are numbers of minute yellowish-white patches of varying size. Some of these have undergone calcareous degeneration, and impart to the palpating finger a sensation as of coarse sand paper. Close inspection of this surface reveals the torn openings of many blood-vessels. Thus Klein was able to count one hundred and five of these on a single specimen, fifty-one being arteries and fifty-four veins.

As opposed to the rougher maternal surface, the fœtal side presents a smooth and glistening surface, and is of a purplish-gray color, mottled with minute yellowish patches, and marked by irregular yellowish-white areas of varying size (white infarcts) (Fig. 3811). It is covered by the thin glistening *amnion* which is loosely attached to it, but which may be separated as far as the insertion of the cord. Beneath the amnion lies the smooth *chorion,* from the lower surface of which the villi extend, giving rise to the mottled appearance of the surface.

The *umbilical cord* terminates upon the fœtal surface of the placenta, and presents a dull white translucent appearance. It varies from 1 to 2.5 cm. in diameter, and averages 55 cm. in length, the extreme variations being 0.5 and 198 cm. When unusually short it may give rise to dystocia at the time of labor. As the blood-vessels are usually longer than the cord, they grow in a spiral manner, and are frequently folded upon themselves, giving rise to projections which are termed *false knots.* On the other hand, *true knots* are sometimes noted. These may be most complicated in form, and are believed to be due to fœtal activity. Contrary to the usual statements, the cord is not enclosed in an amniotic sheath, but is covered by stratified epithelium,

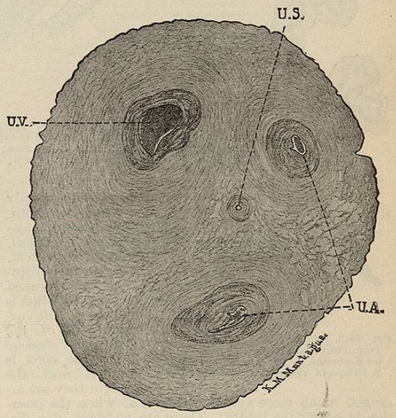

FIG. 3812.—Umbilical Cord. Fœtal End. × 5/6. *U.A.*, Umbilical artery; *U.S.*, remnant of umbilical stalk; *U.V.*, umbilical vein. (From J. Whitridge Williams.)

which is continuous with that of the abdomen of the fœtus. Its interior is made up of mucoid connective tissue—*Whartonian jelly*, in which are embedded two arteries, a vein, the umbilical stalk, and a remnant of the allantois (Fig. 3812). The latter is seen only at the fœtal end. The cord is rarely inserted centrally, being usually somewhat eccentrically placed, although occasionally it may terminate at the margin of the placenta—*battledore placenta*. Less frequently the blood-vessels separate before reaching the fœtal surface, and make their way to the placenta in a fold of amnion—*velamentous insertion*. The arteries come down together from the cord, and are usually but not always connected by a transverse vessel, just before reaching the placenta. The vessels then spread in all directions in the superficial part of the chorion, each branch producing a ridge upon its surface, by which its course can easily be followed. The veins lie beneath the level of the arteries, are larger in calibre, and distended with blood. Both arteries and veins branch repeatedly, each set following in a general way the course of the other, but they do not anastomose upon the placental surface. Generally they can be traced in their ramifications until they disappear as fine branches, turning at right angles into the placental tissue, in order to supply the chorionic villi. Occasionally, however, a large vessel, more often a vein, dips down abruptly. The greatest possible variation is noted in the arrangement of the placental vessels. When the cord is inserted near the margin they are arranged much more symmetrically than when the insertion is nearer the centre. There are no signs of a distinct cotyledonary circulation, but corrosion specimens of injected placentæ show that the terminal arteries communicate with veins by means of capillaries, at the free extremities of the chorionic villi.

In nearly all cases, as shown by Schultze, the *umbilical vesicle* and stalk may be found between the amnion and the chorion, and near the placental margin. When the membranes are separated it usually lies upon the inner surface of the amnion. The vesicle itself is a minute rounded sac, 2–4 mm. in diameter, which usually contains in its interior a calcific point. It is attached to a thread-like stalk which extends to the cord, and frequently can be traced throughout its entire length. These may rarely be accompanied by omphalo-mesenteric vessels which have remained persistent.

The decidual and chorionic layers of the placenta are each less than a millimetre in thickness, save where the latter is thickened by blood-vessels or infarcts. On section the placenta present a sponge-like structure, whose meshes are filled with blood, while the imperfect partition walls are formed by chorionic villi, which occupy the space enclosed between the decidual and the chorionic membranes. Some idea of the complexity of the villi may be obtained by floating a small piece of placenta in decinor-

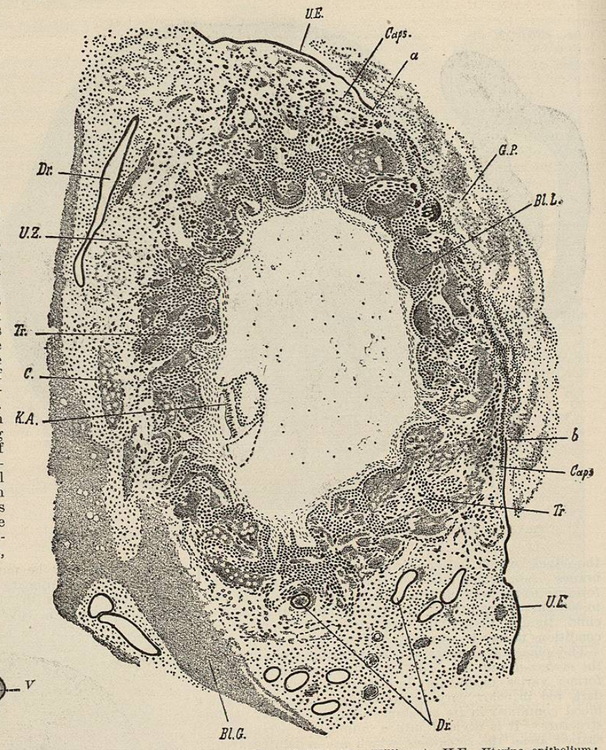

FIG. 3814.—Peters' Early Ovum. (From J. Whitridge Williams.) *U.E.*, Uterine epithelium; *Bl.L.*, lakes of blood; *Caps.*, decidua reflexa; *G.P.*, "Gewebspilz"; *Dr.*, uterine glands; *U.Z.*, decidua vera; *Tr.*, trophoblasts; *C.*, capillaries; *K.A.*, beginning embryo; *Bl.G.*, large blood-vessels; *a–b*, point of entrance of ovum.

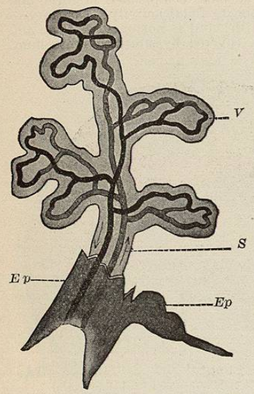

FIG. 3813.—Chorionic Villus from Full-Term Placenta. Highly magnified. (After Kollmann.) *Ep*, Epithelial covering; *S*, stroma of villus; *V*, vascular loop.

mal salt solution, and washing it free from blood, when one can distinguish a number of arborescent structures, consisting of a primary stalk, which divides and subdivides like the branches of a tree. The larger stalks arise from the maternal side of the chorionic membrane and extend a varying distance through the placenta, some ending freely, while others are firmly attached to the decidual portion. Under the microscope, the arborescent branching is readily appreciated, and it will be found that a great part of the interior of the terminal branches is occupied by blood-vessels, which break up into capillaries, just before reaching their free ends (Fig. 3813).

Development of the Placenta.—All early human ova thus far described have presented, upon their outer or chorionic surface, branching villi each of which consists of a core of chorionic mesoderm covered by two layers of epithelial cells. For many years the origin of the latter has been a source of dispute, due in great part to the fact that much of our knowledge of human embryology is purely hypothetical, and is based upon observations made upon the lower mammals. During the last few years, however, considerable light has been thrown on this question by the study of the early human embryos of Peters, Leopold, and Spee, and by the work of Selenka upon the anthropoid apes, and of Hubrecht upon hedgehogs. Peters' specimen is the earliest human ovum thus far described, and was believed by him to be from three to four days old (Fig. 3814). Many writers, however, consider it to be somewhat older, probably at the end of the first week. The ovum was embedded in the depths of the endometrium, and was surrounded by a thin layer of mesoderm, surmounted by a capsule of many layers of fœtal ectoderm. To this latter Peters applied the term *trophoblasts*. He advocated the view that the trophoblasts proliferate rapidly, and invade the capillaries of the surrounding decidual tissue, with the consequent formation of pools of maternal blood of varying size. These are situated in the trophoblastic capsule, but are bounded externally by decidua, and represent the earliest stages in the formation of the *intervillous spaces*. As a result of the opening of the maternal vessels the trophoblasts soon present a sieve-like appearance, and the cells become compressed into masses of irregular form, some of which extend from the ovum to the surrounding tissue, while the majority never reach it. Into these the mesoderm soon makes its way, thus giving rise to the primary villi. Those reaching the decidua are known as *fastening*, or *anchoring villi*, and become firmly attached to it by the proliferation of the ectodermal cells at their extremities, giving rise to masses of cells, which may be seen throughout the first half of pregnancy and are designated as *cell nodes*.

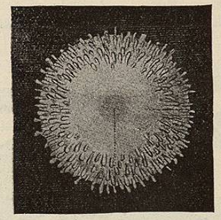

FIG. 3815.—Reichert's Ovum. Magnified six times. (From J. Whitridge Williams.)

During the first weeks of pregnancy branching villi project from the entire periphery of the ovum (Fig. 3815), and come in contact not only with the decidua upon which it rests (serotina), but also with the layer which separates it from the uterine cavity (reflexa). During this period, the villi are devoid of blood-vessels,

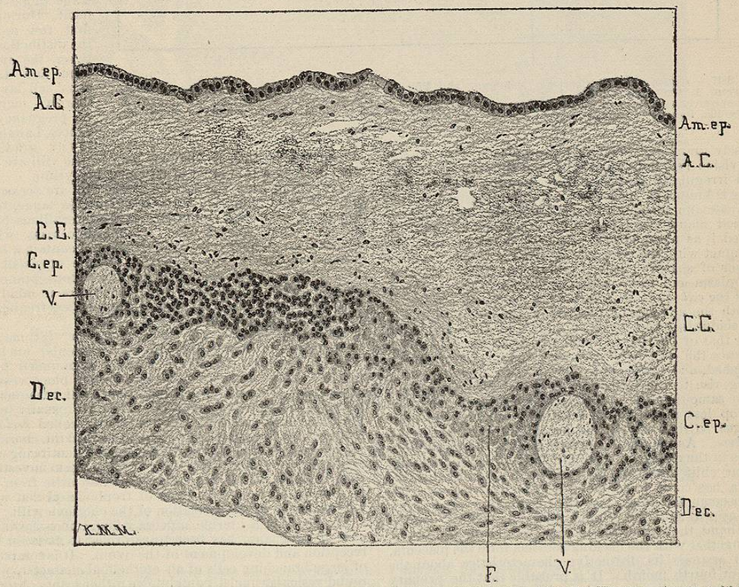

FIG. 3816.—Section through Fœtal Membranes and Decidua at Term, Outside of the Placental Site. Magnified 77 times. *Am.ep.*, epithelium; *A.C.*, amniotic connective tissue; *C.C.*, chorionic connective tissue; *C.ep.*, chorionic epithelium; *V*, degenerated villi; fibrin; *Dec.*, decidua.

and the ovum is nourished by osmosis from the maternal blood. Probably as a result of contact with the maternal blood, the outermost cells of trophoblasts early undergo marked changes, becoming converted into a layer of

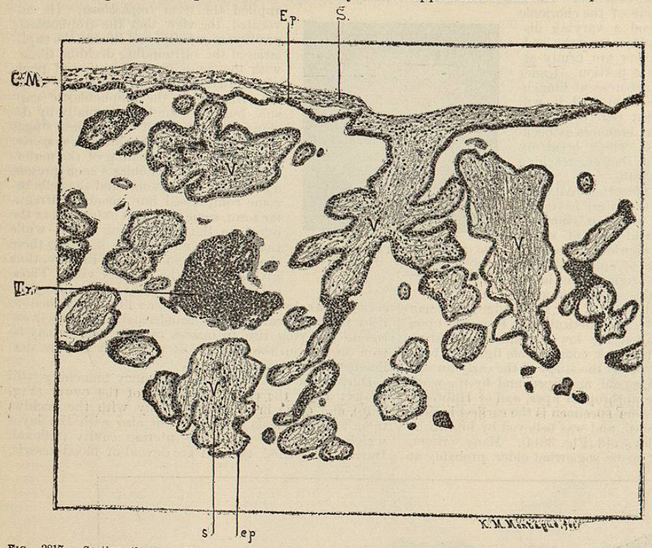

FIG. 3817.—Section through Chorionic Membrane and Villi of a Two-Weeks Ovum. Magnified 33 times. (From J. Whitridge Williams.) *C.M.*, Chorionic membrane; *Ep*, epithelium of chorionic membrane; *S*, connective-tissue layer of chorionic membrane; *V*, villi; *s*, stroma of villus; *ep*, epithelium of villus; *Tr*, decidual island (remnant of trophoblast).

coarsely granular, vacuolated protoplasm, with no sign of division into individual cells, and through it are scattered irregularly shaped, darkly staining nuclei. This tissue is known as *syncytium*, a term introduced in 1893 by Kossmann, although its characteristics had been recognized many years before by Kastschenko, who described it as plasmodium. Beneath the syncytium, and in contact with the chorionic connective tissue, develops a layer of sharply outlined, polygonal cells, with clear protoplasm and large vesicular nuclei, which is designated the *cell layer*, or *Zellschicht of Langhans*.

With the advance of pregnancy, the blood supply of the decidua serotina becomes more and more abundant, while that of the reflexa gradually disappears; as a consequence the villi in contact with the former are better nourished, and grow more rapidly than elsewhere, thus giving rise to the formation of the *chorion frondosum*. At the same time the villi covering the rest of the ovum develop less rapidly, and eventually undergo atrophic changes, so that this portion becomes known as the *chorion lævæ*. As the ovum increases in size, the intervillous spaces in the chorion lævæ diminish in size and gradually become obliterated, and by the fourth month, when the reflexa has come in contact with the decidua vera, the villi become atrophied, lose their epithelium, and eventually appear as round or oblong hyaline bodies. On the other hand, the villi of the chorion frondosum proliferate, and together with the decidua serotina form the placenta, which assumes its distinctive characteristics about the third or fourth month. It is probable that the primary villi do not increase in number with the advance of pregnancy, but their branches rapidly increase in complexity, so that their growth has been aptly compared to the development of a forest from a number of young trees.

Cross sections of chorionic villi differ markedly in appearance at the various periods of pregnancy, and De Loos has shown that their age may be roughly estimated according to their structure. Thus, in the early weeks, they consist of a more or less mucoid stroma with a few branching cells, the proliferation of which gives rise to the fibrillar structure observed in older villi. After the first few weeks the stroma is invaded by blood-vessels of fœtal origin, which come down by the cord, and which follow the villi in all their ramifications. The epithelial structures also differ in appearances according to the stage of development. During the first few months the distinction between the syncytium and Langhans' cell layer is sharply marked. As pregnancy advances, Langhans' layer gradually disappears, so that in the last months the villi are covered only by a thin layer of flattened syncytium.

Projecting from the surface of the villi are occasional buds of syncytium, which when cut across tangentially appear as *giant cells*, lying free in the intervillous blood spaces. They consist of a protoplasmic mass, which presents no distinct cellular division, and contain a large number of darkly staining nuclei. These represent the first stage in the development of new villous branches, and, as might be expected, when one bears in mind the development of villous processes, are seen less frequently in more mature placentæ.

Here and there, in the spaces between villi, may be seen masses of small clear cells with vesicular nuclei—*decidual islands*. These are usually surrounded by a layer of syncytium, rarely, if ever, contain blood vessels, and appear to consist of decidual tissue, which frequently presents areas of degeneration. They are usually interpreted as cross sections through the so-called *decidual septa*, which are supposed to extend toward the chorionic membrane. Formerly they were regarded as being maternal in origin, but in the light of more recent investigation, it seems better to consider that they arise from fœtal tissue, and represent areas of trophoblasts that were not concerned in the formation of the chorionic villi.

The decidua is uterine mucosa which under the influence of pregnancy has been transformed to fit it for the reception and development of the ovum. It is composed of large branching cells of an epithelioid character, with round vesicular nuclei, containing a rather scanty chromatin network. In the upper portion of the decidua serotina is a thin layer of homogeneous tissue, staining deeply

with eosin, and containing many vacuolated areas. This, the so-called *layer of canalized fibrin*, results from the degeneration of the trophoblastic cells forming the cell nodes. It was first described by Raissa Nitabuch, who showed distinctly that it marked the boundary between fœtal and maternal tissue; the cells which lie above it, in spite of their resemblance to decidual tissue, are of fœtal origin, and result from the proliferation of the trophoblasts, while those below it are of maternal origin and have developed from the stroma of the uterine mucosa. Interspersed between the latter are giant cells of syncytial origin, which invade the depths of the decidua serotina, and may even extend into the uterine muscle.

The intervillous spaces are lined throughout by syncytium, save where it has undergone degeneration in the decidua serotina and forms part of Nitabuch's fibrin layer. They contain maternal blood, as has been definitely proven by the work of Waldeyer, Farre, Turner, and others. The portion of the intervillous spaces which lies at the periphery of the placenta, between the edge of the decidua serotina and chorion, has been termed the circular sinus. It is not a continuous channel, although the villi here are less abundant than elsewhere. The blood gains access to the cavities by branches of the uterine arteries, which pursue a convoluted course through the decidua serotina, and after their walls have been reduced to a single layer of endothelium, open from the sides of the decidual septa. The blood escapes through wide-mouth veins upon the decidual surface, and makes its way to the large venous sinuses, underlying the placental site. It would consequently appear that the intervillous circulation is necessarily of a sluggish character, thereby facilitating the interchange of substances with the fœtal blood in the vessels of the chorionic villi.

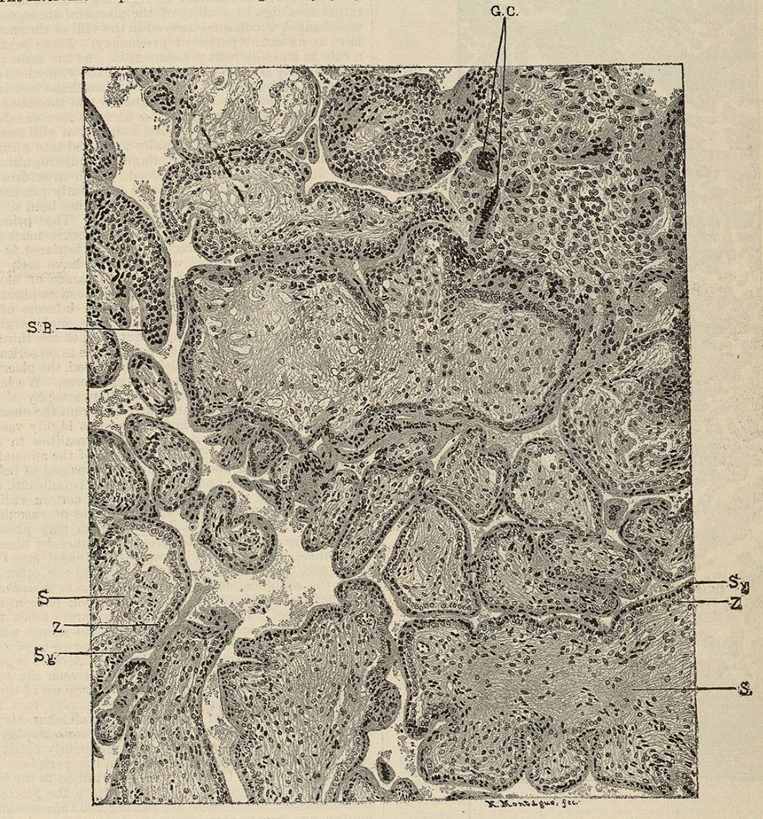

FIG. 3818.—Section through a Three-Months Placenta, Showing Structure of Chorionic Villi. Magnified 110 times. (From J. Whitridge Williams' "Text-book of Obstetrics," Appleton & Co., New York, 1903.) *S*, Stroma of villus; *Sy*, syncytium; *Z*, Zellschicht; *S.B.*, syncytial bud; *G.C.*, so-called placental giant cells.

The villi are bathed on all sides of their syncytial covering by the maternal blood in the intervillous spaces, and

contain branches of the umbilical arteries which break up into capillaries in the terminal ramifications. As direct communication between the fœtal and maternal circu-

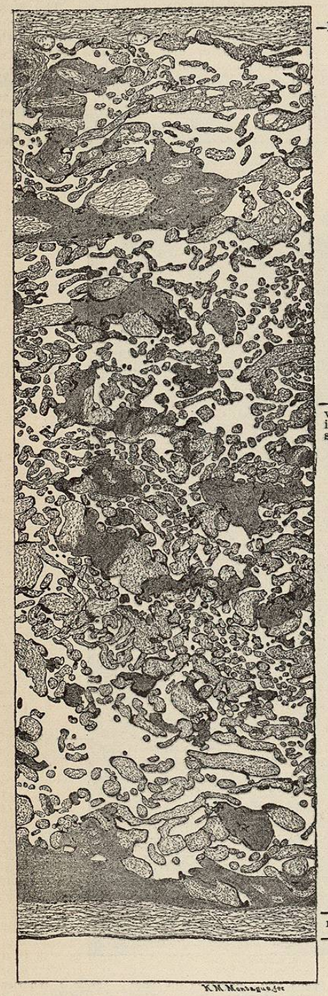

FIG. 3819.—Cross Section of Seven-Months Placenta Showing Beginning Infarct Formation. (From J. Whitridge Williams.)

lation has been disproven, it is evident that the fœtus is nourished by substances derived from the maternal blood, by osmosis, and by the selective power of the syncytium. These must traverse the layers of the chorionic villi which separate the two circulations. In the early and middle months of pregnancy there are four such layers—syncytium, Langhans' cell layer, the connective tissue of the villi, and the endothelium of the villous capillaries. Later, this number is reduced to three by the disappearance of the Langhans layer. These act as a barrier to the passage of formed substances. While the evidence concerning this question has been conflicting, it seems probable, in the light of recent investigations, that bacteria at least are not transmitted from the mother to the child unless the placenta presents definite lesions, which may constitute portals of entry.

The full-term placenta contains many infarcts, which if of moderate size cannot be regarded as a disease, but rather as a sign of senility of the placenta, analogous to the changes which are observed in the villi of the chorion læve at an earlier period of pregnancy. These begin as a rule in an obliterating endarteritis. At the same time changes may be seen in the portion of the villi which corresponds to the position occupied by Langhans' cell layer in the early months. This progresses and the tissue becomes converted by coagulation necrosis into canalized fibrin. If the process continues, numbers of villi become fused together and are eventually converted into a fibroid material, which in its final stages is indistinguishable from fibrin derived from the blood. Such structures are known as white infarcts, and are constantly present in varying size in every normal placenta, as has been shown by Ackermann, Eden, and Williams. The primary change in the production of infarcts occurs most frequently in the villi, although it may be initiated in the so-called decidual septa, which, as we have seen, are prone to degeneration, owing to the absence of blood-vessels. The frequency of infarcts has been emphasized by Williams, who found white surface infarcts of at least 1 cm. diameter in 243 of 500 placentæ, and marginal infarcts which extended throughout at least one-third of the placental periphery in 184 cases of the same series.

Anomalies in Form.—As already indicated, the placenta may present many varieties in size and form. We have seen that it becomes discoid in shape by atrophy of the villi of the chorion læve, and develops from the chorion frondosum, which is attached to the most highly vascularized portions of the decidua. Abnormalities in the blood supply of the decidua cause most of the anomalies of the placenta. If the vascularization, instead of being limited to the single area of the chorion frondosum, develops in several portions of the decidua, certain villi of the chorion læve, corresponding to the seat of vascularization, persist, and the resulting placenta may present one or more lobes, separated from each other by normal membranes. When it is incompletely divided into two lobes and the vessels extend from one to the other to form the umbilical cord, we term it *placenta dimidiata*, or *bipartita*. Ahlfeld noted this condition once in six hundred cases. If it consist of two separate lobes, the vessels of which are perfectly distinct, and do not unite until just before entering the cord, it is known as *placenta duplex*. The insertion of the cord in such cases is generally marginal, and at the periphery between the two lobes. Occasionally the organ may be made up of three distinct lobes—*placenta triplex*, while in very rare instances it may consist of a number of small lobes, Hyrtl having described as many as seven—*placenta septuplex*.

One or more accessory lobules are frequently noted in the membranes at some distance from the periphery of the main placenta. Ordinarily they are united to the latter by vascular connections and constitute the *placenta succenturiata*. When these are lacking and the accessory lobules are functionless, they constitute the *placenta spuria*.

Failure of the chorion læve to atrophy results in the formation of a thin placenta, which covers more or less of the entire inner surface of the uterus with functioning villi. This constitutes the *placenta membranacea*, which is frequently adherent, and may give rise to serious complications in the third stage of labor. Atrophy of the central primary villi of the chorion frondosum gives rise

to the so-called *placenta fenestrata* in which there is an aperture of varying size in the central portion of the placenta, covered only by normal membranes. Other anomalies may occur, and as reported by Taurin the human placenta may be a broad annular organ which encircles the uterine cavity like those of the carnivorous animals.

The outlines of the placentas in the case of twins varies accordingly as development occurs from the ova of two Graafian follicles (double-ovum twins), or from one ovum whose nucleus has undergone cell division (single-ovum twins). In the former instance there are two distinct placentas. In the latter, there is but one placenta, with a single chorion which contains two separate amnions, so that each child lies separated from the other by two amniotic walls. This septum may be ruptured by unusual pressure of the amniotic fluid or by excessive fœtal activity and atrophy of the partition may result.

The placenta in utero is generally attached either to the upper portion of the anterior or posterior wall, and extends for some distance upward and upon the fundus. If the insertion be low, it may cover the internal os of the cervix, which condition is known as *placenta prævia* and constitutes a most dangerous complication of pregnancy. Schroeder has drawn attention to the fact that the direction of the round ligaments may indicate whether the placenta is anteriorly or posteriorly placed. If the placenta develops upon the anterior uterine wall, the increased blood supply will cause a more rapid growth in this region and the resulting increased breadth of the uterus will cause the ligaments to run more or less parallel. If the placenta be posteriorly situated the reverse will be true, and the ligaments will be found to diverge in their course downward. The distance between the internal os and the edge of the placenta may be estimated by measuring the length of the membranes of the shed placenta from their point of rupture to the placental margin. As rupture occurs over the internal os, we can by this method frequently reconstruct the position of the placenta in utero, having first determined by palpation of the round ligaments as to whether the placenta was anteriorly or posteriorly placed.

Frank Worthington Lynch.

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PLACENTA, PATHOLOGY OF.—The chief part of the pathology of the placenta has been discussed under the heads of *Chorion, Pathology of the*, and *Decidua, Pathology of the*. This article will treat only of the general pathological conditions of the organ considered as a whole; namely, anomalies of development, size, and location, general disturbances of circulation, inflammation, etc.

Anomalies of Development.—These are of not infrequent occurrence. Instead of the usual round or oval form, the placenta may exhibit the greatest diversity of shape, such as crescentic, horseshoe, elliptical, etc. (*Pl. biloba, triloba, multiloba, reniformis, fenestrata, panduæformis, etc.*). Besides the main organ there may be found completely separated cotyledons appearing as smaller accessory placentas (*Pl. succenturiatæ*). The smaller accessory placentas owe their origin to a localized failure of placental development in certain areas corresponding to an endometritic thickening of the decidua with fibrin formation, leading to an obliteration of the intervillous sinuses at the point of separation between the main mass and the accessory cotyledons. Following the obliteration of the intervillous spaces the villi of the intervening areas undergo atrophy or fibroid change. Not infrequently the accessory placentas may suffer a similar change from obliteration of the intervillous spaces and appear in the mature placenta as thickened, bloodless areas separated from the main organ (*placenta spuria*). If the placenta becomes divided in similar manner by atrophy or non-development of a portion of the chorion, into two portions of approximately equal size, the phenomenon of an apparently double placenta with one child is presented (*Pl. duplex, dimidiata, bipartita*). Smaller accessory placentas may also be associated with this condition. The cord may be inserted marginally upon one half, or there may be a velamentous insertion between the two halves. It is also possible that a double placenta may be formed by the changes that occur in the placenta following the original implantation of the ovum in one of the uterine horns. Under such conditions the placenta finds proper nourishment for its development upon the anterior and posterior walls of the uterus, but not in the horn itself where the decidua is developed but slightly. As the result of the non-development of the chorion over the poorly developed