1. *Ueber das Alter des Bauch-und Gebärmutter-Schnitts an Lebenden.* Von Dr MANSFELD, practischem Arzte und Geburtshelfer zu Braunschweig. pp. 24. 1824.

On the Antiquity of Gastrotomy and Hysterotomy (Cæsarean Operation) on the Living Subject. By Dr MANSFELD, Accoucheur. Brunswick, 1824.

2. *Geschichte einer glücklichen Entbindung durch den Kaiserschnitt nebst Bemerkungen uber diese Entbindung's weise ueberhaupt.* Von Dr J. H. SCHENK, Siegen. pp. 150. (Siebold's Journal für Geburtsulfe. Nov. 1825. Auch besonders gedruckt).

Case of Successful delivery by the Cæsarean Operation with Remarks on this Mode of Delivery in General. By Dr J. H. SCHENK, Siegen, (First published in Siebold's Journal for Midwifery, and afterwards in a separate Pamphlet). Nov. 1825.

IN the former of these pamphlets, Dr MANSFELD endeavours to show, that the Cæsarean operation was undertaken long before the time usually stated by different writers on this sub-

ject. Some authors conceive the case recited by NICOLAII DE FALCONIIS * as the first in which the operation was performed on the living subject. Others, on the contrary, among whom is the late Osiander, † are of opinion, that the true Cæsarean operation was performed, for the first time, in the beginning of the 16th century, by JACOB RUFER, ‡ on his own wife; and KURT SPRENGEL § is inclined to think, that we cannot with certainty go any farther back than the beginning of the 17th century (1610), when, according to him, gastro-hysterotomy was undertaken for the first time by Jeremias Trautmann. Some again, as DELEURGE, LEVRET, and MAURICEAU, pass over altogether the antiquity of this operation on the living subject, or like PLENK or GARDIEN (Dictionnaire des Sciences Medicales) amuse themselves with the testimony of PLINY, ‖ who speaks of the operation only on those who die in a state of pregnancy. It is however not improbable, that about the time, or perhaps a little later, when the Cæsarian operation was directed by law to be performed on deceased pregnant persons, its performance on the living subject, owing to a series of unfortunate cases, was neglected, but some centuries after again brought into practice. It is certainly extremely probable, that during a space of more than two thousand years, this operation, which the ancients under other circumstances knew so well how to perform, was resorted to in cases of difficult labour, when the ordinary means failed in affording relief.

The assertions of AMBROSE PARÉ, ¶ the most celebrated surgeon in France during the 16th, and of J. S. SACCOMBE ** towards

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* Vide Observationes Chirurgicæ. Venet. 1491, fol.; etiam Halleri Bibl. Chirurg. vol. i. p.

† Handbuch der Entbindungskunst, 2 Bd. 2 Abtheil. Tubingen, 1821. p. 294.

‡ Fœtus vivi ex matre viva sine alterius vitæ periculo cæsura a FRANCISCO ROUSSETO conscripta, CASPARO BAUHINO latine reddita, variis historiis aucta et confirmata. Basil, 1591. 8. p. 117.

§ Geschichte der Chirurgie, I. Theil, Halle 1805, p. 388.

‖ Historia Naturalis, Lib. vii. cap. 7.

¶ De hominis generatione Cap. XXXI. "Caeterum non possum satis mirari eos qui sibi visas mulieres affirmant, quibus non semel novacula abdomen cum subjecto utero rescissum sit ad foetum, numquam alioqui prodituram, extrahendum. Id enim salva matre fieri posse mihi persuadere nunquam potui, propter necessariam vulneris in epigastrii musculis, uterique substantia magnitudinem. gravidae enim et parturienti mulieri cum uterus multo sanguine undique distentis vasis turgeat, ingentem inde haemorrhagiam, prorsumque lethalem consequi necessum foret. Deinde consolidato uteri vulnere, haud permissura est obducta cicatrix ipsum denuo ad novae prolis gestationum dilatari. His aliisque ex causis id curationis genus, quod periculi et desperationis plenum est, minime usurpandum censeo." vid. Opera chirurgica collect. per Petrum Uffenbachium. Francofurti 1590. p. 519.

** Elemens de la Science des Accouchemens, Pref. p. viii—xx. Lucine Française, No. II.

the end of the 18th century, respecting the Cæsarean operation, are not deserving of much attention, since PARÉ is rather inconsistent, when on the one hand he denies the possibility of the fortunate termination of this operation, (as according to him the patient must bleed to death), and then immediately confirms the numerous successful cases related by ROUSSET in his *Traité de l'hysterotomie* (Paris 1581), under the testimony of Professor de MONANTEIL by the words, *j'atteste ce que dessus.* The absurd doctrine of SACCOMBE against the Cæsarean operation, arose entirely from jealousy towards those of his contemporaries who had performed it; and in proof of this, we need only state the motive which SACCOMBE ascribes to ROUSSET for recommending this operation. "FRANCIS ROUSSET, en propageant une operation toujours mortelle, eut le double motif du fanatisme et de l'ambition, en faisant egorger les femmes des Protestans, pour plaire à Medicis, qui en reconnoissance des ses bons offices, le fit medecin de sa cour." (*Vide Elemens de la Science des Accouchemens, par Saccombe, p.* 283.) After this, SACCOMBE's opinion respecting the cases mentioned by ROUSSET will not be regarded with much attention. Whether, however, it be true or not, according to ROUSSET, that Jacob Rufer really performed the operation on his wife, is of little consequence, if it can be proved that, in the beginning of the eleventh century at least, if not earlier, gastro-hysterotomy was performed on the living subject.

The THALMUD, which owes its origin to the learning of the ancient Jews, and is a production of great antiquity, contains minute accounts respecting this operation, all of which evidently relates to its performance on the living subject. Even in the *Mischnajoth** which may be considered as the oldest work which the Jews possess, we find mention made of this operation under the name יוצא דופן (division of the parietes); and in the eighth division of the work is contained the following passage. "In a case of twins, neither the first child which shall be brought into the world by cutting into the abdomen, nor the second can receive the rights of primogeniture, either as regards the office of priest, or the succession to the property." Both the TALMUD and the MISCHNAJOTH possess several commentaries from different learned Jews; and the passage above quoted has received from each almost a different interpretation; but from all it is very apparent, that the operation was occasionally practised on the living subject. The indications for the performance of the Cæsarean operation are not contained in these works, and are only to be

* The *Mischnajoth* was composed 140 years after the birth of Christ by all the learned Jews then living. Some even think it still older.

found in modern times; since it is by taking the different dimensions of the pelvis only, that it can be ascertained whether delivery can take place in the natural way or not. If we continue our researches farther back, we shall find other proofs of the Cæsarean operation being of older date than that generally ascribed to it by the learned. In a work called the NIDDA, which may be considered as an appendix to the THALMUD, we find (Div. 5th) in allusion to the time during which the husbands were to abstain from their wives after delivery, "that it was not necessary for the woman to observe the days of purification after the removal of the child through the parietes of the abdomen." What then can be a stronger proof that the Cæsarean operation was known at that time than the above passage? and how natural is the conclusion that it was frequently performed on the living subject with success, particularly when one considers that, in the same work, (the NIDDA), there are several controversies respecting the point, whether it was necessary for women after delivery by this operation, to observe the days of purification. MAIMONIDES, who was written a commentary on the NIDDA, enters into an explanation about the words יוצא דופן which, according to him, signify, that a woman, who cannot bear in the natural way, should be opened in the side, and in this way delivered of her offspring. From this also we may see, that the incision in the *linea alba* is not the oldest mode of performing the operation, as OSIANDER * thought, but that the incision on one side claims the priority. How the operation was performed, SALOMO JARHI, a very learned Rabbi, who has written a commentary on the NIDDA, informs us, in the following words:—"The abdomen must be opened by SAMM, the child extracted, and then the parts healed." SAMM, in this passage, has a different signification from that in which it is generally employed: It usually means AROMA, or a substance which penetrates every thing by its smell; but here it evidently signifies an instrument, which was sufficiently sharp for the division of various parts.

These are the results of Dr MANSFELD's investigations, and they form, in our opinion, "a valuable addition to the history of the Cæsarean operation. The point which Dr M. has endeavoured to prove was doubted by OSIANDER, who, only a year or two before his death, said, that he did not think the removal of the child, through an incision on either side of the abdomen, had been performed earlier than the operation in the *linea alba*, viz. the 16th century, but that it would be extremely remarkable if it could be ascertained that the operation on the side had

* Handbuch der Entbindungskunst, 2ter Bandes, 2ter Abth, p. 300, § 155.

been performed earlier either on the dead or living subject. Dr MANSFELD has proved, as far as the thing admits of proof, that the operation was performed, in early times, among the Jews, although no particular cases are mentioned, (for such are not to be found on record), still the operation is so frequently mentioned in the old rabbinical writings, that the fact of its having been performed long before the 16th century seems placed beyond all doubt.

We see then that with the ancients the Cæsarean operation was always performed on the side: the left side was first chosen in order to avoid the liver; afterwards it was performed on both sides according to the situation of the uterus, and the supposed situation of the placenta. The incision was made on the external side of the recti muscles, and parallel to them; frequently it was carried in an oblique direction towards the pubes. The bleeding which attended this mode of performing the operation must have been very considerable, from the frequent wounding of the epigastric artery; but still it is a curious fact, that from 1500 to 1769, a space in which, according to STEIN, 82 Cæsarean operations were performed in this mode, only six turned out unfortunate. First between 1770 and 1780, some celebrated accoucheurs, both in Germany and France, began to adopt the linea alba as the best spot for the incision. This operation is ascribed by some to Z. PLATNER, but MAURICEAU knew it, and GUERIN first performed it. * In Germany, HENKEL first (1769) attempted the operation in the linea alba, but DELEURGE revived it, and named a surgeon of Lisle, one VAROQUIER, as its first proposer. Deleurge † was the chief person who showed the advantages which were to be derived from this mode of performing the operation, by preventing the protrusion of the intestines, and the loss of blood. Since that time, the linea alba is the spot which has been generally chosen. Shortly after this period LAUERJAT recommended quite a contrary direction for the incision. According to him, the uterus should be divided in an horizontal direction; and he proposed that the first incision should be made between the recti muscles and the spine, just below the third false rib, at the point towards which the uterus projects. He thought this mode possessed the following advantages: 1st, as the lower two thirds of the uterus remain uninjured, a cavity might easily form in which the effused blood would be received, without passing into the cavity

* Guerin, Histoire des deux Operations Cæsares. Paris, 1750.

† M. F. A. Deleurge, Observations sur l'Operation Cæsarienne à la ligne blanche, &c. Paris, 1779.

of the abdomen. 2dly, The transverse wound of the uterus heals in the completest manner, since the contraction of this part takes place principally from above downwards. 3dly, That this was also the case with the incision in the integuments he endeavoured to prove, by the direction which the fibres of the muscles oblique and transversalis took. LAUVERJAT performed the Cæsarean operation in this mode twice with success, but it met with a great deal of criticism from his contemporaries, and was not at all generally adopted. G. W. STEIN * whose principal object in the treatment of persons on whom the Cæsarian operation had been performed, was to prevent the separation of the lips of the wound of the uterus, objected to the modes which had been before tried, because, first the longitudinal incision (either in the linea alba, or external to it), was very likely to produce separation of the edges of the wound from the pressure exerted on the uterus from above, and the opposition from below or within, and in the transverse wound, because one edge might very easily lap over the other. According to STEIN the middle, when the two modes, viz. in the diagonal direction, could provide the proper position of the edges of the wound, because the lips of the diagonal wound, as soon as the uterus was compressed in the larger pelvis, would be mechanically kept in apposition. For those reasons Stein proposed that the incision should be commenced from the end of the last rib, and carried obliquely over the abdomen towards the ramus of the pubes of the opposite side, so that the middle of the incision should come in contact with the middle of the linea alba. The danger of the Cæsarean operation, however, does not arise from the separation of the edges of the wound of the uterus, for in the greatest number of the cases which have been examined after death, this did not exist, and in those cases in which it does, the wound is not likely to be closed in the way in which Stein supposed. It is true that STEIN found a complete separation of the edges of the wound in one case which he examined, but the usual appearance is to find the lower angle of the wound gaping, whilst the edges of the upper half of the uterus are in close contact. Thus for instance, KLEIN found on examination of a person who lived four days after the operation the stomach and bowels distended with air, the uterus of the size of a man's two fists lying at the entrance of the pelvis, so that the wound rested against the bladder. The inner edge of the lips of the wound were in contact, but not adhering to to each other; at the lower angle only were they asunder; the

* G. W. Stein's Geburtshülfliche Abhandlungen I. Heft. Marburg, 1803.

external edges stood one inch apart from each other. At the base of the uterus the parietes were quite thick; the neck, however, was quite thin. * MENDEL examined the corpse of a person who died a hundred hours after the operation, and found the uterus six inches in length, four and a quarter broad, and above two inches thick. At the upper half the edges of the wound were quite close to each other, but not adhering; inferiorly they were separated to the extent of an inch. † This separation at the inferior angle is not always met with as may be seen by perusing the cases in SIEBOLD'S *Journal fur Geburtshulfe* II. Bd. III. Heft, from SERVACS, and those from WEISSENBORN, ‡ where the edges of the wound were formed in the whole length were found close to each other although not adhering. These and similar observations show the fallacy of STEIN'S opinion, which he too hastily drew from a few isolated cases. Another mode of performing the operation by making a transverse incision in the integuments between the rectus muscle and the spine, was most distinctly recommended by LAUVERJAT, and after him DEMKER, § advised that the incision should be carried through both recti muscles to the extent of 7 or 8 inches in length.

The most celebrated Continental accoucheurs are now agreed, that neither of the proposed modes in every case is applicable, arising from variety of circumstances, as the structure of the integuments of the abdomen, the situation, form, and projection of the uterus. If one only regarded the structure of the integuments, the linea alba between the umbilicus and pubes presents the greatest advantage. In no part are the abdominal parietes thinner than in this; and the bleeding which, in other parts, is very considerable, is here very trifling; and in no part can the adhesion of the integuments be more safely and quickly effected than in the linea alba. Advantageous as the incision in the linea alba in general is, Dr SCHENK thinks it is not always practicable; and the rule which is now laid down on the Continent is, to cut opposite to that part where the projection of the uterus is the greatest. The reasons for this are, that the integuments of the abdomen lay closer to the gravid uterus, whilst the omentum and the intestines are pressed either above or to one side, so that an assistant can very readily prevent them from protruding in the way of the operator. If, it is said, the surgeon, regardless of the shape and situation of the

* Loder's Journal fur's Chirurgie, etc, II. B. 4. Heft.
† Vid. Siebold's Lucina, VI. Bd. I. H.
‡ Observ. duæ de partu cæsareo. Erford, 1792.
§ Dissert. sistens rationem optimam adm. part. cæs. Duisb. 1771.

uterus, always made the incision in one direction, it must frequently happen that the intestines would prolapse, and retard the operation. The linea alba is the spot which is generally chosen for the performance of this operation in England; and it appears to be the best on account of the less hemorrhage and greater facility of producing adhesion here than in other parts. With respect to the protrusion of the intestines, it may, we think, be entirely prevented when the operator has two good assistants, one on each side of the patient, provided with large sponges, so that a larger surface may be compressed, than with the bare hands. We have had an opportunity of observing this plan carried into effect, by which the intestines were completely repressed.

We shall now consider the spot most eligible for the incision in the uterus, which has been as much the subject of dispute as the part best fitted for the division of the integuments. Millot, * who advocated the lateral incision of the integuments in this operation, has also recommended that the uterus be divided as much as possible to the side, about three or four inches removed from the fundus, in order to prevent the after-adhesion of the intestines with this organ. The objection, however, to the incision being made in this spot, is the greater number of vessels here. The danger also of wounding the broad and lateral ligaments, together with the Fallopian tubes, is almost certain; on which account the lateral incision of the uterus is seldom practised. In general, it is recommended to divide the uterus in a longitudinal direction from the fundus to the mouth. The advantages of this mode are, that let the child be in whatever position it may, it can with facility be removed. In the transverse incision of the uterus, the sides are wounded, and one or both of the round ligaments can be very easily injured. In the diagonal direction, also, the extraction of the child may be attended with difficulty, if it should happen to lie in the natural position, longways in the uterus. In this case, the incision remains far removed from the fundus of the uterus, the breech of the child will be confined in it as in a sack, and thus oppose its easy removal. The lower point of the incision will be at a little distance from the neck of the womb, so that the extraction of the head will be attended with difficulty, and perhaps the turning of the child be required. The longitudinal incision has none of these disadvantages, and affords an opportunity of removing the child, according to the circumstances of

* Observ. sur l'Operation Cæsarienne avec la Description d'une nouvelle Methode de l'operer. Paris, an. vii. p. 407.

the case, at one time with the head foremost, at another with the breech. The danger of wounding the bladder in the longitudinal incision is certainly greater than in the other cases; but no one would think of performing this, or similar operations, without previously emptying both the bladder and rectum. The next step of the operation consists in removing the child and the placenta, which is not in general attended with great difficulty when the incision has been made along the upper surface of the womb. If strong contractions of the womb should come on during this stage of the operation, the operator will naturally desist from the attempt till they have ceased. The mode of removing the child must depend a great deal on the nature of each individual case; and it is therefore quite unnecessary to lay down any general rules respecting it. If, after the removal of the child, the placenta is in its natural position, and has not been injured by the division of the parietes of the uterus, its separation with the hand is easy, and requires no particular instructions as to its performance. It however very frequently happens, that it is wounded in cutting into the uterus; and this is by some considered as a very serious circumstance, on account of the increase of hemorrhage. But how often has the placenta been divided without any considerable hemorrhage following. Even when the whole placenta has been divided with the knife, the bleeding has not been very considerable; and we are not aware of any case being on record of death from hemorrhage in this operation. LAUVERJAT was of opinion that loss of blood in a considerable quantity was of use, and even thought it a desirable point to wound the placenta in the operation, that this might take place. The injury of the spot where the placenta is attached has some analogy to the case where the placenta is seated opposite to the mouth of the uterus in the delivery *per vaginam*, and in the same way requires the speedy termination of the labour. When the placenta has been wounded, the bleeding part can be compressed or not by an assistant, as the nature of the case may require, and the operator proceeds to lengthen the wound as quickly as possible; he can either cut through the placenta, as in the case where only a small portion of it lies opposite to the incision, and thus effect a clear opening for the removal of the child; or, where the whole placenta lies opposite to the wound in the uterus, continue the incision between it and the womb, and then separate it with the hand. WIGAND, and with him STEIN, have recommended the placenta not to be removed by the wound in the uterus, but by the vagina, for which purpose WIGAND directs that the navel-string should be brought by means

of a small curved stick through the mouth of the uterus into the vagina, and thus separate it, or allow it to come away of itself. We see no advantage whatever to be gained from this complication of the operation; and the mention of it is only interesting in an historical point of view, to show the different stages through which operations, as well as most other things, pass before they arrive at a state of simplicity. As soon as the uterus is freed from its contents, and it begins to contract, the bleeding generally stops. We know only of one case where the contractions of this organ were not sufficient alone to stop the hemorrhage. This is recorded in Siebold's Journal of Midwifery,* where the operator was obliged to take up a vessel, and thus prevented the farther loss of blood, which he had not been able to do by any other means. The blood which remains in the uterus, or any portion of the membranes which may hinder the discharge *per vaginam*, must be removed with warm sponges, and the surgeon proceeds to the fourth stage of the operation, the union of the wounds.

The union of the divided surfaces of the uterus is in general effected by nature with slight mechanical assistance; and the great object is to promote, as far as possible, the regular contractions of the womb, upon which alone the process of adhesion depends. With this view, slight mechanical irritation on the uterus will be found most serviceable; and after the removal of the placenta and the coagula of blood, slight friction of the uterus, or pressure, generally produces contraction of the uterus, if these had not previously taken place. Several other mechanical means have been recommended for the procuring adhesion of the wound of the uterus, particularly by those who were of opinion that the separation, as well as the adhesion of the lips of the wound, depended on mechanical causes. Stein,† after advocating the diagonal incision of the uterus, under the impression that this was most favourable for procuring the adhesion, afterwards recommended the introduction of a sponge into the cavity of the uterus, either by the wound or the vagina, as might seem most practicable. Stein supposed that the sponge would afford a protection to the uterus against mechanical causes without, and serve for the taking up the secreted blood, and also the injections which were to be made use of after the operation. The sponge was to be provided with a string, which must hang out of the vagina, so that it might be withdrawn when thought necessary. This same accoucheur also recommended a graduated compress to be applied above the pubes,

* Fur Geburtshulfe, Vol. I. Part II.
† Geburtshuelfliche Abhundlungen.

by which the lapping over of the lips of the wound were to be prevented. If any other mechanical means were necessary than those already mentioned, we should certainly be inclined to give the preference to the suture, which would not be likely to produce the same bad effects as Stein's mode. LAUVERJAT * mentions a case where the suture was employed. On the 27th of August 1769, LEBAS, surgeon at MOUILLERON, was called to a woman who had been four days in labour. Conceiving the Cæsarean operation indispensable, he made a transverse incision, which extended from a little below the navel to the ribs on one side. As this incision was too high, LEBAS made a second, more oblique than the first, which began about an inch under the navel, and joined the other. A complete protrusion of the intestines took place. A transverse incision was made in the uterus, which was brought together by a suture. The patient was neither bled nor purged. She received some decoction of bark as a beverage. As soon as the edges of the wound were threatened with gangrene, some of this decoction was applied to it. Purulent discharge followed from the wound, and the thread was withdrawn by means of which the wound of the uterus had been brought together. On the 8th of October the woman was completely cured, and on the 20th she was able to go about her usual occupation. We can conceive that one or two sutures to the uterus may not produce any bad effect, and succeed in effecting a speedy adhesion of the lips of the wound; but the results of the *post mortem* examinations of the fatal cases of the Cæsarean operation, show that union generally takes place to a considerable degree. We have stated, in another part of this article, the appearances of the uterus which are usually found soon after death from this operation; and cases are not wanting, from which it might be shown, that complete adhesion of the wound of the uterus sometimes follows very rapidly after the operation. In RICHTER'S BIBLIOTHEK, † is a case related by SCHUZER of a person dying four days after the Cæsarean operation, from an error in diet. The wound in the integuments of the abdomen were quite healed; the uterus had so firmly contracted, that it was scarcely so large as a fist, and the wound in it was nearly closed. In Dr SCHENK'S case it was found, on external examination, on the 10th day, that the womb adhered to the edges of the external wound. It is also probable that this had taken place still earlier, and would have been discovered if a deeper examination had been practicable. In

* Nouvelle Methode de Pratiquer l'Operation Cæsarienne, Paris, 1778.
† I. Bd. p. 90.

SCHMUCKER'S *Vermischte Schriften* * is a case illustrating how well union, even under the most unfavourable circumstances, may take place. In the year 1779, the Cæsarean operation was performed by Dr FRITZE on a person well forward in the 6th month of pregnancy, whose abdomen had been ripped open by a mad bull, so that the arm of the child protruded. The woman recovered, again became pregnant, and was readily delivered in the natural way; she died, however, a few hours after delivery, from the rupture of some varicose veins in the ovary. On examining the uterus, it was found that the spot where the Cæsarean operation had been performed had so well cicatrized, that it was almost difficult to point it out with certainty; and the place where the bull's horns had penetrated would scarcely have been discovered, if the uterus had not been exceedingly thin here. These and similar cases show that the application of sutures to the wound of the uterus is not at all necessary.

The mode of keeping together the external wound has also been the subject of considerable dispute; some contending, that the position of the patient on the side, with adhesive plaster and bandages, are quite sufficient; others, that the use of sutures is indispensable. The first of these opinions, which is maintained by SABATIER and others, has been opposed by Siebold, who contends, that sutures are absolutely necessary, where the intestines are prolapsed, and cannot be returned in the usual way. In such a case, the integuments of the abdomen will require to be kept in apposition by some stronger means than simple adhesive plaster. This occurred in Dr SCHENK'S case; so that, without the use of sutures, the intestines could not have been kept in their natural situation; and something similar occurred to the deceased MURSINNA (formerly surgeon to the Hospital (Charité) at Berlin), which compelled him to resort to the use of sutures, after trying for a long time in vain to keep the intestines within the cavity of the abdomen, by means of adhesive straps. MURSINNA says, † that "after the contraction of the uterus, the intestines protruded so forcibly, that various means were tried in vain to effect their apposition, and keep the wound together. The intestines were distended with flatus, rolled under our hands, and protruded out of the wound. I had never anticipated any thing of the kind, and never saw it before. It is indescribable with what pains they were obliged to be kept back. It appeared as if the cavity of the abdomen was too small to contain them, and I was obliged to relinquish my

* Bd. 3. 1788, page 64.
† Vid. Journal fur Chirurgie, B. II. 1 St. p. 254.

plan of producing union of the wound by means of adhesive plasters, and to employ sutures. The advantages of the firm union which was in this manner effected, were very apparent. The union which took place was so firm, that on the second day after the operation, on the occurrence of violent vomiting, some blood merely escaped through the lower wound, which, however, soon disappeared. The patient died fifty-eight hours after the operation, and the wound was so firmly united, that it could not be easily separated." Sutures are in general employed on the Continent, and without any bad effects being observed to arise from them. AUTENRIETH * proposed that the thread should be introduced into the integuments prior to the incision being made in the uterus, in order to prevent the too long exposure of the intestines to the atmosphere, and others have gone so far as to recommend the application of the adhesive plasters round the loins prior to the division of the integuments. The first of these propositions may be entitled to some attention, but the second must strike every one to be quite useless. The lateral position is in general advised, in order that the discharge may find a ready exit.

We cannot conclude these observations on the Cæsarean operation, without alluding to some alterations which have been proposed in the mode of performing it; which may be somewhat the more interesting, as they are not generally known in this country, and have emanated from men of considerable rank in their profession. OSIANDER, the late Professor of Midwifery at Gottingen, † recommended the following plan to be adopted in those cases where the head lay towards the mouth of the uterus. The operator must introduce one hand into the pelvis, lay hold of the head of the child, and press it towards the integuments of the abdomen. The external projection determines the spot for the incision. The surgeon then, with the other hand, divides the integuments to the extent of four inches, not longer, so that it might correspond with the lower half of the uterus, which must then be divided. The operator then pushes the head through the opening in the womb, and afterwards the rest of the child. OSIANDER thought that the wounds in this mode would be shorter than in the other way; and that after the escape of the head, the body would be pushed forwards by the contractions of the uterus, by which means he should avoid the danger of the head being retained by the contracting power of the womb, as is sometimes the case when

* Tab. Blatter, 1816. II. 1. Heft.

† Osiander's Handbuch der Entbindungskunst, II. Th. II. abs.

the body is first removed. He expected, further, that the low situation of the wound on the contraction of the uterus would, in part, tend to prevent prolapsus of the intestines, and afford a freer exit to the discharge through the vagina, and above all, he thought that the incision in the lower half of the uterus less dangerous than in the upper part. The objections which have been brought against OSIANDER'S plan are, that the introduction of the hand into the narrow pelvis and the undeveloped vagina, and the pressure of the head against the integuments of abdomen, may be attended with injurious consequences both to the mother and the child. It has also been doubted whether much would be gained in the length of the incision in this way. It has also been supposed that the wound of the neck of the uterus would be more likely to remain ununited than in the other parts of this organ, on account of its being a less muscular part. The opinion respecting the incision in the lower part of the uterus being less dangerous than in the superior portion, is not generally adopted, although Siebold and a few others have advocated it. SIEBOLD says,* "that the wounds of the uterus are most dangerous on the sides at the lower segment; and that those of the mouth, the base, anterior and posterior surfaces, are the least likely to produce any bad consequences."

2. The idea that the principal danger of the Cæsarean operation consisted in the wounding the uterus, induced Jörg † to endeavour to imitate nature, when she expels the child into the cavity of the abdomen by the rupture of the vagina, as is often the case, and for this purpose recommended the vagina alone, and in cases of necessity, the mouth of the womb to be divided, thus leaving the body of the uterus untouched, and through this opening extract the child. However impracticable this mode may appear, JÖRG was still surpassed by aother surgeon RITGEN, ‡ who, conceiving that the wound of the peritoneum was unnecessary, recommend the following operation: A semicircular incision is to be made in the integuments, extending from the crista of the os ilium on the right side to the pubes, and then carried in the same direction through the muscles; the uninjured peritoneum must then be separated with the fingers or the handle of the scalpel from its attachments, in order to allow the posterior portion of the vagina being reached, and in this way the incision terminated. All these

* Lehrbuch der Entbindungskunst. I. Th. 1812, § 484.
† Handbuch der Geburtshulfe, Leipsic 1807, Div. x. cap. 7.
‡ Ritgen's Anzeigen der mechanischen Hulfen bei Entb. Giessen. 1820, p. 400.

proposed alterations appear to have no advantages sufficient to recommend them, and are therefore never adopted. In consequence of pregnancy sometimes occurring after the performance of the Cæsarean operation, it has been recommended by Michaelis to obviate this danger by the total extirpation of the gravid uterus,* which object it would most undoubtedly accomplish, by taking away the life of the patient.

With respect to Dr Schenk's case, the following are the chief particulars. The patient was a woman about 38 years of age, and already the mother of six children, her last delivery took place in the spring of 1819, when she brought forth twins. Since that period, however, she had laboured so much under disease, that the delivery in the natural way was impracticable. On the 2d of July 1823, the operation was performed by Dr SCHENK in the linea alba, and the child in this way readily removed. The integuments were brought together by sutures, and in about eight weeks after delivery the wound was completely cicatrized. About the beginning of October, exactly three months after the operation, the menses appeared. The discharge was stronger than usual, and what was very remarkable, the blood came not only through the mouth of the uterus, but also exuded through the middle and broadest part of the cicatrix, where the uterus had adhered to the integuments. Dr SCHENK had an opportunity of observing this appearance himself, which as far as he is acquainted with, has never been described. In the circumference of the cicatrix, the uterus could be distinctly felt in a state of turgescence from the menstrual congestion. In the menstruation which succeeded this, the exudation from the cicatrix also took place, but in a less quantity than before. Since this the menses have always appeared in the regular way.

The Cæsarean operation is now become so common on the Continent, particularly in Germany, that every journal for midwifery is filled with accounts of its performance; and the best sources of information to which we can refer for recent cases of this operation are Mende's Journal of Midwifery,† and Siebold of Berlin on the same subject. The performance of the operation has of late become much more frequent, and the success attending it (proportionally speaking) less than formerly. The circumstances under which the operation is recommended to be performed are, 1. when the conjugate diameter of the pelvis is less than 2 inches and a half, and the child is alive; and, 2. when the pelvis is so contracted that the re-

* Vid. Siebold's Lucina, V. B. § 89.
† Journal fur Geburtshulfe, Gottingen.

moval of the child (supposing it to be dead) piecemeal is not practicable. Even these rules, we fear, have not been always strictly observed; and we know a case where every preparation for the Cæsarean operation was making, and its performance determined on, and where the woman, before the necessary things could be got ready, was delivered in the natural way. Unfortunately, also in Germany, it is deemed contrary to law to sacrifice the child, in order to preserve the mother; and the lives of the latter are on this account frequently exposed to danger, and sometimes destroyed, where they would, most probably, have been saved by the destruction of the child. The time which is, in general, chosen in Germany for the performance of the Cæsarean operation is when the neck of the uterus is expanded, the inner mouth dilated, and when the waters are not yet discharged. In England the operation is generally done much later; and to this its almost constant failure is attributed. It is difficult to say with accuracy the proportion of cases which succeed, because the operation is not unfrequently performed without any account of it being afterwards published. It has been said that the number of successful cases was formerly one to two, and now as one to three; but we believe the last of these numbers even to be incorrect, and that the number of those saved by the operation is very much smaller. There are certainly some very curious cases on record where the operation has been performed twice, five, six, and even seven times with success, some of which are to be found in the *Commentat. Societ. Reg. Scient.* (Vol. ii. Gott. 1813), in the *Russische Sammlung fur Naturwissenchaften und Heilkunde*, (B. i. Heft. 4.), and various other works.