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CROSSE
ON
INVERSIO UTERI.

PART THE FIRST.

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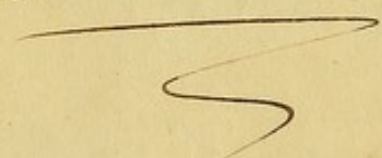
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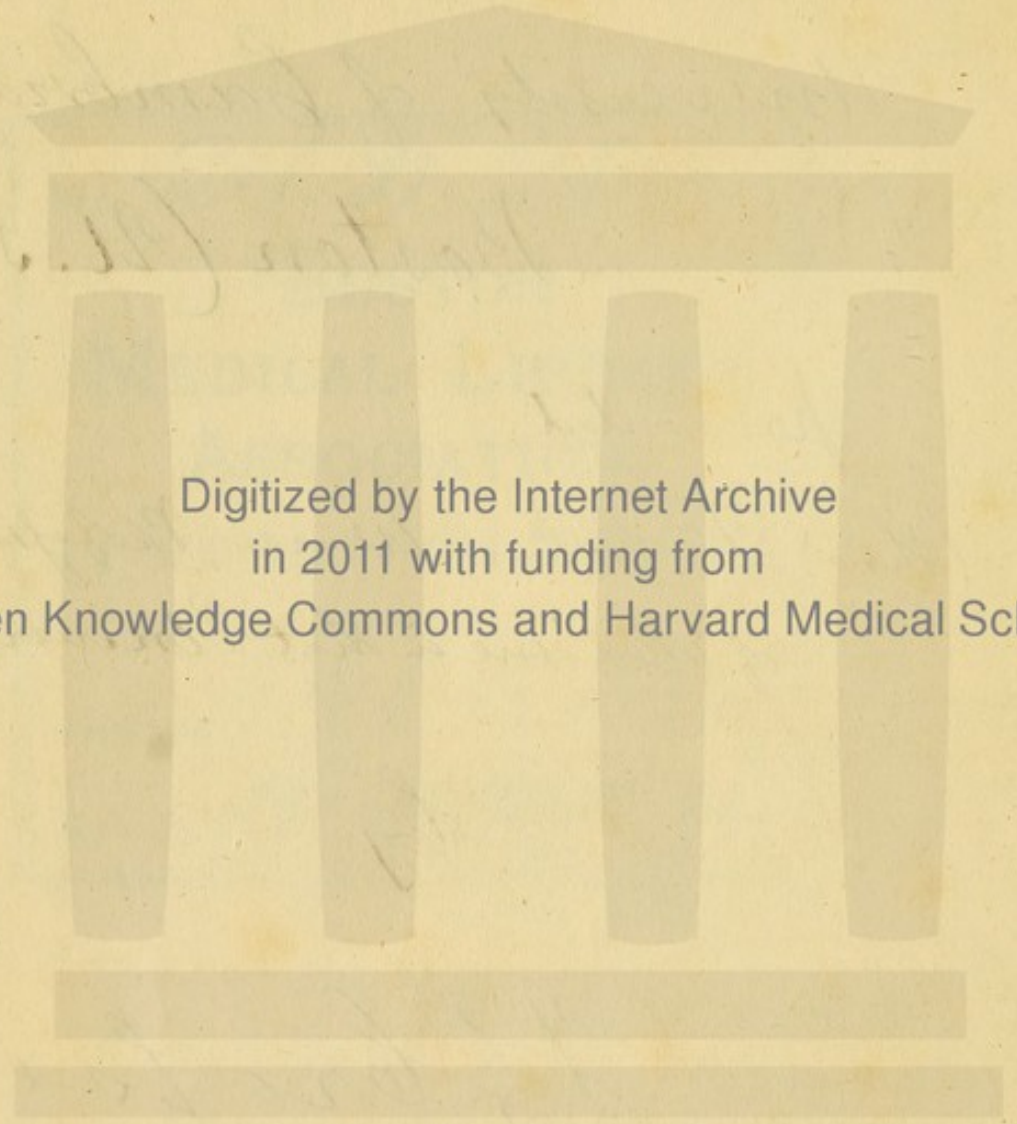
by

J. G. Croft

Norwich, England

February 24th 1847.





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AN ESSAY,
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ON
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BY
JOHN GREEN CROSSE, M.D., F.R.S.,

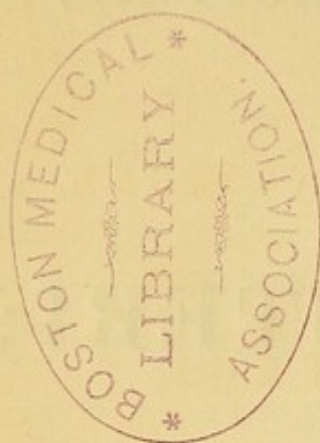
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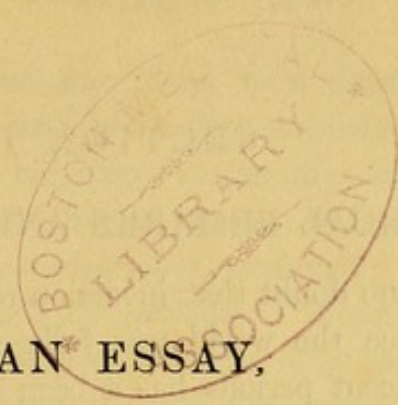
PART THE FIRST.

LONDON:
JOHN CHURCHILL, PRINCES STREET;
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1845.

MASS. MEDICAL COLLEGE





AN ESSAY,

LITERARY AND PRACTICAL,

ON

INVERSIO UTERI.

Having been led to select a subject, upon which no individual can have much experience, I shall feel little hesitation about availing myself, to the utmost extent that my limited time and opportunities will permit, of the labours of preceding writers. To skim over the surface of medical literature, and quote one author upon the authority of another, is not unusual, as can be proved by abundant evidence; but I will not allow myself to appear learned through this manœuvre, and will quote only such authorities as have come under my own inspection, referring generally to the sources whence have been selected whatever seemed most suited to the occasion. In thus mixing the gems of the best writers with my own crude and ill-adjusted language, I claim a favourable consideration, which all, save the hypercritical by profession, will willingly concede. To combine voluminous meaning with brevity of sentence, is a task rarely accomplished even by the practised writer. The reviewer is generally diffuse in style, the novice abrupt and obscure. After looking through so many books, I have imbibed a strong desire to avoid filling a single page with mere verbiage, bereft of fact, argument, or inference; so I will proceed, *coute-qui-coute*, to develope, after my own manner, the subject of my laborious research for several months past.

SECTION I.

HISTORICAL REMARKS AND TERMOLOGY.

There can be no doubt that inversion of the womb has occurred in all ages, since the world was fully populated;¹ but only in comparatively recent periods has it been separately recognized and described. In the earliest existing records, this displacement is constantly confounded with direct descent, or prolapse, of the womb. Hippocrates is so obscure in those remarks which can alone be regarded as referring to this subject, that it is not possible to determine when he refers to inversion, and when to prolapse independent of inversion; his most forcible sentence is, that in the greatest prolapse,² "the uterus hangs down from the *pudenda* like a scrotum." Aretæus goes further, and states that "the disease

¹ "Il faut convenir que dans ces temps reculés, cette accident devait être plus rare que depuis qu'il existe des accoucheurs, et des sages-femmes, et surtout depuis qu'ils se sont autant multipliés. A peine trouve-t-on quelques exemples dans les auteurs anciens, tandis que les modernes en présentent, pour ainsi dire, à chaque page; et que le nombre en paraîtrait immense, s'ils s'étaient donné la peine de les recueillir tous."—Daillez, p. 1.—Unless it be admitted that a more civilized state of society has a deleterious influence, and that less good is done in proportion as more knowledge is possessed, we must controvert this doctrine, and rather attribute the rarity of known instances in early times to the want of observation, the incorrectness of the diagnosis, and the paucity of channels for publicity. In free countries, much more is heard of *miserics* where the fewest exist; in barbarous or despotic countries *they* abound, but are unspoken of, and pass away silently: so it is with diseases. Dr. Meigs writes, "That he lived for some time in early life among the Cherokees, and has seen the Ollowas at Makaia, and the Chippewas at the Saulte de Sante Marie, and is led to remark, that people so barbarous must have an obstetricry scarcely superior to that of the lower mammals, and that from the nature of things they ought to be more frequent subjects of *inversio uteri* than civilized people; and he suspects that a *Polowallamie Lancet*, or a *Blackfoot Medical Gazette*, would furnish as many cases of obstetric accidents and fatalities as the London, German, or Paris journals." Amongst the most uncivilized, there are females who officiate as midwives; and a correspondent, well known to me, (Dr. Arnold, of Kingston, in Jamaica,) after relating two cases of uterine inversion, *post partum*, in negroes, one ending fatally, adds—"Such cases are by no means uncommon, arising, for the most part, from the officious and ignorant meddling of the women in all parts of the island, who act as *grandys*, or midwives." The subject might be pursued further; but it will suffice, if we take care to educate *our* midwives better, and abuse them less.

"Ἡ δὲ παντάπασιν ἐκ τῶν αἰδοίων ἐκ πέσσωσιν ἐκκρέμανται ὥσπερ ὄσχη."—*Opera a Vander Linden*, ii., 361.

generally proves fatal, and may arise in a difficult delivery, in which the adhering after-birth is forcibly extracted, and with it the coats of the uterus;"³ language so strictly applicable to the displacement in question, that it seems extraordinary to find Haller,⁴ and other able commentators, expressing an opinion that Aretæus spoke only of uterine prolapse. When Celsus⁵ speaks of "a fleshy mass, descending at the labia of a certain female, and causing death in a few hours, neither the nature of the disorder nor any appropriate remedy being known," it is scarcely possible to avoid concluding, with Morgagni,⁶ that an inverted uterus was the cause of death: a polypus suddenly protruding, as has been suggested,⁷ would not explain the case so well, nor would it prove fatal so quickly unless it inverted the womb.

Moschion,⁸ the first author of a separate treatise on midwifery, removed none of the obscurity left by his predecessors; and Galen⁹ kept to his grand prototype, likening the external prolapse to "the scrotum containing the testes;" adding, however, a striking comparison, which could only be the result of his meeting with a sudden inversion of the womb immediately on delivery: he had as surely met with the womb inverted and prolapsed, as he had seen wrestlers at their public games. Paulus Ægineta¹⁰ deserves to be referred to: he mentions rupture of the ligaments of the womb as leading to its descent or prolapse. No advance was made by Ætius; and, after many centuries, we find Albucasis, in the chapter

³ "Hæc verò abscedit et fluxione, et abortu, et violento partu, quando ipsa secundis inhærescit; nam quum ipsæ vi extrahuntur, simul et uteri tunica extrahitur."—p. 65.

⁴ Peyrilhe *Histoire de la Chirurgie*, ii., 218.

⁵ "Ætate nostra quædam, ex naturalibus partibus carne prolapsa et arente, inter paucas horas expiraverit."—*Præf.*, p. 13.

⁶ *De Causis et Sedibus Morborum*, ii., ep. 45, p. 393.

⁷ Dailliez, p. 6.

⁸ "Matricis casus, (vel ejus procidentia,) fit cum infantem mortuum embryulcis adducimus, vel obstétrices imperitæ cum secundinas indirectum adducere conantur."—p. 36.

⁹ Speaking of the expulsive powers at labour—"Non paucis quoque mulierum, quæ utique immodicè hujusmodi facultate sunt usæ, violenti dolores totum uterum excidere subegerunt, simili quodam in his accidente ei, quod in *lucta et contentione sæpe visitur, qui alteros evertere dejicereque nituntur, ipsi una concidunt*: ita namque uterum, dum foetum extrudit, ipse aliquando simul excidit, potissimum cum ejus ad spinam *ligamenta naturaliter sunt laxa*."—*De Naturalibus Facultatibus*, Lib. iii., 303.

¹⁰ "Ruptis pelliculis quæ ipsum viscus continent."—p. 488.

"De Exitu Matricis," still confounding descent and inversion, yet giving the valuable advice, to return the displaced organ¹¹ "*cum suavitate, non cum violentia.*"

Nothing more distinct than what I have selected, occurs until the time of Ambrose Paré, who flourished in the middle of the sixteenth century, and to whose genius and practical skill we owe the first clear description of inversion of the womb, distinguished from the direct descent of that organ. In the chapter,¹² "De Uteri Procidentia et Perversione," he observes, "In propriam cervicem abscedat, vel etiam cervicem ipsam excedat, et extra vulvam magna sui parte promineat. . . . Id interdum contingit ex vehementiore pariendi conatu, quo uterus fœtum secundasque excludens impetu consequitur, *seque invertens præcipitat.* Interdum et imprudentis obstetricis temeritas, cum uterum cum fœtu, aut cum secundis tenacius utero obhærentibus, invertit, detrahitque."

Rossetus, who was cotemporary with Ambrose Paré, and Guillemeau, his pupil, and the translator of his works into Latin, contributed still further to make known the causes, diagnosis, effects, and treatment of inversio uteri; and thenceforth the subject became regularly introduced into systematic treatises on midwifery, and cases occurring to each eminent author were not unfrequently recorded.

In the seventeenth century, Hildanus, Bartholin, and Paul Portal, were amongst the ablest contributors; but a discussion arose, which retarded the progress of the subject, and which claims a passing notice. Authors who, even at the present day, are referred to as respectable on other accounts, asserted boldly that the uterus *never prolapsed*, and the contest was warmly maintained by numerous writers on either side. Job à Meek'ren,¹³ in a chapter, "De Procidentia Uteri Falsâ," goes on in the following strain:—"Quam ergo pœnam non incurret ille, qui sententiæ antiquorum quæ uterum muliebrem non tantum extra corpus prolabi, sed et in totum auferri posse docet, falsitas declaretur; præstare multis forsan videbitur ab incepto desistere, quam clarissimorum virorum turbæ adeò insigni, procidentię extirpationivè uterinæ possibilitatem probanti, sese opponere. At vero non est

¹¹ *Liber Theoricæ necnon Practicæ Alsaharavii*, 1519, p. 100.

¹² *Lib. xiv.*, cap. 40.

¹³ *Cap. liv.*, p. 238.

quod me deterreant hæc similiaque, quin contra animosus, anatomico experientiæ cultro armatus, quæ in destructionem figmenti dicti adferri poterunt, proponere aggrediar.

“ ‘Amicus Socrates, amicus Plato, sed magis amica Veritas!’ ”

He then proves, (which writers of all periods could always do, at least to *their own* satisfaction,) the truth of his preconceived notions, referring to actual dissections, and placing great weight upon an adversary's case, where the doctors could not agree,—one thinking it uterine prolapse, and perhaps inversion, others an excrescence from the vagina. “Mulier interim secari volens (nolens?) *inter ambigua consilia ad mortem properavit!*” The uterus was found *in situ*, the tumour proceeding from the vagina. Diemberbroeck¹⁴ treated the *anti-prolapsians* with great and merited severity. Although the reminiscence of such discussions is more amusing than useful, it must not be forgotten that, at the close of this century, so much importance was still attached to them, that Saviard¹⁵ attempted to put an end to the controversy; and the English translator of his *Surgical Observations* sought to recommend the book by announcing, in the title-page, that it treated of “Descent of the Womb, clearly proving the reality of the disease, in opposition to Verduc.” The descriptions of Ruysch, given in the most elegant style, and in the Latin language, diffused correct notions upon prolapse, as well as inversion, of the womb, throughout Europe, and made the frequent occurrence of the latter displacement practically known and appreciated. Slevogt

¹⁴ “Verum resipiscat, et palinodiam canat, nam quia nunquam vidit uterum prolapsum, satis temerè et nimis petulanter irridet alios istius rei oculatos testes, ac præstantissimos medicos, illo ipso fortassis longè peritiores. Non fuerunt cucurbitina capita, nec oculi tanto glaucomate obfuscati, ut uterum prolapsum non cognoscerent.”—*Opera*, i., 198.

¹⁵ *Recueil d'Obs. Chir.*, Paris, 1702; and Sparrow's Translation of the same Work, London, 1740. But there is no accounting for what even practical and experienced writers will occasionally affirm. At a comparatively recent date, A. Petit asserted that what authors had described as inversion was only descent of the organ—“C'est un être de raison, et tout ce que les auteurs ont pris pour pareil renversement n'est que la simple descente.”—*Mal. des Femmes*, ii., 118.—To shield A. Petit, some of his countrymen have suggested that this passage was an error on the part of his pupils, who edited his lectures; but the whole account bears out the same unwarrantable scepticism, and proves that it is one of those bold assertions which very practical but non-literary men too often make, denying whatever they have not themselves seen.

demonstrated the production of uterine inversion from polypus attached to its interior; a division of the subject which was soon afterwards further illustrated by Von Sanden and Vater, as will appear in the practical part of this essay.

Since I am not writing a *Bibliotheca*, I can only briefly refer to the original writers during the first half of the eighteenth century. Chapman and Giffard gave each a case in this country; also, in France, Pierre Amand, La Motte, Mauriceau, Viardel, and Levret, were contributors from their own extensive experience. Heister gave a good account of the subject in his *Institutiones Chirurgicæ*, which soon became generally diffused, by the translation of this invaluable book into the principal modern tongues. In the second half of this century, several important theses were produced at the greatest schools of medicine; Smellie, Cleghorn, Hamilton, and Denman, showed their acquaintance with the subject, and gave fresh instances of the inverted uterus occurring in this country. The names of Dionis, Deleurye, Astruc, Herbiniaux, Sabatier, are conspicuous as authors in the French language. The great Saxtorph, as his countrymen denominated him, gave numerous cases. But the author who most cultivated the subject, and accumulated, during his long and eminent career, the most extensive experience, was Baudelocque: he treated of it at great length in his lectures, stimulated the attention of his pupils towards it, and shed an influence over the treatment, which has continued up to the present day.

The publication of Baudelocque's *Lectures upon Inversio Uteri*, by his pupil Dailliez, in 1803, may be regarded therefore as a fresh era in the history I am rapidly sketching. These lectures contained a vast proportion of what had transpired up to that date, with the particular views of the writer's able instructor. In the following year appeared an excellent monograph by Fries, with plates and plans for the treatment, with a view to reduce the inverted organ. If we exclude numerous theses,—some of them valuable, and containing original cases,—there is no other monograph till our talented countryman Newnham published, in 1817, his *Essay on the Symptoms, Causes, and Treatment of Inversio Uteri*, with a history of the successful extirpation of that organ in the chronic stage of the disease; a work so excellent that it would preclude the necessity of a fresh undertaking, were it not for the

great supply of new materials, which have since been presented through various and scattered channels, by far too numerous to specify, and which must be sought in a systematic list of authors, or will be brought under notice in the following pages.

In surveying the writings of different periods and countries, one perceives the necessity of adverting to *terminology*, or the words employed in reference to the subject under consideration. Without precision of language, there can be no accuracy in applying quotations, nor can any definite knowledge be communicated. Such a diversity of terms has been applied to *inversio uteri*, that the author who investigates for himself, requires to be guided more by the descriptions given of the disease, and the causes assigned for its production, than the name by which it is designated. The same word is applied successively to different diseases;¹⁶ a more fruitful source of error is, the confusion arising from two or more distinct maladies receiving one and the same appellation.¹⁷ A plurality of terms in a particular language, however convenient in composition, impedes the student, and renders an easy matter

¹⁶ In the Latin version of *Albucasis*, the chapter "De Inversione Matricis," is upon quite a different, and not very intelligible malady; and inversion of the womb is considered, so far as it is at all referred to, in the chapter "De Exitu Matricis."—Sennertus (iii., 520) applied *inversio* to a particular hernia of the uterus, where it is displaced through a preternatural aperture.—Puzos called a falling forward of the impregnated womb, till it came upon the thighs with its fundus downwards and its os highest, an *inversion* of the organ. (*Le Blanc*, i., 367.)—Boër much more recently used *inversio* for *obliquity* of the womb. (*Nat. Med. Obstet.*, p. 5.)

¹⁷ *Umkehrung* is the German word long used for *inversio uteri*. Fries and Herzog regard it as the more proper word, the one which I propose to retain, *Umstülpung*, and which is now commonly employed, being of more recent introduction. But Richter (*Chir. Bibl.* iii., 615; iv., 236, 557,) mistakingly applies *umkehrung* to *retroversio uteri*, the well known displacement first described by William Hunter. One of the most noted cases of *retroversio* is Wilmer's, published in his *Surgical Observations*, in 1779, p. 144, which proved fatal; and after death it was found impracticable to reduce the uterus until the symphysis pubis had been divided. Richter (*l. c.*, 584,) introduced this to his countrymen as a case of inverted womb, and thus it has been quoted by one author after another, without any comment or detection of the blunder! How will our German brethren purge their medical literature of this gross error, perpetuated as it has been by some of their most accredited writers, Fries, Meissner, Kilian, and numerous others? John Lynn's case of *retroversion* (called *inversion*) of the uterus, (*Med. Obs. and Inquiries*, iv., 388,) and Squire's similar case, (*London Medical Review*, vi., 229,) both fatal, by rupture of the urinary bladder, belong to the same category of misnomer.

difficult. It might interest the philologist, to see a list of these incongruities, and a few of the consequent mistakes, but it would be wholly unsuited to the general reader, and inexcusable if forced upon his perusal by appearing in the text.¹⁸ In concluding this section, therefore, I shall only remark that it would be advantageous, if the displacement, designated in English, *inversion* of the womb, were exclusively signified by *inversio*, *renversement*, *umstülpung*, *rovesciamento*, in the respective languages to which these words belong.

SECTION II.

ON INVERSION OF THE UTERUS AFTER PARTURITION, AND ITS DIFFERENT DEGREES.

In this displacement, (one of the most formidable that can occur,) there is not simply a change as to the place occupied by the uterus, but also a change in the relation of one part of the organ to the rest,—a change of shape as well as of local situation. It can only happen when the uterus is distended, so that its cavity becomes more or less enlarged. When thus enlarged, from whatever cause, the uterus is concave on its inner surface, and convex exteriorly; if any portion of the uterine walls, in its entire thickness, become convex towards the cavity of the organ, that portion is said to be inverted.

Inversion signifies not only a turning inwards of the uterine walls, but a turning inside out of the whole organ, by its passing

¹⁸ Excluding all terms applied to different degrees of inversion of the womb, I find the following amongst the general terms used by numerous writers whom I have divided into:—GREEK COMPOUNDS: *Anastrophe Uteri*, (Blasius, *Handb. der Chir.*); *Epistrophe Uteri*, (Siebenhaar, *Med. Worterb.*); *Hysteroptosis*, (Sauvage, *Nosolog.*; Busch and Moser, *Handb. der Geburtshilfe*); *Hystærocele*, (*Herbiniaux*); *Metranastrophe*, (Rust, *Handb. der Chir.*)—LATIN: *Eversio*, (Guillemeau); *Introversio uteri*, *Perversio uteri*, (A. Paré, Desormeaux); *Subversio uteri*, (Boër.)—FRENCH: *L'éversion de la matrice*, (Paul Portal); *Chute ou déplacement de la matrice avec renversement*—*inversion*—*l'introversion utérine*, (Thouret); *Introversion*, (Moreau); *Retournement*, (Guillemeau, Ferrand-Demissols); *Perversion*, (Peu, La Motte, Amand); *Renversement*—*dédoublement*, (Martin-le-jeune.)—GERMAN: *Involution des Uterus nach dem puerperium*, (Rokitansky); *Umbeugung*, (Herzog); *Umdrehung, umkehrung, die mutterumkehrung*, (Rust); *Umstülpung, die mutter umstülpung, Umsturz der Gebärmutter*, (Von Herder.)

successively through the os tinæ, converting the lining mucous membrane into an exterior covering of the uterus, and creating a new cavity, which is lined with peritoneum, and communicates superiorly with the cavity of the abdomen.

It is necessary to distinguish inversion from descent¹⁹ of the uterus, although every preceding writer has confounded the two together, more or less. Descent refers to change of position downwards of the whole organ; prolapse is applied to the uterus, when it descends so low as to pass beyond the *labia externa*, inverted or not inverted.

Pregnancy, the only natural source of enlargement of the uterus, is by far the most frequent of all causes disposing to inversion; and the description given in this section will have reference exclusively to that cause, unless it be otherwise specified.

Inversion of the uterus is either partial or total; the latter can exist only in one degree, and admits of no sub-divisions. Partial inversion, on the contrary, comprises very many degrees; and there are both physiological and practical reasons for noticing and describing three, by way of classification, namely, *depression*, *introversion*, and *perversion*.

Depression,²⁰ the first division and slightest degree of partial inversion, is present when any portion of the entire thickness of the walls of the uterus becomes convex towards its cavity or interior, without going to the extent of being invaginated, or brought within the grasp of the rest of the uterus, supposing it to contract by the action of its muscular coats. The interior convexity is answered by a concavity of the same extent on the exterior surface of the womb. The posterior,²¹ lateral,²² or even, perhaps,

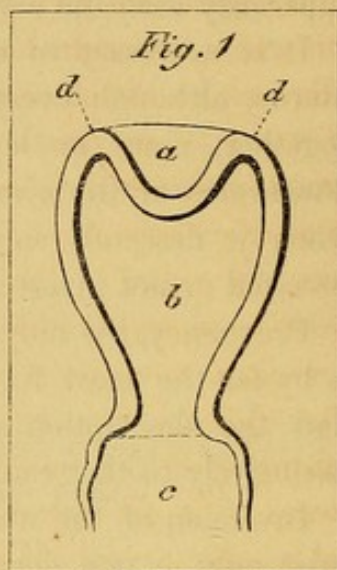
¹⁹ Descent and procidentia are applied to a displacement downwards of the uterus *en masse*; prolapse is restricted to its precipitation at the labia, so as to be pendulous and apparent externally.

²⁰ SYNONYMES.—Eindruck; Depressio fundi uteri; Demi-renversement—la chute du fond de la matrice.

²¹ Baudelocque gives a case where the placenta adhered to the upper and posterior part of the uterus, which became inverted. (Bollet, *Thèse*, p. 15.)—Martin-le-jeune met with an instance in his own practice, where the inversion seemed to be formed by the posterior part of the womb: "Par le dédoublement de la paroi postérieure de l'utérus."

²² "Inversio directa frequentior est laterali, quæ vix nisi à polypo seu excrescentiâ quâcumque, oriri potest." (Deleurye, *Theses*, p. 9.)—Dr. Ingleby has described a

the anterior,²³ part of the body of the organ, may be thus displaced after parturition: but usually the fundus is the part affected, as indicated in the marginal outline, Fig. 1,²⁴ where (*a*) points to the concavity of the inverted portion, covered with peritoneum, and which has been compared to the form usually impressed on the bottom of a glass bottle,²⁵ or to the crown of a hat²⁶ depressed by the fist; (*b*) the cavity of the uterus, encroached upon by the convex surface of the inverted fundus; (*c*) the vagina, its boundary marked by the dotted line at the os uteri; and (*dd*) the angle of inflexion, forming a circular margin around the depressed portion. The palpable evidence of this degree of



variety of inversion in the course of the longitudinal fibres of the uterus: it occupied apparently nearly the whole length of its right side, the left not being sensibly depressed. (*Facts and Cases in Obstetric Medicine*, p. 223.)—Weber recognises lateral inversion. Speaking of the convex tumour, felt on examination *per vaginam*, he says,—“Si fundum representat, in oris centro percipitur, sin est corporis pars lateralis, intervallum in hoc vel illo latere intercedit.” (*Dissert.*, p. 20.)—Professor Simpson, of Edinburgh, informs me that he has often met with instances of partial lateral indentations, (scarcely inversions,) attended by severer symptoms than even the hæmorrhage would account for.—My friend, Dr. Ashburner, has supplied the following history:—“A lady, whose labours were always uncommonly urgent, and of short duration, the pains being quick in succession to each other, was in this way delivered of her third child, when in her 28th year. The last eight pains were almost continuous, like the pains attendant on the exhibition of the *secale cornutum*; the placenta followed the child in less than three minutes; an irregular contraction of the uterus succeeded; the right angle of the fundus was not to be felt through the abdominal parietes; hæmorrhage commenced, and I introduced my hand into the uterine cavity, pushing up a soft convex portion of the uterus, which easily retreated, restoring the cavity. The patient recovered.”—Every attentive practitioner of midwifery will meet with such cases, and treat hæmorrhage, after delivery, the more successfully by detecting them.

²³ E. E. Von Siebold once found the anterior part of the uterus, above the os, inverted, in consequence of preternatural adhesion of the foetal membranes.—*Handb. der Frauenzimmerkrankheiten*, ii., 376.

²⁴ The letters used in Fig. 1, and repeated in outline Figs. 2, 3, and 4, refer to the same parts in each instance.

²⁵ Mauriceau; *Mal. des Femmes Grosses*, ii., 186.

²⁶ Boyer; *Mal. Chir.*, x., 486.

inversion is obtained by examination through the parietes of the abdomen,²⁷ or by the hand in utero meeting with a convexity of more or less firmness, according to the atonic or contracted state of the part, and giving the idea of a placenta still remaining, after the entire placenta has been removed. If the placenta be still adherent, its attachment is to the inverted portion, and any attempt to remove it by traction will increase the inversion. The leading symptom, after the placenta is detached, is hæmorrhage, of which, as asserted by some writers,²⁸ it is a more frequent source than has been suspected. The hæmorrhage may prove fatal; Dewees²⁹ describes a case to this effect; and Mauriceau,³⁰ in the instance of a woman, twenty-five years of age, who died an hour and half after delivery, from great loss, syncope, and convulsion, found on autopsy only the fundus slightly depressed into the body of the uterus. Simple depression may be unattended by pain,³¹ and does not usually persist long, even should it not be detected and appropriately treated; for either the organ recovers itself, or, under the expulsive efforts it induces, and other assisting causes, it passes into the second degree,—*introversion*.

*Introversion*³² is when so great a part of the fundus is displaced as that it comes within the grasp of the portion of the uterus into which it is received. The greatest degree of this displacement consists in the fundus and continuous part of the body of the uterus being received into the remainder of its body and cervix,

²⁷ "Lorsqu'il n'y a qu'une simple dépression ou un enfoncement des parois de la matrice, la tumeur formée par ce viscère présente vers l'hypogastre une espèce de cul-de-lampe dont la main peut apprécier la profondeur à moins que la femme ne soit très-grasse ou hydropique. Le bord de cette fosse est horizontal, ou incliné en arrière, en avant, à droite, ou à gauche, suivant la partie des parois de la matrice qui est enfoncée et la direction de ce viscère."—*Ibid*, x., 495.

²⁸ See Deleurye, in Note 31.

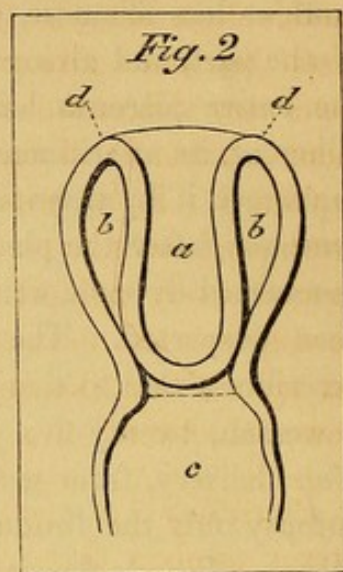
²⁹ *System of Midwifery*, eighth edition; foot note to Case 1.

³⁰ *Maladies des Femmes Grosses*, ii., 182. Fries (p. 59) relates, that on dissection of a woman suddenly deceased after delivery, his father found depression of the fundus uteri, and the bowels filling the cavity, which could only be seen on their removal.

³¹ See Dailliez, *Thèse*, p. 77.—Deleurye, (*Traité des Accouchemens*, p. 442,) says—"Quand la matrice est renversée dans une petite partie, il n'y a point de douleur; la perte seulement existe, et c'est ce renversement partiel qui en est la cause la plus ordinaire après la délivrance."

³² SYNONYMES.—Intussusceptio uterina; die mutter einschiebung; einsackung; ineinanderschlebung der mutter; intusversion; l'introversion uterine.

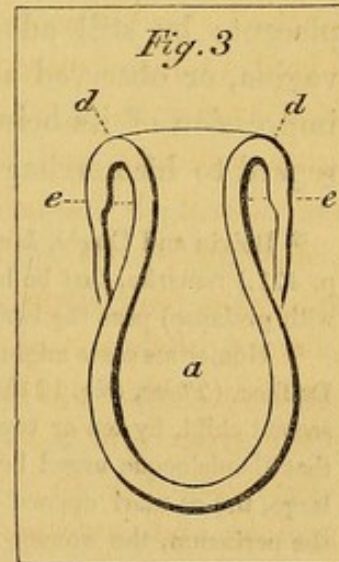
the convexity of the fundus being palpable at the os tinæ, as in marginal Fig. 2. The inverted portion is in a situation to be resisted, supported, compressed, and otherwise acted upon, by the uninverted, by which it is always surrounded. In proportion to the degree of introversion, is the depth and extent of the peritoneal pouch opening towards the abdomen; the uterine ligaments are in part drawn into this pouch and the ovaria approximate the marginal circle corresponding to the angle of inflexion. On examining above the pubes, the circular margin of the uterus can be felt forming the boundary of the inversion, and the uterus and part of the body of the organ are wanting; in a thin patient, and where the abdominal parietes are relaxed and yielding, the fingers of the accoucheur may even enter the orifice of the peritoneal pouch, pressing those parietes before them. If the placenta be still attached, it is felt at the os tinæ or in the cavity of the uterus, and judged to be of unusual size; if partially detached, it allows of great hæmorrhage, which may cease on its removal, if the inverted fundus contract, and be felt firm to the touch; but hæmorrhage continues if the inverted mass be soft, indicating that it still is in a state of inertia. The constitutional symptoms, if not pathognomonic, offer strong indications of what has happened; there is a degree of faintness, great restlessness and distress, or syncope, surpassing what the loss of blood would account for; pains extend to the groins, the loins, and lower part of the abdomen; a fulness is complained of in the pelvis, as if another fœtus remained to be expelled, and corresponding efforts are induced, not solely uterine, but strong expulsive abdominal efforts, such as are readily renewed from their having been so recently exercised in sympathy with the same uterine sensations as the patient continues to experience. Thus the symptoms are found to vary according to the degree of the inversion.³³ After some hours, and in the absence of hæmor-



³³ "Pro diversa inversionis specie, variantur ipsius signa."—Deleurye, *Theses*, p. 10.

rhage, the urgent symptoms may abate; but retention of urine is sure to happen, if the introversion be in the greatest degree, the fundus descending to the cervix uteri and keeping it dilated; and rectal tenesmus also recurs at intervals, until perchance, under some very violent and instinctive efforts at expulsion, the displacement is carried still further, merging into the divisions to be next explained. It is, however, possible that, if the introversion be overlooked, receive no treatment or no maltreatment, and be not spontaneously righted, it may remain for a continuance,³⁴ without passing into the next stage of the malady; but if the os uteri be lax and dilated, the malady progresses certainly, and without any powerful efforts.

*Perversion*³⁵ is when more or less of the inverted portion of the uterus projects through the os tincæ; in its greatest degree, the whole body of the uterus, as well as the fundus, passes inverted through the os, the cervix only remaining in situ, encircling the contiguous or highest part of the inverted portion, all the rest being uncompressed and unsupported by the uterus, as represented in the marginal Fig. 3. The peritoneal pouch (*a*) is lengthened, and the proper uterine cavity nearly obliterated. The inverted part above the dotted line (*ee*) is surrounded by the cervix, which may constrict it, producing congestion, and even strangulation, in all the rest of the inverted organ situated below the same dotted line. The angle of inflexion³⁶ (*dd*) is immediately above the cervix in this figure, and is always below the middle of the body of the uterus. The pathological effects which may result from this displacement are obviously so different from those attendant upon the first and second divisions of partial inversion, as to warrant the classification I have adopted, and render it definite, necessary, and of great



³⁴ Refer to Plate 4, and the full description of it.

³⁵ SYNONYMES.—L'éversion; chute de la matrice avec renversement.

³⁶ It is but justice to observe that this expression was first used by Dr. Radford, of Manchester, one of our most able writers upon the subject.

practical utility. In considering the successive steps of the inverting process, we trace the descent of the fundus through the uterine cavity until it projects at the os, fills the vagina, and reaches the external labia; and the process may go on in the same direction to its completion, the inverted fundus and even body of the uterus prolapsing externally, until the encircling cervix descends, under expulsive efforts, to a level with the labia,³⁷ and becomes apparent under ocular examination. But if the labia resist sufficiently the further descent of the fundus, and part of the body of the uterus remain still uninverted, may not the process be carried to its completion by ascent of the cervix? No author has hinted at this view of the subject, and yet its correctness must be admitted, in order to explain the well-established fact, that where the inverted fundus and body of the uterus are still in the vagina, the cervix is felt high above the pubes,³⁸ even near to the navel, sometimes taking the situation the fundus would normally occupy, the vagina being proportionately stretched and carried upwards,—changes which can only be explained by supposing that, at a certain stage, the inversion ceased to progress by descent of the fundus, and was continued and completed by ascent of the cervix. If the placenta be still adhering, it precedes the fundus, is felt in the vagina, or observed at the external labia, giving the attendant an impression of its being firmer than usual, and of greater size. In regard to hæmorrhage, the same remarks apply as were noted in

³⁷ Boivin and Dugès, *Mal. de l'Utérus*, Planche xii., Fig. 1. Dewees (*Midwifery*, p. 471,) remarks, that he has known partial inversion in the third degree (*perversio* with prolapse) pass the labia, and depend externally.

³⁸ Numerous cases might be quoted to support this opinion, but the following, from Dailliez, (*Thèse, Obs. 12 ième*,) will suffice:—"The patient was nearly delivered of her second child, by ten or twelve pains at most, which seemed to be so little profitable, that Baudelocque urged her to delay all expulsive efforts; but the pelvis being very large, the os uteri opened after escape of the waters, and the child's head resting on the perineum, the woman could not forbear, and by one strong effort she expelled the child, and with it the placenta, which presented at the vulva, bringing with it the posterior and superior part of the uterus. In a very short time the inversion was rendered complete, (by which Baudelocque meant that the os and cervix only remained uninverted); the uterus, still retained within the vagina, formed a round and sufficiently firm tumour, at the highest part of which the os uteri could be felt through the abdominal parietes; and the uterus had risen sufficiently above the os pubis to make any one, who had not attentively followed the progress of the displacement, believe that the uterus was in its natural situation." See also foot-note 46.

the preceding division; and if the accoucheur fail to discover, by examination through the abdominal parietes, what has occurred, he may increase the inversion, and even carry it to the greatest degree, in attempting to remove the placenta, which he erroneously considers to be already separated, and remote from the internal fundus of the uterus. If the placenta be already away, a convex tumour occupies the vagina, of a greater or less size, according to the proportion of the body of the organ inverted, having a soft, slightly nodulated surface, bleeding easily under the touch, its highest part encircled by the cervix. If the cervix only remain uninverted, the fundus and body of the uterus may be so large as to fill the bony pelvis, distend the vagina, and render it difficult, if not impracticable, for the accoucheur to reach the cervix; but as often as the inverted mass prolapses at the vulva, the encircling cervix can be felt. The colour of the mass will be florid-red, mulberry, or purplish, varying according to the constriction by the cervix; and at the fundus an uneven surface is distinguishable, answering to the former attachment of the placenta, and from which surface the hæmorrhage has mainly or exclusively proceeded.³⁹ Examination above the pubes may enable the accoucheur to detect the orifice leading to the peritoneal pouch, formed by the inverted fundus and body of the uterus, or, in the case of external prolapse at the vulva, to convince himself of the absence of the organ from the abdomen.

In this degree of inversion, the constitutional symptoms are much more severe and prominent than in the lesser degrees of partial inversion; the pains extend not only to the groins and the lumbar region, but down the lower limbs, even to the heel, as remarked by Lisfranc;⁴⁰ the pulse is small, and often scarcely perceptible; faintness, restlessness, complete syncope, intervene, with distension of the abdomen, great pallor, cold perspiration; the syncope, suppressed pulse, and threatening signs of dissolution, are most certain to happen if the inverted fundus and body of the uterus prolapse externally; retention of urine or dysury is an invariable sequel; and whilst the inverted organ remains still in the vagina, a sense of fulness in the pelvis, with bearing down, and tenesmus, both uterine and rectal, is experienced, and continued

³⁹ See Section vii. for remarks upon hæmorrhage.

⁴⁰ *Leçons de Clinique Chir.*, iii., 387.

until, under greater efforts and the assumption of an erect posture, the whole is prolapsed externally.⁴¹

Considering the relative position of the internal appendages of the uterus, we find the ligaments and Fallopian tubes drawn further into the peritoneal pouch as the inversion increases, and as it becomes most prolapsed, whilst the ovaria are brought to the margin of the circle formed at the angle of inflexion, next the cervix, approximating each other, but rarely entering the peritoneal pouch.⁴²

Although these artificial divisions of partial inversion are required for perspicuity of description, with the view of conveying a knowledge of the subject, and are moreover supported by pathological conditions marking the boundary of each, it should be remembered that they pass imperceptibly the one into the other, from the slighter to the greater degree of displacement. Each of these three divisions exists in various degrees; and to effect the greatest degree of partial inversion, the displacement must progress from the slightest *depression* through all the intermediate stages. More or less time is occupied in this progress; sometimes it is accomplished instantaneously,⁴³ under violent expulsive efforts, chiefly, if not entirely, abdominal, or, more frequently, under a midwife's management by pulling at the cord. Or the change may be slow from depression to introversion; and this may not be converted into *perversion* for days, or even weeks.⁴⁴ It is probable,

⁴¹ See Plate 2, with case and description.

⁴² See Plate 3, and description. Saxtorph (*Gesammelte Schriften*, s. 312,) found ovaria and entire Fallopian tubes in the peritoneal pouch in partial inversion, fatal without prolapse.

⁴³ The most rapid and fatal case is Canolle's, (from *Recueil Périodique de la Soc. de Méd.*, 1798,) so elegantly related by Richerand, (*Nosographie Chir.*, iv., 358.)—"Une jeune fille, devenue enceinte, dérobe à ses parens la connoissance de sa grossesse: une de ses amies la reçoit chez elle à l'époque de ses couches; les douleurs de l'enfantement se font sentir; l'œuf entier se détache à la fois; le fœtus, enveloppé de ses eaux et de ses membranes, est chassé, et tombe avec le placenta; la matrice se renverse, une violente hémorragie se déclare, et la femme meurt en quelques instans entre les bras de son amie. Celle-ci paroît coupable de ce double meurtre; on s'apprêtoit à le venger par le dernier supplice, lorsqu'un chirurgien, défenseur de l'accusée, fit exhumer le cadavre, et, montrant aux juges la matrice renversée, leur prouva que ce renversement étoit la seule cause de la mort."

⁴⁴ Desormeaux (*Dict. de Méd.*, xviii., 268,) was first called twenty-one days after delivery, and found the inverted fundus projecting slightly at the os uteri. He conceived that only depression existed at the completion of labour; but the displacement failed

and has been so remarked by numerous authors, that the statements of inversion first occurring at an interval of many days⁴⁵ after delivery have been erroneous, and that in such cases the displacement really existed in a slight degree from the time of delivery. It is easier to believe that inversion was present at the termination of labour, and not detected,⁴⁶ than that, after the

to be detected, or even suspected, until it progressed to the degree in which he found it. In Teallier's case, (*Med. and Phys. Journal*, li., 259,) where the inverted uterus prolapsed on the twelfth day, under violent efforts to evacuate the bowels, there were strong symptoms indicative of partial inversion for several days after delivery, pain and distension of abdomen, dysury, &c. Voisin, quoted by Velpeau, (*Clin. Chir.*, ii. 420,) was first called to inversion with prolapse, which took place eight days after delivery, no suspicion of such a malady having arisen till his arrival.

⁴⁵ "Dans tous ces cas, il n'est pas prouvé que l'accident n' a pas commencé au moment même de la délivrance. On sait, du reste, que le renversement de la matrice peut s'opérer d'une manière lente, graduelle, au point qu'on pourrait, pour ainsi dire, le suivre jour par jour dans ses progrès."—Velpeau, *Clin. Chir.*, ii. 420.

⁴⁶ The strongest case published in support of inversion first commencing some days after delivery, is Ané's, (*Recueil Périod. de la Soc. de Méd.* 1797.) The woman was twenty-three years old, and as soon as the child was born there was alarming hæmorrhage, on account of which the placenta was removed by manual aid; and so greatly relaxed was the uterus, that the loss continued severe, and Ané did not leave her till several hours had elapsed, previously satisfying himself that the uterus was well contracted, by feeling it above the pubes. On the third day, the patient was got up and placed on a sofa, when syncope recurred with great loss as before, till the blood appeared on the floor, and the patient seemed dying when the accoucheur arrived: she, however, rallied; and on the twelfth day, when making great efforts to evacuate fæces, which appeared just ready to pass, she perceived the inverted uterus escape at the vulva, equalling in size the head of a new-born infant. Baudelocque effected reduction. Dailliez (*Thèse*, p. 30) remarks very justly upon this case,—that if inversion did not exist in a slight degree at the moment of delivery, we must presume that it commenced, at least, as early as the third day, but did not progress to its final stage till the twelfth; and Baudelocque considered the hæmorrhage on the third day as the result of partial inversion. Depression may exist in a part of the uterus not accessible to the touch exercised through the abdominal parietes; and, moreover, I have known a surgeon, of considerable experience, give assurance of his having felt the contracted uterus above the pubes, and satisfied himself all was right, when there was evidence subsequently that the organ at that very time was totally inverted, the fundus being in the vagina, and the *os* uppermost, rising above the brim of the pelvis. Ané was again attending the same patient in labour, after an interval of six years, and took every precaution to avoid inversion, making no traction by the cord, and limiting himself to the use of friction upon the abdomen to excite uterine action and promote separation of the placenta, which was soon accomplished. For several days the uterus was felt above the pubes, firm and globular, dissipating all fear of inversion. On the seventh day the patient was so well as to walk about her chamber, and the loss of blood had been trivial; but on the thirteenth day, under an effort to

uterus had contracted, and hours or days elapsed, inversion commenced and showed itself quickly in an advanced stage of the displacement. If the uterus be well contracted after complete delivery, it cannot subsequently become inverted, unless again distended by blood, the sudden escape of which, it may be conceived, places the organ in circumstances somewhat similar to those attendant on delivery, and renders inversion just possible. We shall not, however, be far from the exact truth in stating, that inversion can only commence at or soon after labour,⁴⁷ and that most of the recorded instances of its occurring after the lapse of days or weeks, may be placed to the account of oversight, or error in diagnosis.

Total inversion is where the cervix, as well as all the rest of the uterus, is inverted, as in Fig. 4.⁴⁸ The possibility of this occurrence has been denied by a majority of the earlier writers upon the subject, particularly by Baudelocque⁴⁹ and his followers: but

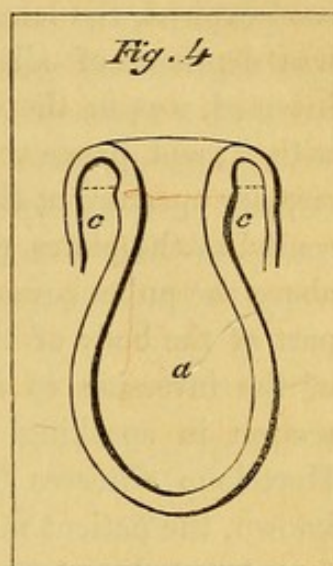
evacuate the bowels, the uterus became inverted, and prolapsed externally, reaching half way towards the knees, and equalling the size of a foetal head at full term. Baudelocque arrived in two or three hours, and succeeded in reducing the inversion; recovery ensued. It is said that Ané, at each visit for the first six days after delivery, examined above the pubes, and recognised the uterus of a globular form, without the slightest depression. Still Dailliez observes,—“ Nous pensons d'ailleurs que ces renversemens complets qui se manifestent aussi tard, ont existé long-temps avant d'une manière incomplète, et qu'ils ont presque toujours commencés ou dans le moment de la délivrance, ou immédiatement après.”—*Thèse*, p. 32.

⁴⁷ “Nunquam nisi in aut mox post partum accidere potest.”—*Ruyschii Obs. Anat. Chir.*, p. 16.

⁴⁸ In Fig. 4, all below the transverse dotted line is the uterus totally inverted; and above it, a small portion of the vagina is situated, terminating as a cul-de-sac. In parturition, when the cervix uteri is perfectly relaxed and dilated, all trace of the projecting *os tincæ* is obliterated, and the vagina and cervix uteri form one continued cavity, without any distinct boundary, until the cervix again contracts.

⁴⁹ “Tant qu'il y a une portion de la matrice susceptible de se retourner et qui ne s'est pas retournée, le renversement se nomme incomplet; il n'est complet que quand tout ce qui peut se retourner est retourné. . . . Une seule portion de la matrice ne peut se renverser ou se retourner; c'est celle qui est au dessous de l'insertion du vagin au museau de tanche, conséquemment le museau de tanche même, qui forme après le renversement ce bourrelet souvent peu saillant, qui entoure en manière de bague ou d'anneau le pédicule de la tumeur formée par la matrice renversée.”—Dailliez, *Thèse*, p. 27. “Confirmat morbum exploratio vaginalis, quâ palpatur tumor à vagina prodiens cinctusque orificio uteri numquam inverso.”—Lassabe, *Thesis*, p. 8. Moreau (*Des Accouchemens*, i., 247) and Ferrand-Demissols, (*Thèse*, p. 16,) hold the same doctrine.

its occurrence happily admits of demonstration, and a long list of the highest authorities can be quoted in support of it:—Levret,⁵⁰ Sabatier,⁵¹ Lefauchaux,⁵² Leroux,⁵³ Boivin and Dugès,⁵⁴ Dewees,⁵⁵ Desormeaux,⁵⁶ Radford,⁵⁷ and Vidal-de-Cassis;⁵⁸ so the question ought to be set for ever at rest. The entire uterus was indubitably inverted, including the cervix, in my published case;⁵⁹ the termination of the vaginal membrane in the uterine was very distinguishable, not only to the touch, but under ocular inspection, and was without any overlapping, without any uninverted edge,—a smooth circular thickening⁶⁰ marking the situation of the inverted cervix, and the boundary of the vagina. Although totally inverted, the uterus may still be retained within the labia: my own experience on this point is confirmed by the clearly-narrated case by Horteloup.⁶¹



⁵⁰ "Renversement total de son fond et de son corps, même de son col par son orifice propre."—*Cure des Polypes*, section iv.

⁵¹ "Tout ce viscère se retourne sur lui-même, passe par son orifice, entraîne une partie du vagin avec lui, et descend jusqu'entre les cuisses de la malade."—*Mem. de l'Acad. Chir.*, 8vo. edition, iii., 359.

⁵² *Diss. sur les Tumeurs*, &c., p. 47.

⁵³ *Obs. sur les Pertes*, p. 165.

⁵⁴ "Le col lui-même a été entraîné dans cette évolution à laquelle le museau de tanche seul a échappé."—*Mal. de l'Utérus*, i., 221.

⁵⁵ "By a complete inversion, I mean the passing of the fundus and body of the uterus through the os, or being turned entirely inside out to the very mouth of this organ."—*System of Midwifery*, p. 470.

⁵⁶ "Dans quelques cas, la partie supérieure du vagin elle-même est renversée; l'orifice forme alors sur le pédicule une saillie circulaire au-dessus de laquelle on sent la portion vaginale plus molle que le reste de la tumeur."—*Dict. de Méd.*, xviii., 272.

⁵⁷ "In complete inversion, the cervix is not inflected upon itself, or embraced by the os uteri, but this orifice is effaced, and the vagina is inverted to a greater or less extent."—*Essay on Inversio Uteri*, p. 1.

⁵⁸ *Pathologie Externe*, v., 781.

⁵⁹ *Provincial Medical and Surgical Journal*, June 12, 1844, p. 154.

⁶⁰ See Plate 1 with description; the letter (a) marks the thickening answering to the cervix and os uteri.

⁶¹ "On voyait les ligamens ronds, les ligamens larges entraînés dans l'entonnoir que formait la matrice; les ovaires étaient placés symétriquement sur le rebord circulaire postérieur du renversement; les trompes flottaient libres dans le bassin,

The patient, thirty-two years of age, was brought into the Hotel Dieu at Paris, in a dying condition, three hours after delivery; she soon expired, the hæmorrhage having ceased only when the system was deprived of all its blood. On autopsy the uterus, totally inverted, was in the vagina, the inverted cervix being continuous with it, and presenting no margin to indicate its existence; the circular aperture at the entrance of the peritoneal pouch, as represented in the plates given in the *Repertoire*, mounted considerably above the pubes towards the umbilicus, proving that the cervix and part of the body of the uterus must have ascended in the progress of the inversion to its completion, as before mentioned in this section in speaking of partial inversion in the greatest degree. Horteloup observes that, had the cause of the hæmorrhage been known, the patient might have been saved; but the inversion was first detected *post mortem*.

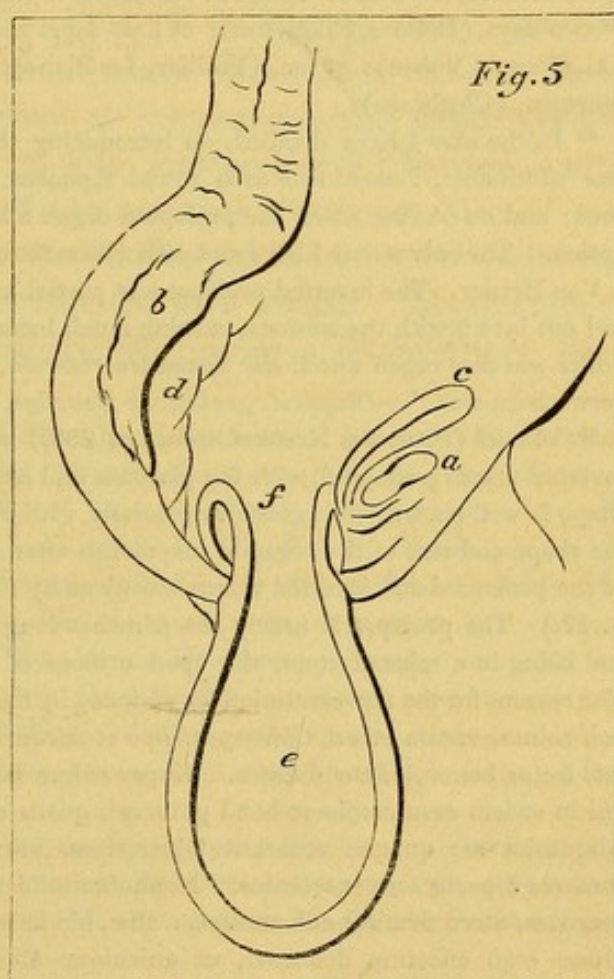
Total inversion of the womb can only happen by the displacement passing through all the minor degrees, beginning with the slightest depression. It may happen instantaneously, when the os tinæ is greatly dilated, the whole of the uterus relaxed or in a state of inertia, and the expulsive abdominal efforts (*nisus depressorius*) are powerfully and, as respects the patient, irresistibly exerted, driving down and expelling the organ as it is inverted, until it depends many inches at the labia, or reaches nearly to the knees of the patient,⁶² who exclaims that "her very bowels are

et la masse intestinale recouvrait le tout. . . . En introduisant le doigt dans le vagin, on rencontrait le sommet de la matrice, dont la surface mamelonnée indiquait l'insertion du placenta; puis glissant autour de ce cône renversé, on arrivait à un cul-de-sac circulaire que formait le vagin à son insertion sur le col; celui-ci effacé ne présentait pas même un rebord qui pût indiquer son existence."—*Rep. d'Anat. et de Phys. Pathologique*, ii., 229. A wax model of the inverted uterus is preserved in the Cabinet de la Faculté de Médecine de Paris; and Plate 9 of the *Repertoire* gives two illustrative views, one of the abdominal aspect, and the other of a section in the mesian line. Dewees observes, "I have known the inversion to be complete, and the fundus not escape from the vagina."—*System of Midwifery*, p. 471.

⁶² In all these extreme cases of prolapse of the inverted organ, the vagina is inverted more or less, and drawn down with the uterus, forming the neck of the pyriform tumour. The bladder, though rarely altered in its situation, may, if the vagina be extensively inverted, be drawn downwards and backwards, so as to become involved with the highest part of the tumour; and even the urethra may be so changed in its direction, that the catheter passes from its *ostium* downwards to reach the bladder. Mr. Mandby, an intelligent surgeon of long experience, has communicated to me a case of complete inversion with prolapse, in which, before attempting

passing from her;" or it may be effected by gradual steps, when the rationale of its progress is different, as I shall endeavour to explain in considering fully the efficient causes.

One great source of error and obscurity has been the confounding of prolapse with inversion. Most authors have defined complete or total inversion to be external prolapse of the organ: prolapse, as I have already affirmed, may be added to the third degree of partial inversion; it is a still more frequent complication of total inversion; but in either of these extreme degrees of displacement, prolapse may not occur speedily after delivery, but after an interval of several hours, days, or even a week or two.⁶³ It brings less immediate danger, as its occurrence is more remote from the delivery; but in all instances, external prolapse aggravates the symptoms and increases the danger, the patient often dying in an hour or two, from hæmorrhage, pain, syncope, and convulsions. The prolapse remaining external, the uterus loses its natural warmth if not excluded from the atmosphere; and on examining as deep as the



reduction, he thought it necessary to use the catheter; and in searching for the entrance to the meatus urinarius, he found it had been drawn down so as to be quite visible below the superior commissure of the external labia, and the catheter took a direction contrary to what is usual to reach the bladder.

⁶³ Fig. 5 is a plan of external prolapse, with total inversion of the uterus and inversion of part of the vagina:—(a) os pubis; (b) os sacrum; (c) bladder; (d) rectum; (e) peritoneal pouch of the inverted uterus; (f) the pouch continued by the inverted vagina; the boundary of the uterus is marked by a thickening, being the only remaining

uninverted portion of the vagina will permit, the accoucheur may feel the round ligaments,⁶⁴ in each lateral aspect, as very tense cords, and trace them within towards the brim of the pelvis. Not only the round and broad ligaments, but even the ovaries and entire Fallopian tubes, may occupy the peritoneal pouch; if called soon after delivery, we not unfrequently find the placenta still adhering to the inverted fundus, and lying between the lower extremities of the almost lifeless patient.⁶⁵

trace of the os and cervix. The external prolapse, if not immediate, most often takes place within a few hours: cases are on record of one day elapsing, (Troussel, Church); of two days, (Delmas, Elkington); of four days, under my own observation; of eight, (A. Hunter, Voisin); of ten, (Teallier, Le Blanc); of twelve and thirteen, (Ané); of fourteen, (Cleghorn.)

⁶⁴ In the case I have detailed, on introducing the finger into the vagina as far as was admissible, I could feel each round ligament, tense and stretched, like a firm cord; and on pulling down the prolapsed organ a little lower, I produced pain at the groins. The only writer I have met with who mentions having felt the round ligaments, is Von Herder. The inverted prolapse was partial in the third degree, and the midwife had cut into it with the scissors, causing much hæmorrhage before his arrival:—"Ich fühlte wie dies organ durch die *ligamenta rotunda*, welche angespannt werden, innig verwachsen war."—*Diagnost. praktische Beiträge*, p. 124.

⁶⁵ Viardel (*Prat. des Accouchemens*, p. 200,) published a Plate representing the inverted uterus prolapsed, with the placenta still adhering to its fundus; the pyriform shape is well shown, and coincides precisely with Plate 1 of this Essay, representing the shape and size of the organ at one month after delivery. The first representation of the prolapsed and inverted uterus was given by Ruysch, (*Obs. Anat. Chir.*, Fig. 12, p. 17.) The prolapse is nearly seven inches long, and six in transverse diameter, and being in a relaxed state, the open orifices of the uterine veins are observable. The reasons for the representation are assigned by the author:—"Multoties *Obstetrices* non solum, verum etiam *Chirurgos*, imò et *Medicos* hac in re esse hallucinatos, non est, lector benevole, cur dubites. Nuper adhuc me arcessi jussit Chirurgus quidam, qui in eodem casu conjicere haud potuerat, qualis esset tumor è corpore propendens. Aliquoties me quoque vocarunt *Obstetrices*, mirabundæ, quod viderent ejusmodi tumores à partu sese exserentes. Nonnullæ mihi venienti dixere, hic videbis molam magnam, utero firmiter adhærentem: aliæ, hic habemus partum foetus monstrosi, &c. Hunc ergò affectum delineavi, ut unicuique Chirurgus, qui delineationem viderit, magis in memoria hæreret, et ne quis amplius in re tanti momenti, et subitam restitutionem exposcente affectu, deciperetur." Ruysch's hopes were not visionary, for Morgagni relates that a surgeon came to seek his opinion on a novel case, to whom he showed Ruysch's delineation, and advised him to hasten back and replace the inverted uterus, which was done within an hour from its occurrence, and the lady recovered. (*Grieve's Celsus*, note in Preface, p. 12.) The plans of inversio by Levret, Fries, and Dewees, deserve to be named amongst the useful graphic illustrations of this subject. Fries also gives a miniature Plate of the inverted prolapse, which is copied in *Froriep's Chirurg. Kupfertafeln*, Taf. 42, Fig. 2. The Plate of Boivin and Dugès has already been referred to, showing external prolapse of partial

It will be observed that in all I have stated regarding the different stages of uterine inversion, it commences from the superior part of the organ, usually the fundus, and progresses through the cervix and os to its completion; there is no evidence of the inversion progressing in the opposite direction, that is, from the cervix or the contiguous part of the body of the uterus, towards the fundus, although, with a very dilated cervix, it would appear very possible, in a mechanical view, to find the progress of the displacement to be from the cervix towards the fundus.⁶⁶ When lateral depression is the first step, the fundus follows, before the inversion is completed; and, at all events, the cervix, and the body of the uterine organ continuous with it, are the last parts that become inverted. Several of the domesticated quadrupeds⁶⁷ are liable to uterine inversion, with prolapse; and I have reason to believe that the progress of the malady in them is often, if not uniformly, from the vaginal termination of the uterus towards the fundus, the reverse of what happens with woman. Many authors who have attempted to describe the progress of inversion, have

inversion. Those of Heister, (*Inst. Chir.* ii., Plate 36, Fig. 3,) Levret, (*Des Polypes*, Plate 3, Fig. 4,) Burton, (*System of Midwifery*,) and Jörg, (*Lehrb. für Hebammen*, Taf. 9, Fig. 2,) are quite unworthy of the subject, and on being referred to will furnish the best apology for fresh illustrations. Dr. William Hunter has given a Plate of the gravid uterus at full term, turned inside out, to show its anatomical structure; and this has been often referred to as an inverted uterus *post partum*: if it were so, the position of the Plate should have been reversed, with the fundus lowest. All that the author states is the following:—"Mulier hæc, post partum neutiquam difficilem, in animi deliquium inciderat, causa quidem adstantes latente; horis autem duabus a partu nondum lapsis, illam mors abstulit." (*Anat. Uteri Gravidæ*, Tab. xv., Fig. 1.)

⁶⁶ H. Von Sanden described the progress correctly long ago:—"Inversus non quoad orificium sed quoad fundum, uterus descenderet extra vaginam, propendens tumore livescente, cucurbitam duarum librarum æquans."—*Obs. de Prolaps. Uteri Inversi*, p. 25.

⁶⁷ The mare, cow, and sheep, not very unfrequently suffer uterine inversion with prolapse. Le Blanc, who commenced in the veterinary line, but afterwards became the great surgeon and lithotomist, states that he had seen two hundred instances of inverted uterus in the cow. (Ferrand-Demissols, *Thèse*, p. 40.) A good representation of the totally inverted organ, prolapsing two or three feet, is given by Skellet. (*Treatise*, &c., p. 176.) After reduction, the same treatment is still adopted which Ruysch described:—"Bidenti scilicet furcâ pertundentes cutem, &c." (*Advers. Anat.*, Dec. 2, p. 38.) A veterinary surgeon lately, within my knowledge, met with uterine inversion in a mare, complicated with rupture of the organ near the vagina, and prolapse of several feet of intestine: he reduced the intestine, and subsequently the inverted uterus, and recovery speedily followed.

compared it to "the turning of the finger of a glove inside out" on removing it from the hand; the one is just the reverse of the other, in the human frame, as to the successive changes, although the effect may be the same when, in both instances, the inversion is rendered complete. The comparison would be correct only on the condition that uterine inversion progressed from the cervix to the fundus.

In all degrees of inversion, there is a concavity or pouch lined with peritoneum, and open towards the general peritoneal cavity. In simple depression, the intestines rest in the concavity; and as the pouch or cul-de-sac increases, the intestines may, if the opening into it be large, occupy this pouch, so that in total inversion, with prolapse, they may actually descend beyond the external labia, still resting in the peritoneal bag which the inversion has occasioned. It is easy to conceive that, under these circumstances, a portion of intestine may become incarcerated,⁶⁸

⁶⁸ Van der Wiel has been quoted for having observed the intestines occupying the peritoneal pouch of the inverted uterus, and their incarceration in this situation; but it does not appear to me that he has been correctly quoted. Called to a robust woman, who had died the day before, half an hour after delivery, he found the inverted uterus prolapsed between the lower limbs:—"Nos autem inversum hoc corpus bene perspectum, facto in fundo foramine, *in suum reduximus locum*, atque tum illico per dictum foramen ipsa sensimus intestina." After having made an opening in the fundus, and then reduced the uterus, what could he feel through the opening but the intestines?—which could not occupy the peritoneal pouch after the inversion had been replaced. (*Obs. Rariores*, i., 292.) The intestines have, however, been repeatedly found in the peritoneal cul-de-sac formed by the inverted uterus. Baudelocque used to exhibit at his lectures a drawing illustrative of this fact; and Murat, his pupil, refers to the same, by stating—"J'ai souvent vu dans son cabinet le dessin d'une matrice renversée incomplètement, dont la cavité contenait plusieurs anses d'intestins." (*Dict. des Sc. Med.*, xlvii., 478-484.) "*Herniæ incarceratæ omnia symptomata parere potest in uteri cavo incarceratus intestini gyros.*" (Lassabe, *Thesis*, p. 9.) Meissner attributes to this cause the syncope and dangerous convulsions. (*Disloc. der Gebärm.* iii., 14.) In Dalmas' case, a fold of intestine occupied the new cavity formed by the inverted fundus uteri. (Ferrand-Demissols, *Thèse*, p. 33.) The term *enterocele hysterica* has been applied to this malady. Dailliez, referring to the early complications of uterine inversion, observes:—"Une anse d'intestin peut suivre le fond de cet organe, s'insinuer dans la cavité dont l'entrée est d'abord très-large, s'y étrangler, comme on l'a observé à la suite de la rupture de la matrice, et donner lieu à des nouveaux accidens qu'on n'a regardés jusqu'ici que comme sympathiques. Les douleurs d'entrailles, la tuméfaction du ventre, les nausées, les vomissemens, le hoquet, attribués tant de fois au renversement de la matrice, auraient bien pu ne dépendre chez quelques femmes que de cet étranglement." (*Thèse*, p. 80.)

and present all the circumstances, and induce all the symptoms and dangers, of strangulated hernia. These effects are described in general terms by many writers, but I have not found any particular case in which intestinal strangulation happened, as developed by undoubted symptoms, nor proof of death from this cause, amongst the numerous examples of autopsy which will be noticed in the course of this essay.

The symptoms accompanying each degree of inversion will be further reviewed in considering the pathological effects. In recent inversion, the lining membrane of the uterus, converted to its external covering, possesses little sensibility, unless congested, inflamed, or otherwise morbidly affected, in addition to the mere displacement. In a case of inverted uterus, externally prolapsed for several days, I experimented⁶⁹ by touching the membrane, pressing it with my finger, pinching it and pressing my finger nail into it, even pricking it with a pin, but no sensation was produced, nor any inconvenience experienced by the patient; it being wintry weather, I placed snow on the exposed lining membrane of the uterus, but it gave rise to no sensation of cold; at the part, however, answering to the os uteri, and at the contiguous part of the vaginal membrane, cold was felt by the patient from the contact of the snow. It should be recollected that this was a case of total inversion, and that there was no cervix producing constriction upon the uppermost part of the uterus. The muscular coat of the inverted uterus may be made to contract by change of temperature, by pressure, or other source of irritation, applied to the mucous membrane covering it. Lisfranc⁷⁰ observes that the uterus is sensible after a manner peculiar to itself, and according to the different agents acting upon it, but he does not explain what this peculiar manner is. These remarks apply only to the recently inverted organ.

If the uterine inversion be not corrected, and the patient survive the first shock to the system, the hæmorrhage ceases, and rarely recurs until the return of menstruation; the nervous symptoms also abate; the discharge, which for a time is always fetid and offensive, diminishes, subsiding to a common state of leucorrhœa; and the uterus speedily diminishes in volume, resting in the vagina,

⁶⁹ *Provincial Medical and Surgical Journal*, June 12, 1844, p. 155.

⁷⁰ "La matrice sent d'une manière différente, suivant les agents qui sont appliqués sur elle." (*Clin. Chir.*, iii., 205.)

and obeying the same law as to its decrement,⁷¹ as if it were not inverted. During the period of the patient's giving suck to her infant, should she be able to do so, the health is little affected. In two or three weeks the uterus will be reduced to one half the size it presented shortly after delivery; and the decreasing progress goes on so regularly and uniformly, that after a lapse of five or six months, if no morbid conditions consequent on the displacement arise to interfere with and retard it, the uterus will have subsided to its normal unimpregnated size, and sometimes has been found even smaller than before impregnation.

Throughout this section I have had in view the occurrence of uterine inversion after delivery at the full period of utero-gestation; it is less liable to arise or be produced in a premature confinement: still Meissner⁷² relates a case where the inversion occurred after delivery in the eighth month; and although he denies that inversion can follow a miscarriage at four months, we have the authority of Lisfranc⁷³ for its taking place at even an earlier date, and may hence conclude that it is possible, however infrequent, for the displacement to be consequent on the expulsion of the ovum or foetus at any period of utero-gestation after the first three months.

SECTION III.

ON CHRONIC INVERSION OF THE UTERUS AFTER PARTURITION.

When the inversion remains unreduced, and sufficient time has elapsed for the organ to diminish till it approaches its natural unimpregnated size, it may be regarded as chronic. The com-

⁷¹ Having gradually increased in size during pregnancy, the uterus soon after delivery commences a contrary process, and daily diminishes until it has regained about its normal unimpregnated size. This is what I mean by the decrement of the uterus, a change which has not received sufficient attention; and I am consequently unable to state with precision how long the decreasing process goes on. Dr. Rigby, of London, observes to me, that during the first thirty-six or forty-eight hours after delivery, the uterus slowly increases in size, and at the end of this period it begins to diminish, and continues to do so for some weeks; but remains softer and larger than in the virgin state, and does not attain its original size and hardness until the menstrual part of a woman's life has terminated. (*System of Midwifery*, p. 22.)

⁷² *Disloc. der Gebärm.*, Theil iii., p. 26.

⁷³ *Clinique Chir.* iii., 383.

mencement of the chronic stage has reference, therefore, both to the duration of the malady and the size of the organ, but in neither of these respects can perfect precision be attained; and we must agree to regard the disease as chronic, when five or six months have elapsed.

By far the most frequent form of chronic inversion is the greatest degree of the partial displacement, (*perversio*), in which the cervix only remains uninverted; in a practical view, it may be considered that the remarks in this section are applicable solely to this division of the disease, unless otherwise specified. There is no evidence of depression persisting till the chronic stage; in the rare instances of *introversion* doing so, of which Plate 4⁷⁴ is a doubtful example, detection would be scarcely practicable, unless the os uteri were sufficiently open to allow of a digital examination, and the absence of the fundus from its proper site were ascertainable by the means hereafter to be pointed out under diagnosis;⁷⁵ for the

⁷⁴ See the description of Plate 4, which refers to a preparation preserved in the Hunterian Museum at Glasgow, and of which the late Dr. Allan Burns made me the drawing just before his decease.

⁷⁵ In chronic inversion, when the uterus is become of small size, and the inversion itself has caused the fundus to be lower than natural, we can rarely expect to feel the organ through the abdominal parietes, and thus ascertain the inversion; but the following case, related by Baudelocque, and without doubt faithfully related, proves that sometimes we may gain satisfactory evidence in this way, even after several years' continuance of the malady, the emaciated state of the patient facilitating the investigation:—The inversion occurred after a first delivery, at about twenty-one years of age; and after suffering losses for eight or nine years, the patient sought Baudelocque's advice on that account. The patient was very thin, almost in a state of marasmus, profuse mucous discharge continuing in the intervals between the coloured losses. The skin was flaccid, the countenance pale and sallow, and the assemblage of symptoms announced a fatal result to be near. Some surgeons had attributed the discharges, white and red, to a polypus; others, so situated that they had not the courage to avow it, could only ascribe the symptoms to an inversion of the womb, which they had failed to recognize during their several visits within the first forty days after delivery, on account of copious flooding. (*Pertes de sang très inquietantes*.) Baudelocque found a pyriform tumour in the vagina, which he estimated to be about an inch and three quarters in length, and an inch and a quarter in thickness; it was rather flattened on its anterior and posterior aspects, and its surface was smooth, polished, covered with a sanguineous mucus, and slightly painful under the touch; its pedicle was encircled by a soft band, within which the finger could be admitted to the depth of the third of an inch. The hypogastric region was so yielding, that on pressing deeply towards the pelvis, Baudelocque could, without difficulty, discover through the abdominal parietes all the characteristic signs of an inversion of the womb, of long standing. (Dailliez, *Thèse, Obs.* 24, p. 73.)

leucorrhœa, frequent menorrhagia, irritation, and uterine tenesmus, would not prove characteristic of the disease.

If the patient pass safely over the first few weeks of the inversion, she often suffers only slightly, and rarely or never dangerously, until the chronic stage has arrived, and the menstrual loss returned; and when the disease has been entirely overlooked at the commencement, it is usually at the expiration of six or eight months after delivery, that the symptoms become so severe, so distressing, and sometimes so perilous, as to compel the patient to seek medical advice.

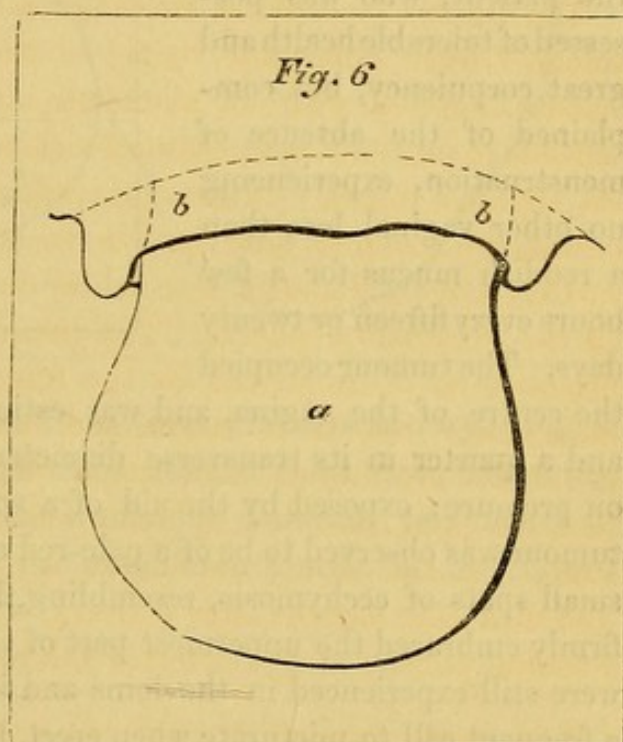
The tumour occupying the vagina is of a pale-red or florid colour,⁷⁶ when observable by aid of the speculum; its surface is smooth, covered with an abundant mucous secretion, somewhat sensible to pressure or mechanical violence,⁷⁷ and bleeds easily from the slightest injury. If brought under view during the menstrual period, the coloured fluid is seen to ooze from every part of the surface, and an abundant leucorrhœal discharge is furnished during all the intervening period. The tumour is of great density and firmness, as distinguished by the finger through the enveloping membrane; but it is larger and softer in its texture during menstruation; the size and shape vary considerably, but less so than has been conceived by many writers, as I can readily demonstrate. In the patient whose case is represented in Plate 7,⁷⁸ and who died nine months after delivery, exhausted by discharges, only a conical portion of the inverted fundus projected at the os uteri,

⁷⁶ Dr. Ingleby compared the colour and appearance of the tumour, in a case I examined with him, to a ripe red cherry.

⁷⁷ Some writers have stated that they found the uterine tumour in chronic inversion insensible, but a majority describe it to be sensible under pressure; and in a state of congestion, chronic irritation, or inflammation, it is very sensible, and very painful on pressure. In a case of partial inversion of five years' standing, and not detected till after this lapse of time, (the patient twenty-four years of age, and the tumour still in the vagina,) its surface was quite sensible on being scratched with the nail, by Klüge, of Berlin; and subsequently the uterine surface was repeatedly punctured slightly with a knitting-needle, and the patient was cognizant of each impression. (*Mit einer Strick-nadel punctirte ich sanft die Geschwulst mehrere mal, immer gab die Kranke die jedesmalige Anzahl der Punkte an.*) (Hauck, in *Caspar's Wochenschrift*, iii., 703.) When prolapsed for many years, the inverted uterus may be very sensible to cold from access of the external air, as stated by La Motte. (*Traité des Accouchemens*, p. 653.)

⁷⁸ See full description of Plate 7, with the case. The original preparation is in the Anatomical Museum of Queen's College, Birmingham.

which appears dilated, and the rest of the inversion is contained above the cervix uteri. But in all instances where the cervix only remains uninverted, the tumour is smaller at its highest part next the cervix, and increases in size as you approach its centre: whatever some writers have stated to the contrary,⁷⁹ I find no exception to the correctness of the remark, that the circumference of the tumour is greatest midway between its two extremities, and that a gradual diminution of size is observable as you trace the tumour upwards towards the encircling cervix. In a case of chronic inversion which I lately examined, about nine months after delivery, and where the patient was exhausted to the utmost by hæmorrhage, I judged the tumour occupying the vagina to be of the size (a) of Fig. 6, quite sensible to the touch, and even tender from repeated pressure under recent examinations and ineffectual attempts at reduction; the encircling cervix (b b) was sufficiently yielding to allow my finger to pass within it and to reach the angle of inflexion



of this membrane, which I estimated at from one-third to half an inch.⁸⁰ An instance of fatal result is afforded in Plate 5,⁸¹ showing

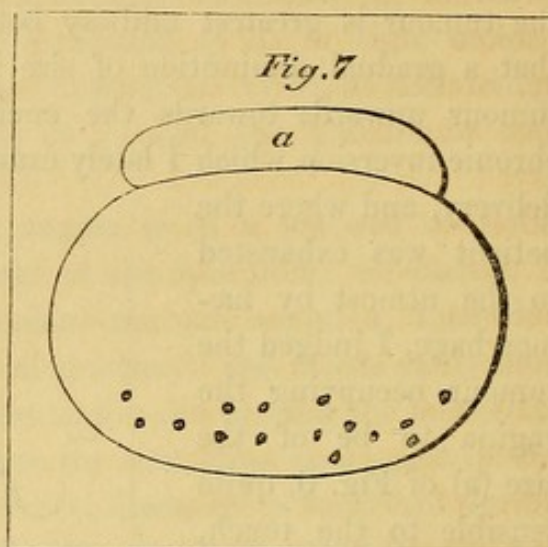
⁷⁹ Newnham remarks that the inverted uterus is broader above than below. (*Essay*, p. 53.) Samuel Cooper promulgates the same remark. (*Dict. of Surgery*, seventh edition, p. 1380.) Herbiniaux has been quoted to the same effect; but what he does remark is quite correct, that the partially inverted uterus is very large above, where it is surrounded by the cervix, whilst polypus is larger at its lowest part than above. (*Traité des Accouchemens*, ii., 58.) All these remarks are valueless, unless it be specified whether they apply to recent or chronic inversion, a distinction not made by any of these several authors.

⁸⁰ The inverted portion of the uterus in this case has since been removed by ligature below the cervix with perfect success, by Dr. Ingleby.

⁸¹ See full description of Plate 5, which is after an original drawing recently made

the size of the tumour at the end of two years from the occurrence of the inversion; but some allowance must be made in this case for the diminution of size occasioned by the action of spirit, the specimen now in the Musée Dupuytren, at Paris, having been preserved above forty years.⁸² Further information may be derived

from Fig. 7, referring to the shape and size of the inverted uterus after the lapse of five years, as found by Boivin and Dugès⁸³ on examination of the patient, who was possessed of tolerable health and great corpulency, but complained of the absence of menstruation, experiencing no other vaginal loss than a reddish mucus for a few hours every fifteen or twenty days. The tumour occupied



the centre of the vagina, and was estimated to be above an inch and a quarter in its transverse diameter, flattened and not painful on pressure; exposed by the aid of a speculum, the surface of the tumour was observed to be of a pale-red colour, marked by numerous small spots of ecchymosis, resembling flea-bites. The os tincæ (a) firmly embraced the uppermost part of the tumour; dragging pains were still experienced in the loins and in the groins, and there was a frequent call to micturate when erect, but not during recumbency:

by M. Biot, of Paris, from the preparation. A representation of the same specimen was published by Ségard in 1804. (*Diss. sur les Polypes Utérins*, Plate 2, p. 31.) The only other published plates of chronic inversion that I am able to refer to are by Baillie, (*Engravings of Morbid Anatomy*, Fasc. ix., Plate 5, Fig 2,) and Denman, (*Introduction to Midwifery*, 4to., Plate 12): these both refer to the same specimen, which is now in the Museum at the London Hospital. Baillie's Plate is copied in *Froriep's Chir. Tafeln*, Taf. 42, Fig. 1. A reference to these plates will confirm the account I shall give of the shape and size of the tumour in chronic inversion.

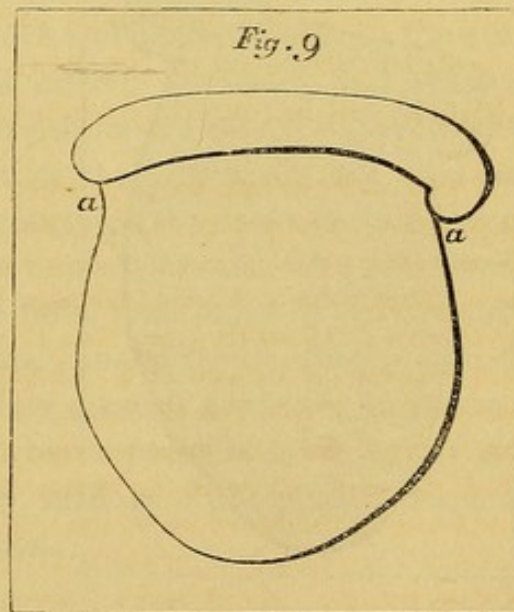
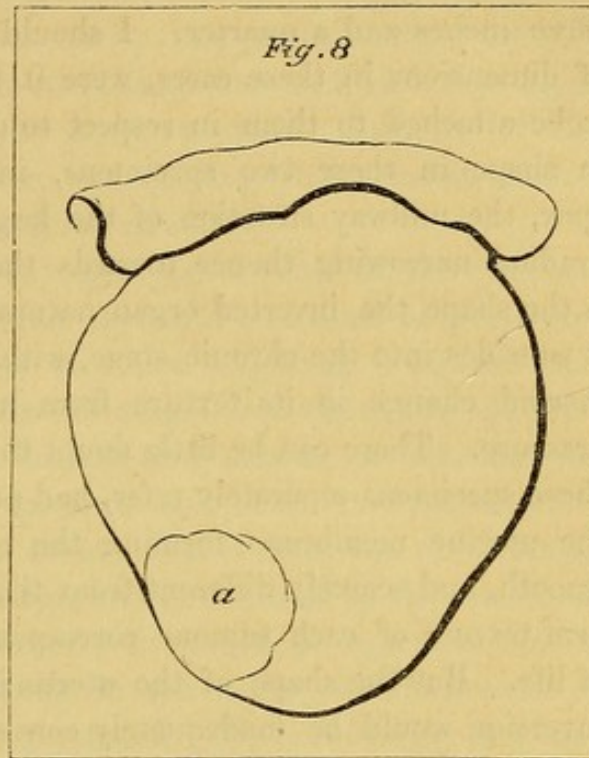
⁸² As the spirit acts on all the surface, the shape of the part remains the same, notwithstanding the diminution of size. The same explanation is applicable to Dr. Mackenzie's two specimens, in which the inverted uteri are smaller than during the life of the patients. Plate 5 of this Essay is smaller than the representation given by Ségard; but in all other respects the two, being original drawings, are almost identical.

⁸³ *Mal. de l'Utérus*; Atlas, Plate 12, Fig. 2.

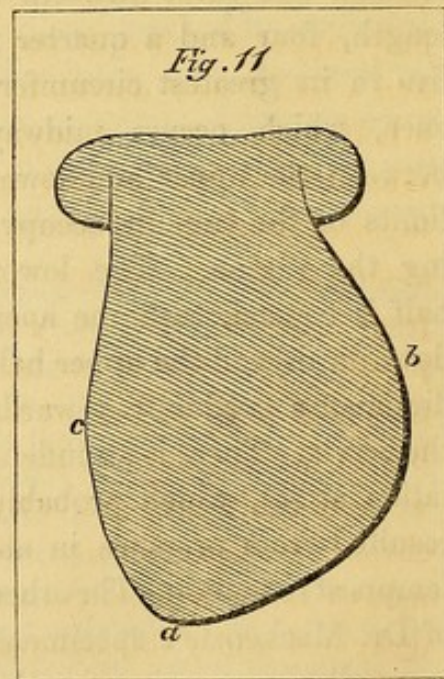
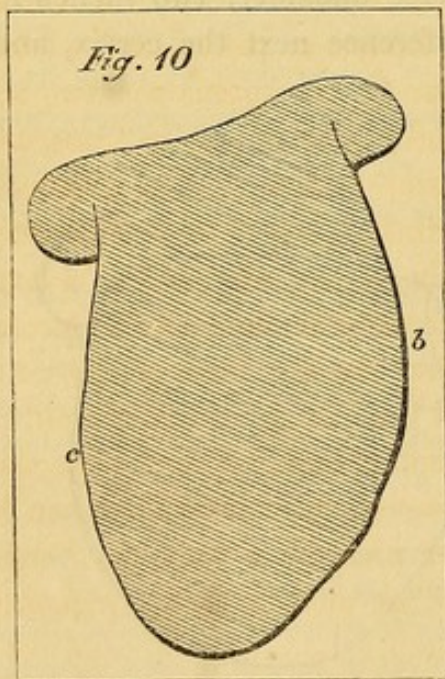
besides these symptoms, the patient made no other complaint, except of her obesity.

I am enabled to exhibit, with still more precision, the size and shape of the chronically inverted uterus, through the liberality of Dr. Mackenzie, of Glasgow, who has long preserved in his pathological collection two specimens of this disease, which he met with in his dissecting rooms between the years 1819 and 1824. The bodies appeared to be those of women pretty far advanced in life, about fifty years of age, but no

information could be gained as to their previous history. Fig. 8 is a correct outline of one of these uteri, a front view, measuring an inch and three-quarters in transverse diameter, two inches in length, four and a quarter in circumference next the cervix, and five in its greatest circumference, which occurs midway between the upper and lower limits of the tumour occupying the vagina. The lower half is conical, with the apex downwards, and the upper half diminishes gradually towards the cervix. There is an indentation at (*a*), which probably resulted from pressure in attempts at reduction. The other of Dr. Mackenzie's specimens is smaller, answering in the anterior view to Fig. 9, measuring an inch and a half in breadth and length, and just above



four inches in its greatest circumference, from which it diminishes gradually towards the cervix, where at (*a a*) the circumference is three inches and a quarter. I should not give such a dry detail of dimensions in these cases, were it not for the value I conceive to be attached to them in respect to diagnosis. The coincidence in shape in these two specimens, in regard to the downward apex, the midway situation of the largest circumference, and the gradual narrowing thence towards the cervix, indicate that this is the shape the inverted organ naturally takes, when, unreduced, it subsides into the chronic stage, without undergoing any serious morbid change in its texture from inflammation, congestion, or pressure. There can be little doubt that both the women to whom these specimens separately refer, had passed the menstruating age; the uterine membrane forming the covering of each tumour is smooth, and scarcely different from that lining the vagina, and the firm texture of each tumour corresponds to the presumed period of life. But the shape of the uterus in these examples of chronic inversion would be inadequately conveyed to the reader without a lateral view being given, obtained by a medio-longitudinal section, which I have accomplished by making casts of each in plaster of Paris, and then dividing these casts. Figs. 10 and 11 consequently



give an exact view of the cut surface presented by the left half of each cast of Figs. 8 and 9; the curved line to the right (*b b*)

representing the convexity of the anterior surface of each tumour, and the line (*cc*) the flat posterior surface. In Fig. 11 the apex of the inverted fundus comes nearly to a pointed shape (*a.*) The width from (*b*) to (*c*) is little more than one inch in either figure, showing how much less the antero-posterior diameter of each uterus is than the transverse, and proving the inverted organ in these cases to be flattened and not circular.

When, as in several of the cases just referred to, the symptoms induced by the displaced organ are mild and such as prove compatible with the continuance of active life, there is an uniformity of shape and size in the chronic stage; but where the symptoms prove severe, and profuse losses, sanguineous or mucous, wear down the strength of the patient, and chronic irritation or inflammation of the uterine tissue itself is kept up, or ulceration, indicated by purulent discharge, and determined by the constriction of the encircling cervix, occurs, it cannot be expected that the uterine tumour, still remaining in the vagina, should present just the shape and size I have represented. We accordingly find many examples of the chronically inverted uterus, where from congestion, irritation, and inflammation, the organ is of much larger size, or may never have subsided, so as to approximate to the natural size of the unimpregnated organ. In Dr. Symonds' case,⁸⁴ a female only eighteen years of age, and the inversion partial and of two and a half years' duration, the tumour in the vagina was two and a half inches long, although an inch and a quarter only in transverse diameter; it was broader at its inferior extremity, and gradually tapering towards the cervix. In Esselman's case,⁸⁵ of twelve years' standing, the uterus was found in the vagina the size of a large pear. Hauck,⁸⁶ at five years, compares the inversion to a German pippin. The size of the uterine tumour has also been compared to that of a small melon, or to the foetal head of six or seven months; but in the instances of the vaginal tumour being of very large size, we may conjecture that often other diseases have been mistaken for chronic uterine inversion, which never presents a tumour of enormously large size in the vagina, such as authors have frequently described under this denomination.

⁸⁴ *London Medical Gazette*, viii., 242.

⁸⁵ *Ibid*, xxxiv., 510.

⁸⁶ *Caspar's Wochenschrift*, iii., 702.

In the instances, so very rare, of *total inversion* becoming chronic, the symptoms are milder, and the tumour is usually pyriform,⁸⁷ hanging dependant from the upper part of the vagina, like the tongue of a bell, the vagina being perfectly closed superiorly, and forming a circular cul-de-sac around the neck of the uterine tumour. In the singular example represented in Plate 6,⁸⁸ the tumour is nearly globular, or approaching the ordinary shape of an apple; a variation deserving of particular notice with a view to correct diagnosis.

In chronic inversion, whether partial or total, the uterus is subject to descent and prolapse, followed by all the complications, inconveniences, and dangers, attendant on similar displacements of the uninverted uterus; indeed, when the patient lives long, and particularly in the lower class of society, prolapse of the inverted organ takes place sooner or later in a great proportion of instances. In Placido Portal's patient, who had been thrice received into the hospital, on account of uterine disease, without the nature of the malady being correctly ascertained, the uterus prolapsed externally at the expiration of three years, under an effort at defecation; it was of a pyriform shape, with the base depending, and equalling in size a very small melon.⁸⁹ The case most minutely and ably described by Mr. Boyer Harrison,⁹⁰ and subsequently operated upon with success, was of five years' standing; the patient was pale and ex-sanguineous, and becoming hectic, from vaginal discharges; on forcing down whilst in the sitting posture, and at every visit to the *commode*, she protruded the inverted uterus at the labia, and often had great difficulty in replacing it in the vagina; the prolapsed tumour was pyriform, and the fundus presented a smooth globular surface, bleeding on the slightest touch, and the

⁸⁷ Levret says, that in total inversion the tumour is pyriform; but in partial inversion, the fundus projecting through the os uteri is demi-spherical, and not pyriform. (*Cure des Polypes de la Matrice*, p. 130.)

⁸⁸ See description of Plate 6; also *Catalogue of the Museum of the College of Surgeons of Ireland*, by Dr. Houston, ii., 509; one of the best specimens of a work of this description in any language.

⁸⁹ *Bulletino della Scienze Mediche di Bologna*, xi., 124. When examined in the vagina some time previously, the tumour was compared to a pullet's egg; the above description refers to it when prolapsed:—"Il tumore offrivà la figura piriforme del volume de una piccola petronciana, coll'apice alla vagina, e la base alle cosce, e la mucosa, che lo ricopriva, vestita di placche cancrenate."

⁹⁰ *London Medical Gazette*, xxv., 151.

summit or neck was surrounded by a reflection of mucous membrane answering to the os uteri. There is a similar case by V. Horn,⁹¹ with much greater disease of the inverted organ; the prolapse took place at the expiration of five years from parturition.

When the uterus prolapses at the labia, the vagina necessarily becomes inverted; and as the uterus descends, the vagina is brought down with it, and appears externally, forming a hollow tube lined with the peritoneum, thin, soft, and yielding, compared with the uterus; the bladder, and also the rectum, may be brought down with the vagina,⁹² and the bowels may also enter the vaginal pouch. Even the whole of the vagina may be thus brought externally, inverted, and terminating above at the labia. La Motte⁹³ gives two examples, in one of which the prolapse was a foot in length. When the inverted uterus is external, the menstrual loss has often been observed to flow from its surface; I have been informed of a maniac afflicted with this infirmity, and in whom the menstrual phenomenon was often witnessed. After the menstrual period of life is past, if the inverted uterus prolapse constantly, its surface assumes the appearance of the neighbouring

⁹¹ The uterine tumour increased during the five years, from chronic irritation and inflammation, till distending the vagina it impeded the evacuation both of rectum and bladder; and when at length it prolapsed externally, from the supporting bandage being laid aside during efforts at defecation, the tumour was found scirrhus, as large as a child's head, and shortly caused death by becoming gangrened. (*Schmucker's Vermisch. Chir. Schriften*, ii. 143.)

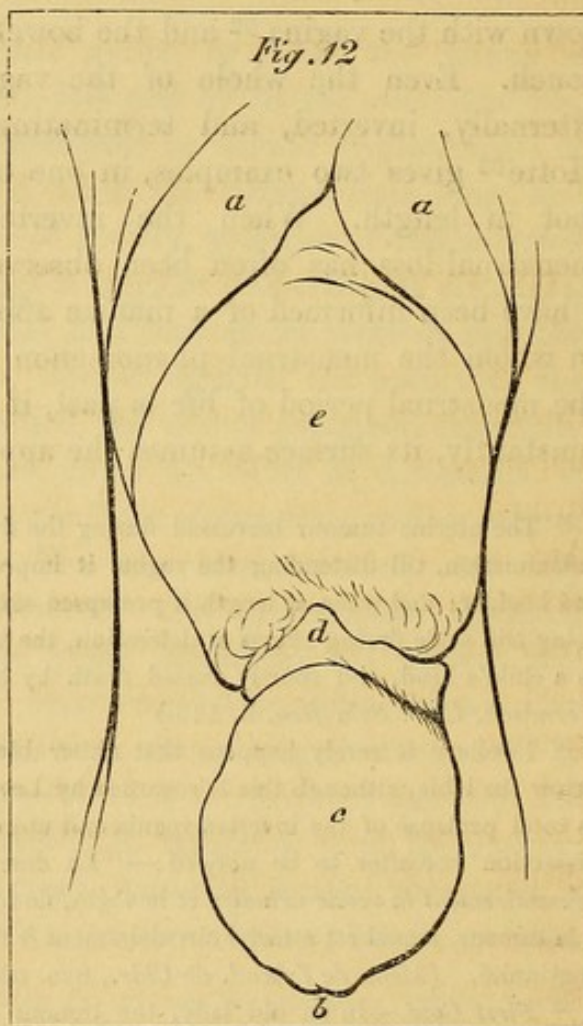
⁹² I believe it rarely happens that either bladder or rectum are brought down below the labia, although this is regarded by Levret as unavoidable and characteristic in total prolapse of the inverted vagina and uterus, and is supported by an autopsical dissection hereafter to be noticed:—"La descente parvenue à ce degré, entraîne nécessairement la vessie urinaire et le vagin, de manière à faire ensemble un col creux à la tumeur, lequel est attaché circulairement à l'entrée de la vulve, qu'il bouche par continuité. (*Mém. de l'Acad. de Chir.*, 8vo. edition, iii. 470.)

⁹³ *First Case.*—In an old lady, the tumour hung big as one's fist between the lower limbs and had many inequalities; its surface was very dry and sensible of cold. The malady commenced after delivery, increased gradually, and had been present for thirty years. . . *Second Case.*—The tumour, consisting of the inverted vagina and uterus, hung out between the limbs to a foot's length, and at the upper or vaginal part it was no bigger than a child's arm in circumference, continuous with the external labia, but leaving the urethra free: thus it continued for three fingers' length, and terminated below in a large body, the uterus, resembling a gourd. It came on many years before, consequent upon a lying-in, and by neglect of pessary and bandage arrived at its present state. This patient appeared in good health, as if she might live a long time; but the other patient died soon after La Motte saw her. (*Traité des Accouchemens*, pp. 653-6.)

cutis; and the same change happens to the inverted vagina, from continued contact of the atmosphere, at any period of life. In all such cases, although the patient, being possessed of a strong frame and accustomed to active bodily exercise, may move about, she is a miserable, loathsome object, walking with knees apart, suffering pain and discomfiture from ulceration, inflammation, and even sphacelation, of the surfaces of the prolapsed parts, chiefly the result of urinary incontinence, which invariably attends every extreme case of prolapse.

I cannot conclude the subject with a more remarkable example than the one where Mr. Chevalier removed the prolapsed and inverted uterus, and of which Fig. 12⁹⁴ is a correct representation, half the size of the original drawing. The patient was fifty-four years of age when the sketch was taken just before the operation, and had suffered from the disease many years: she had continual *stillicidium urinæ*. The uterine surface furnished a constant mucous discharge, and the inverted vagina, greatly thickened, was of an opaque whitish colour, and had a leathery feel. No

doubt the bladder was drawn down in some degree by the vagina, and not only the uterine appendages, but portions of the bowels,



⁹⁴ In Fig. 12 (*a*) marks the labia; (*b*) the inverted fundus; (*c*) the body of the uterus inverted; (*d*) the cervix not inverted; (*e*) the vagina inverted and exposed to the external air, forming a large bag, lined with peritoneum and communicating with the abdominal cavity. Mr. Chevalier observes:—"Adhesive inflammation must have taken place and have fixed the parts permanently in their unnatural situation; and it will be evident from the drawing, that the *fundus* of the bladder must have been drawn down into the prolapsed vagina."—(*Merriman's Synopsis*, p. 307.)

descended into the spacious vaginal bag, which freely communicated with the abdomen.

Under the worst symptoms, whether the inverted organ be prolapsed or still resting in the vagina, the patient⁹⁵ is rendered bloodless and emaciated to the utmost, from profuse losses, sanguineous, leucorrhœal, or purulent; the spasmodic pains and interruption to the function of the contiguous viscera add to the evil results; the lower extremities become dropsical, and the patient sinks under the continuance of hectic symptoms, not unusually the silent victim of her concealed or misapprehended malady.

SECTION IV.

ON INVERSION OF THE UTERUS FROM POLYPUS.

Next to pregnancy, the most frequent cause of enlargement of the uterus is a polypous tumour, which when attached, as often happens, to the internal fundus of the organ, may occasion its inversion in all the different degrees that have been referred to. Any of the various tumours⁹⁶ that progress towards the uterine cavity, and take the polypoid form, may induce inversion; but the vesicular polypus, being softer and of less density than others, and having usually a narrow neck, is less likely, in the progress of its growth and of its expulsion, to cause uterine inversion, whilst the polypus of great density, and with a broad basis, and particularly the fibrous, is not unfrequently followed in its latter stages by the displacement in question.

⁹⁵ "Des spasmes hystériques troublent l'économie générale dans ses fonctions, la peau s'étiole, et la fièvre lente hectique termine plus ou moins promptement sa déplorable existence." (Martin-le-jeune, *Mém. de Méd.*, p. 226.)

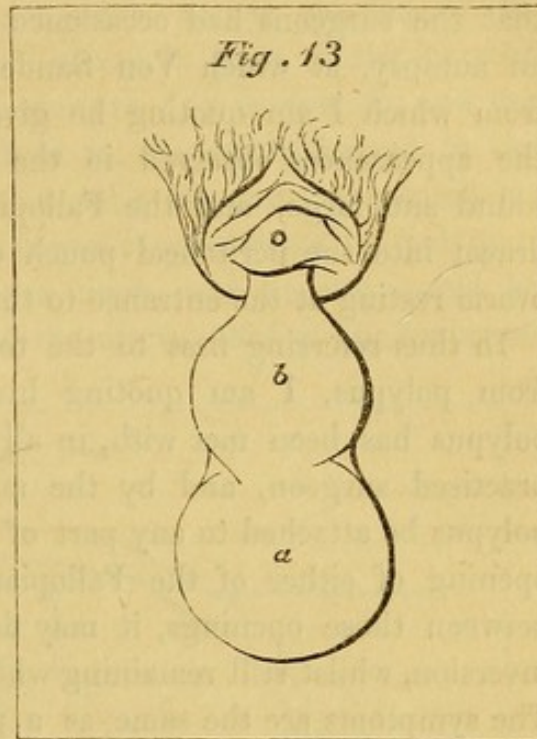
⁹⁶ Polypous or pediculated tumours, whose descriptive character is "to be narrowest at their root or attachment to the interior surface of the uterus," are of various kinds, and require to be distinguished in reference to their liability to cause *inversio uteri*:—1st. The *vesicular* polypus, resembling those of the rectum, bladder, or nostril, and arising from the lining mucous membrane of the uterus; smooth, pyriform, often with a very narrow neck, soft, not of great specific gravity: it is pediculated from a very early period after its origin, does not attain a large size, and is so frequent that many surgeons, trusting to their own small experience, know of no other.—2nd. The *fibrous*, very different in its origin, history, and character. A fibrous tumour may arise in any of the cellular texture of the uterus, whether just beneath the peritoneum,

One of the earliest records of this displacement is that so graphically described by Von Sanden,⁹⁷ accompanied by a repre-

between the muscular fibres, or next the mucous lining of the uterine cavity. When originating in this last situation, the tumour bulges into the uterine cavity, covered by the mucous membrane, and attains a considerable size before it takes the polypous or pediculated form; and even when it has undergone this change, the basis or neck, by which it is attached to the uterus, is large, unless the os be dilated, or the tumour, propelled from the uterus, lodges in the vagina, when the os, constricting its basis, narrows it into a neck, and gives the pyriform shape. The fibrous polypus is firm, dense, of great specific gravity, in shape approaching to oval, somewhat nodulated or irregular in its surface; it may attain to an enormous size, without any decay, and is covered with the lining mucous membrane of the uterus, which has been pushed before it and still remains a distinct covering, from which the tumour is enucleable, even at an advanced period of its growth. Dupuytren, and other writers best acquainted with the subject, affirm that the fibrous are the most frequently met with of all polypous tumours.—3rd. The *fungoid* or medullary polypous, different from either of the preceding, in being malignant and not curable by removal; always soft, and not necessarily pediculated at an early stage, but always becoming so when protruding into the vagina through the os tincæ; very vascular, bleeding profusely, and lacerated by the slightest touch; rapid in growth above all other polypi, and involving the mucous membrane of the uterus, so as to have no covering separable from itself. I name these hastily, as the three great distinctions of polypus growths to be kept in mind in this Essay; each class has subdivisions, which cannot here be dwelt upon.—4th. There are other uterine tumours assuming the polypoid shape, and of rare occurrence; some cellular and containing fluid, others a mere hypertrophy of the actual texture of the uterus itself projecting into its cavity, as demonstrated by Cruveilhier. Of hollow polypi, as described by some writers, I have doubts, save such as may consist of a simple cyst filled with fluid, and as resemble the tumours called cysts, not unfrequently met with in other parts of the body. It has been ascertained that polypi grow faster during pregnancy; they may also adhere to each other by the inflamed or ulcerated surfaces coming in contact, or to the uterus under the same conditions. The instance of a polypus of the rectum, and one arising in the vagina, becoming adherent together, is amongst the curiosities of pathology upon this subject.

⁹⁷ *Observatio de Prolapsu Uteri Inversi ab Excrescentia carneo-fungosa, in fundo ejus interno enata*, &c. 4to., Regiomonti, 1722; p. 9.—“Mulier quædam ætatis suæ triginta sex annorum, ante annos sedecim filiam peperit, ante tres vero annos sutori nupsit, a quo quoties imprægnata, toties abortum passa est, subsequente semper enormi hæmorrhagia uteri, et quovis mense debita menstruatione interveniente. Hæc pertæsa abortuum sibi molestorum ab affine suo medicamen aliquod contra imprægnationem petiit; ne hisce hæmorrhagiis, ex illa oriundis, amplius subiceretur. Affinis precibus annuens propinat illi infusum aliquod. . . Usus hujus infusi optatus, ut hæmorrhagia uteri sisteretur, effectus est secutus, alvus vero exinde ita constipata, ut, cum eandem summis nisibus in area supra terram deponeret, loco fæcum alvinarum corpus pugni instar expresserit, quique nisus illius vires adeo prostraverant, ut dorso incurvato hypocaustum repetere, seque ad lectum conferre cogeretur, ubi illud, quod præter opinionem exciderat, in locum priorem ipsa reponere alloboravit, verum

sensation of the appearances presented by the depending tumour, and totally inverted and prolapsed uterus, of the natural dimensions, and which is here presented in outline Fig. 13, diminished to one-sixteenth of the original size; (a) is the tumour, attached to the entire fundus of the completely inverted uterus (b), which tapers towards its neck, and in shape strictly resembles the Florence flask; the vagina is also brought into view, inverted, and the *ostium urethræ* is visible, clear of the external labia; a slight narrowing marks the boundary between the uterus and the polypus, but the two are blended together by similarity as well as continuity of surface, and approach the shape of an hour glass. The surfaces of the depending mass were sphacelated⁹⁸



frustra. . . Non multo post hæmorrhagia uteri rediit, quam comitabatur fluor albus, quæ bina symptomata repositionem uteri prolapsi non permisere. . . Chirurgus uteri prolapsum esse judicavit, qui vero adeo a sphacelo jam fuit corruptus et exulceratus, ut cadaverosum de se spargeret odorem. Hunc itaque adhibitis fomentis, epithematis atque injectionibus propellere, et uterum prolapsum reponere, fasciisque commodis detinere, sed sine effectu, studuerunt; quoties enim alvum deposuit, toties iterum uterus exiit, huic malo superveniente incontinentia urinæ. . . Excrescentiam carneam ex uteri vagina natam existimantes, ligatura eandem esse auferendam judicarunt, illamque applicarunt, quam vero post dimidium horæ, ob insecutas convulsiones, laxare debuerunt. Resectionem autem non tuto hic posse adhiberi, colligebant ob metuendam hæmorrhagiam vix compescibilem, multis enim vasis sanguifluis gaudebat, et multum sanguinis, cum tangeretur, et a pure putrido purgaretur, carnea hæc moles fundebat."

⁹⁸ Called after the first ligature had been applied, Von Sanden describes the sequel of the case:—"Facta religatione apparuit mihi pendulum extra abdomen corpus illa facie atque magnitudine, quam figura exhibet, totum sphacelatum, nigrum, multo pure foetidissimo scatens, et hinc inde per lamellas decorticari incipiens. Cogitabam vero statim, corpus illud carnosum esse uterum prolapsum, eumque ab excrescentia carnea inversum, cum nullum orificium uteri internum oculis vel stylo exploratorio observare possim. Hujus rei ut certior fierem, explorabam intra vaginam uteri totam, num uterum ibidem cum suo orificio interno reperire possem, sed nihil

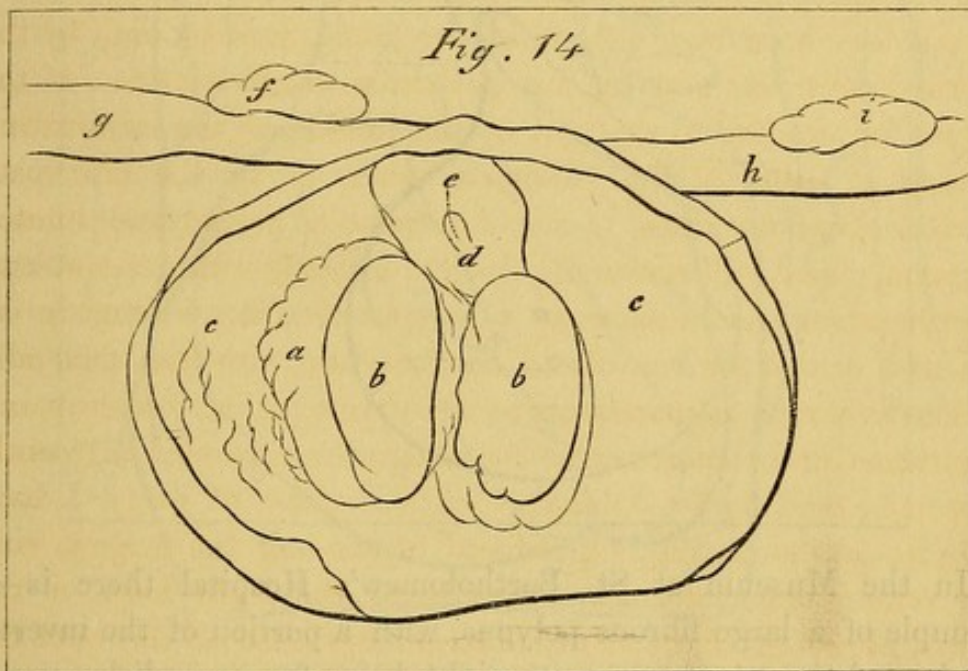
here and there; and after a ligature had been twice applied, and as often removed on account of the severe symptoms—convulsions and spasmodic pains—the patient died. A rumour prevailing that the surgeons had occasioned death, authority was given for an autopsy, at which Von Sanden attended; and in the work from which I am quoting he gives a second plate, representing the appearances observed in the abdomen, the ligaments, both round and large, and the Fallopian tubes, being in great part drawn into the peritoneal pouch of the inverted organ, and the ovaria resting at the entrance to this pouch.

In thus referring first to the total displacement of the uterus from polypus, I am quoting historically; but inversion from polypus has been met with, in all the minor degrees, both by the practised surgeon, and by the anatomist on dissection. If the polypus be attached to any part of the fundus, at the terminating opening of either of the Fallopian tubes, or in the interspace between those openings, it may determine a partial and limited inversion, whilst still remaining wholly or chiefly within the uterus. The symptoms are the same as a polypus produces without inversion, and cannot be considered characteristic, although generally more severe, such as uneasiness in the uterine region, forcing pains, leucorrhœa, and menorrhagia. An illustrative example has recently been published by Dr. Oldham,⁹⁹ with a plate, of which I have given an outline in Fig. 14, reduced to one-half the original size. The tumour was attached internally to the right horn of the uterus, where the Fallopian tube terminates; and at this spot the inversion took place, and by degrees projected considerably into the uterine cavity, forming the pedicle of the tumour; (*a*) points to the outer surface of the tumour, which has been divided; (*bb*)

mihi inquirenti obvenit. . . Licet hæc moles carnea per decorticationem indies a medicamentis externis decresceret, lente tamen hæc ipsa fiebat, ut iterum ligaturam Chirurgi meditarentur, et me præsentem et approbante applicarent: sed nec secunda vice tentatam, ob dolores spasmaticos exinde ortos, perferre potuit. Supremum obiit diem 22 Martii ann. 1719." (*Ibid*, p. 11.)

⁹⁹ *On Polypus Uteri and its co-existence with Pregnancy, in Guy's Hospital Reports.* New Series, ii., 105, 136.—The patient, a virgin lady, between fifty and sixty years of age, had long suffered from pain, hæmorrhage, and offensive discharge. The disease was thought to be malignant; and, refusing to submit to a local examination, she died, worn out with the discharge and bleedings." The polypus was firm, compact, and fibrous; and its lower free surface, which had passed beyond the os, having freely dilated it, was sloughy and ulcerating.

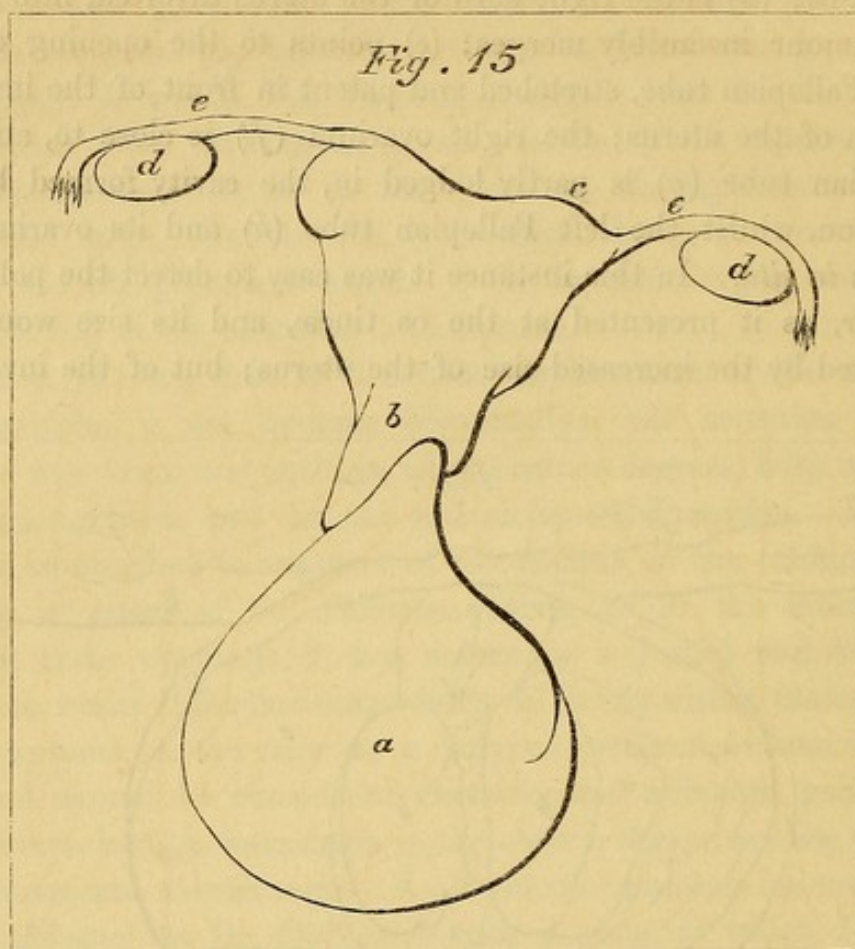
rest on the two cut surfaces, the greater portion of the tumour being lodged in the uterus (*cc*), and the rest presenting at the dilated os; (*d*) is the right horn of the uterus inverted, into which the tumour insensibly merges; (*e*) points to the opening of the right Fallopian tube, stretched and patent in front of the inverted portion of the uterus; the right ovarium (*f*) is close to, and the Fallopian tube (*g*) is partly lodged in, the cavity formed by the inversion, whilst the left Fallopian tube (*h*) and its ovarium (*i*) remain *in situ*. In this instance it was easy to detect the polypous tumour, as it presented at the os tinæ, and its size would be indicated by the increased size of the uterus; but of the inversion



no evidence could be gained, unless the irregularity of shape at the left horn of the organ could be ascertained either from examination by the rectum, or through the abdominal parietes above the pelvis. A ligature applied to remove the polypus would inevitably have included part of the uterine inversion.

A polypus may, however, occasion deformity of the uterus, without inversion, after the manner exhibited in a preparation which Dr. Bull has favoured me with a sight of, and of which I give a miniature outline in Fig. 15: a huge polypus (*a*) attached to the anterior and left part of the os tinæ (*b*) and contiguous part of the uterus, having depressed the left horn (*c*) without inversion, and thereby placed the fundus obliquely, and destroyed all

symmetry between the ovaria (*dd*) and Fallopian tubes (*ee*) of each side.¹⁰⁰

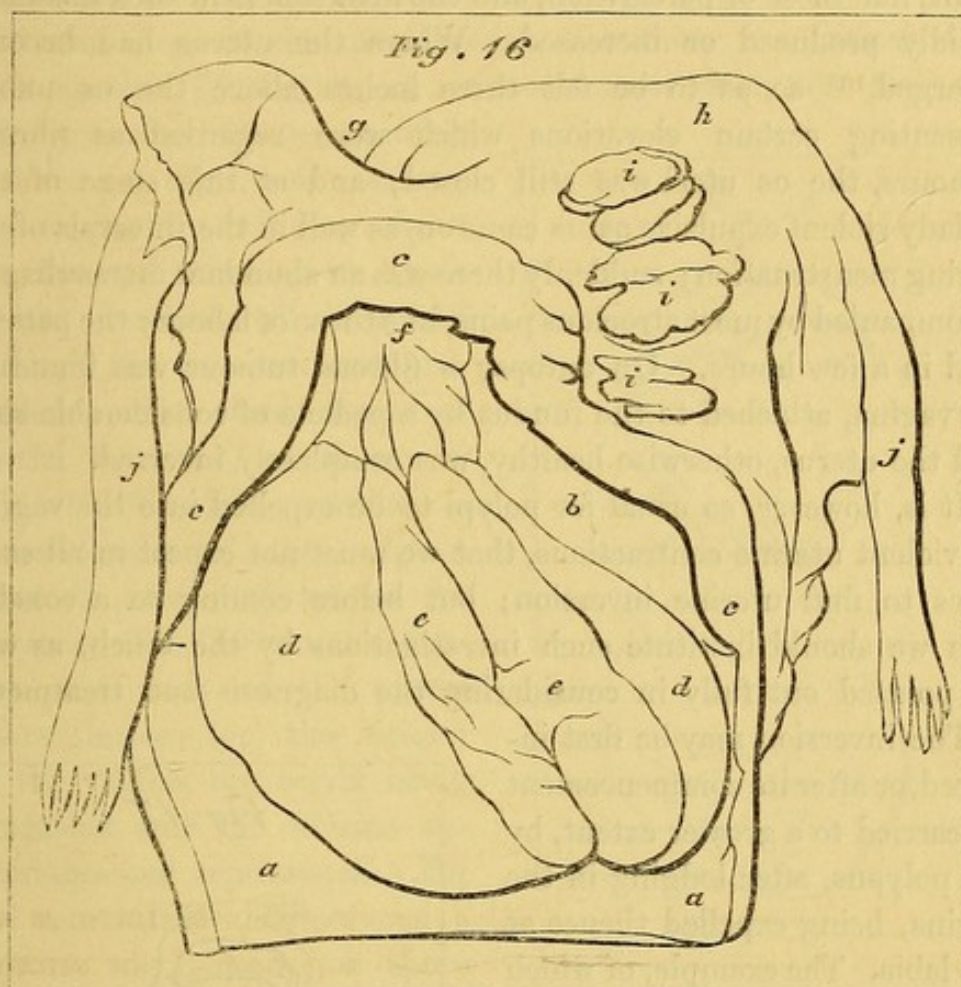


In the Museum at St. Bartholomew's Hospital there is an example of a large fibrous polypus, with a portion of the inverted fundus of the uterus near its right horn for its pedicle; nearly half the polypus has passed through the dilated os and is lodged in the vagina, the rest still occupying the uterine cavity. Some idea of this preparation will be conveyed by the outline Fig. 16;¹⁰¹

¹⁰⁰ "Les polypes peuvent abaisser l'organe gestateur, et lui faire éprouver des déviations." (Lisfranc, *Clinique Chir.*, iii. 76.)

¹⁰¹ In Fig. 16, which is about half the size of the preparation to which it refers, (*aa*) mark the interior surface of the vagina; (*b*) is the cavity of the uterus; (*ccc*) its walls divided; the polypus (*dd*) lodges partly in the uterus, and partly in the vagina; (*ee*) are the cut surfaces of the polypus, which is thus laid open to show its firm and fibrous structure; (*f*) the neck of the polypus, formed by a narrow but lengthened inversion of the right horn of the uterus, and causing a depression at (*g*), where is situated the entrance into the peritoneal pouch formed by the inversion, and which pouch extends nearly to the polypus, below the letter (*f*); the left horn of the uterus (*h*) is *in situ*; (*iii*) are small fibrous tumours, cut into and expanded; (*jj*) the Fallopian tubes.

and it will be evident that the further expulsion of the polypus from the uterus into the vagina would necessarily be followed by an increase of the inversion, until the fundus approached the os tinæ, and the whole of the polypus rested in the vagina.



A polypus is most likely to cause inversion when attached to some part of the internal fundus. Boyer¹⁰² says that this is the most frequent seat of its attachment; the same has been asserted by Lisfranc,¹⁰³ who further states that, of sixty polypous tumours removed by him, forty-three were attached to the fundus, somewhere between the orifices of the Fallopian tubes. This able writer also states that the polypus with rather a large pedicle is most likely to cause inversion; the preceding examples, with many more which might be collated, prove that when attached to the fundus a small pedicle is sufficient; and Velpeau¹⁰⁴ has related a fatal case where the pedicle was only of the size of one's finger.

¹⁰² *Traité de Mal. Chir.*, x., 555.

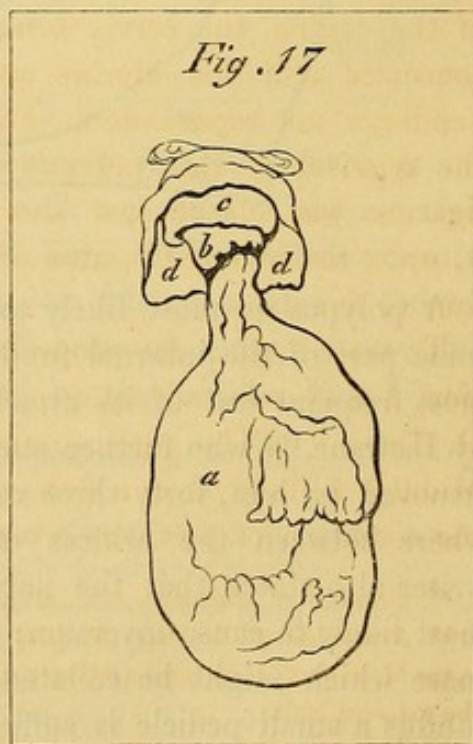
¹⁰³ *Clinique Chir.*, iii. 86.

¹⁰⁴ *Méd. Opératoire*, iv., 383.

The polypus may pass gradually through the dilated os uteri, and lodge entirely in the vagina, giving rise to a gradual increase of the inversion; but more frequently the expulsion of the polypus is quickly effected under severe uterine contractions and expulsive pains, like those of parturition, and the inversion is in such instances rapidly produced or increased. Where the uterus had become enlarged,¹⁰⁵ so as to be felt three inches above the os pubis, presenting certain elevations which were regarded as fibrous tumours, the os uteri was still closed; and at this stage of the malady violent expulsive pains came on, as well in the intervals of, as during menstruation; suddenly there was an abundant menorrhagia, accompanied by most atrocious pains, like those of labour; the patient died in a few hours. On autopsy a fibrous tumour was found in the vagina, attached to the fundus by a pedicle of considerable size, and the uterus, otherwise healthy, was completely inverted.

It is, however, so usual for polypi to be expelled into the vagina by violent uterine contractions, that we must not expect in all such cases to find uterine inversion; but before coming to a conclusion we should institute such investigations by the touch, as will be pointed out fully in considering the diagnosis and treatment.

The inversion may be first induced, or after its commencement be carried to a greater extent, by the polypus, after lodging in the vagina, being expelled thence at the labia. The example, of which Denman has given so elegant a Plate,¹⁰⁶ may be quoted:—The woman had suffered from uterine disease for three years, and concealed it; the polypus rested in the vagina, till at length the pains, like those of labour, were renewed, and it was excluded at the external labia; death ensued in a few hours. The tumour, soft and spongy, weighed one pound four ounces. The fundus uteri was inverted and dragged through the os, having the relations

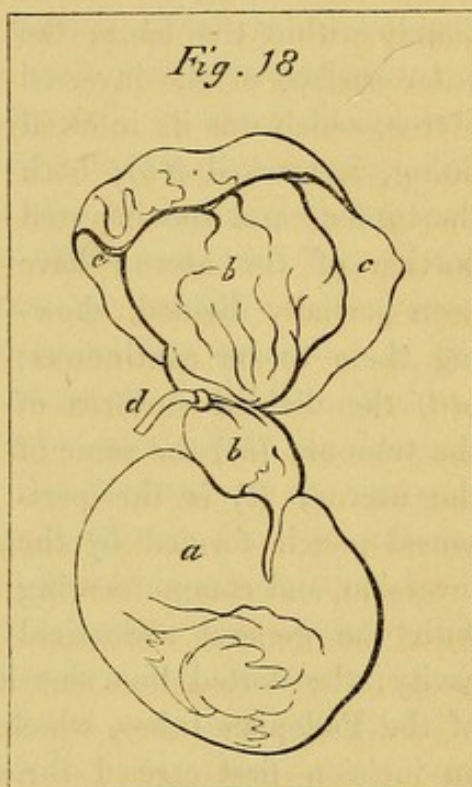


¹⁰⁵ Lisfranc, *Clin. Chir.*, iii., 77-78.

¹⁰⁶ *Practice of Midw.*, 4to., Plate 14.

shown in the miniature outline Fig. 17, one-sixteenth of the original plate in size, in which (*a*) is the tumour, separated by an oblique and irregular line at its neck or pedicle, from the fundus (*b*), which is inverted and brought down so as to be visible below the os (*c*), and to rest in (*dd*) the vagina.

Denman, one of the most candid of authors, has furnished us with another illustration of inversion from polypus, which was of large size and fibrous, growing without any stem, and reaching the vagina by bringing down the inverted fundus, to which it was attached, till it passed through the os uteri and proceeded to the third degree of partial inversion, as shown in Fig. 18.¹⁰⁷ This outline is one-sixteenth of the original Plate in size; (*a*) marks the polypus; (*bb*) the inverted fundus and body of the uterus below the os; (*cc*) the interior of the vagina, the cervix being concealed and the uterine appendages not represented. For the removal of this polypus a ligature was placed just above it, upon the inverted fundus of the uterus (*d*), and proved fatal in four or five days.



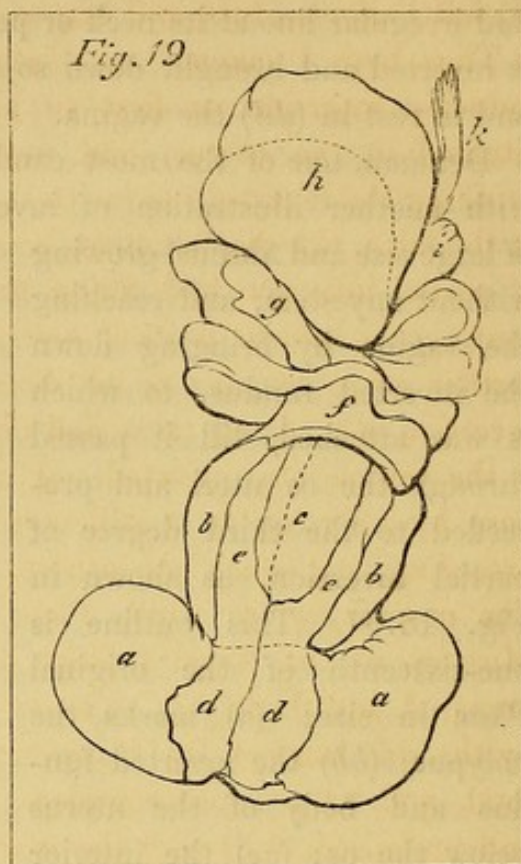
To trace further the progress of a polypous tumour with inversion, I may refer advantageously to the case published by Dr. D. D. Davis.¹⁰⁸ The patient, an aged woman, was brought to the Middlesex Hospital in a dying state, and an autopsy demonstrated the condition of parts, as represented in Fig. 19,¹⁰⁹ which is one-

¹⁰⁷ *Practice of Midwifery*, 4to., Plate 17.

¹⁰⁸ *Principles of Obstetric Medicine*, i., 618, Plate 21.—The patient was brought to the Middlesex Hospital in a dying condition; the polypous tumour prolapsed beyond the external labia.

¹⁰⁹ This preparation is now preserved in University College Museum, London; it is unfavourably displayed, the sections being made neither anteriorly nor laterally, but between the two; still much more may be learnt from an inspection of it than

sixteenth of the original size. The large polypus (*aa*) protruded at the external labia, and was eight or ten inches in its largest diameter; attached extensively to the fundus uteri, it had caused total inversion of this organ, which occupied the vagina, immediately within the labia; the outer surface of the inverted uterus, which was its internal lining, is marked (*bb*); both the tumour and the inverted portion of the uterus have been partially divided, showing them to be continuous; (*dd*) the divided surfaces of the tumour; (*ee*) the same of the uterus; (*c*) is the peritoneal pouch formed by the inversion, and communicating with the general abdominal cavity; the dotted line showing the situation and course of one of the Fallopian tubes, which in the preparation is laid open by an incision first carried through the peritoneum, and a bristle is introduced into its cavity; (*f*) is a part of the vagina, concealing the cervix uteri; (*g*) lateral view of the divided os pubis;



the original drawing could possibly convey. Calculating from the *ostium urethrae*, about one inch of the vagina remains uninverted, so that the angle of its reflection, where the circular cul-de-sac terminates, is situated at the depth of an inch, from which the inverted vagina extends downwards two inches, forming a tube, which terminates in the uterus, at which termination there is a distinct thickening or circular prominence, answering to the cervix uteri completely inverted. The cut surface of the inverted uterus is nearly an inch in thickness, and the peritoneal pouch or diverticulum formed by it is very small, as represented in the plate, and its whole extent is laid open. There is no observable alteration in the bladder from its normal position, the superior fundus rising prominently towards the abdomen; and in the posterior view, the ovaria are of large size, and lie close to each other at the margin of the peritoneal pouch, tucked in behind the bladder. The peritoneal pouch, though narrow, must be about four inches in length, two inches answering to the inverted vagina, and the rest to the uterus totally inverted. The left corpus fimbriatum is adherent, the right loose and floating.

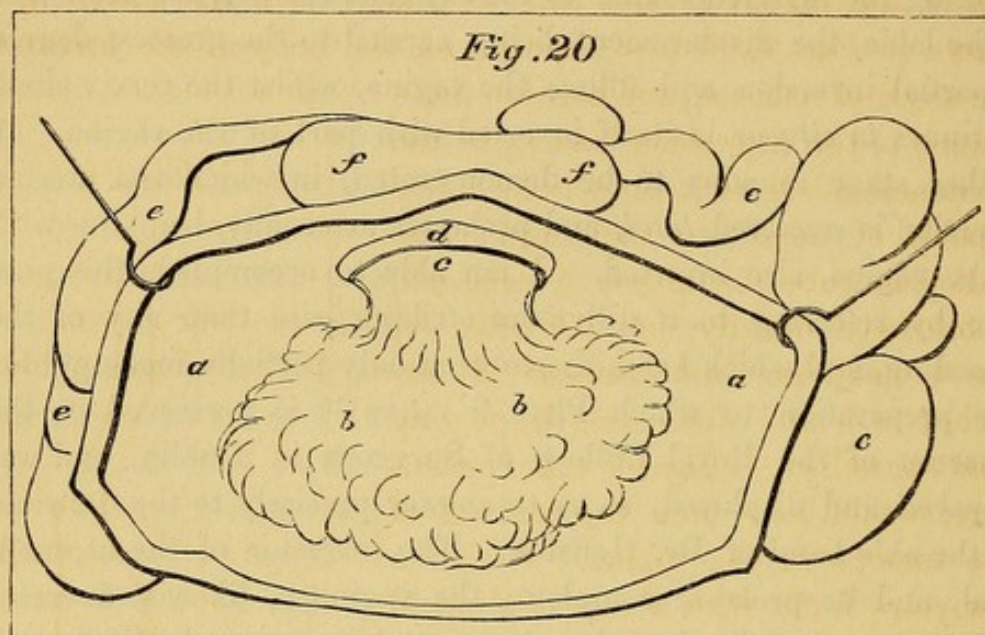
(h) the urinary bladder, distended and in situ, the surface above the dotted line being covered by the peritoneum; (i) left ovarium; (k) left Fallopian tube and corpus fimbriatum.

Thus have I mapped as it were the habitation of a polypus inducing inversion, at first so partial that the polypus is still situated in the uterus, and next it descends into the vagina, bringing the inverted fundus to the os; then the polypus protrudes at the labia, the displacement being carried to the greatest degree of partial inversion and filling the vagina, whilst the cervix alone continues *in situ* or is itself inverted with part of the vagina. A further stage remains to be demonstrated, in which the uterine inversion is rendered *total*, and prolapses externally, bringing with it the vagina, also inverted. I am able to accomplish this purpose by referring to a still more striking case than any of the preceding, and which has hitherto been only partially made public. The preparation to which Plate 8 refers¹¹⁰ is preserved in the Museum of the Royal College of Surgeons in Dublin, and was prepared and displayed, so as to answer precisely to the drawing, by the able hand of Dr. Houston. The inversion of the uterus is total, and its prolapse complete; the vagina is likewise inverted and prolapsed, following the uterus, and it is greatly thickened; whilst the cause of all this displacement was a small polypus, not much larger than a chesnut, nor very unlike one, situated inferiorly and attached to the very centre of the inverted fundus of the uterus. The first symptoms experienced by this patient were constant bearing-down pains, with a sense of weakness in the pelvic region, and an inability to move about or to make any trifling exertion; these were after some time followed by profuse leucorrhœa, occasional menorrhagia, and great irritability of the bladder. The tumour, after having been somewhat lodged in the vagina, gradually passed beyond that canal and formed a considerable protrusion externally; neither pressure nor the recumbent posture had much effect in reducing its size. She suffered for four years before she applied for relief at the Meath Hospital, and died in a short time after admission, exhausted by the continued irritation of the disease.

The vascular or fungoid tumour, which rarely takes the polypoid form until it presents in the vagina, and is constricted by the cervix

¹¹⁰ See Plate 8 and description; also Dr. Houston's *Catalogue of the Museum of the College of Surgeons of Ireland*, p. 508, F. c., 690.

uteri, may cause uterine inversion in its progress, particularly if centrally attached to the internal fundus, between the orifices of the Fallopian tubes. In a case of this kind, where the tumour protruded externally, and displaced the uterus to the greatest degree of partial inversion, Rheineck¹¹¹ successfully removed chief part of the inverted organ, together with the tumour, by ligature.

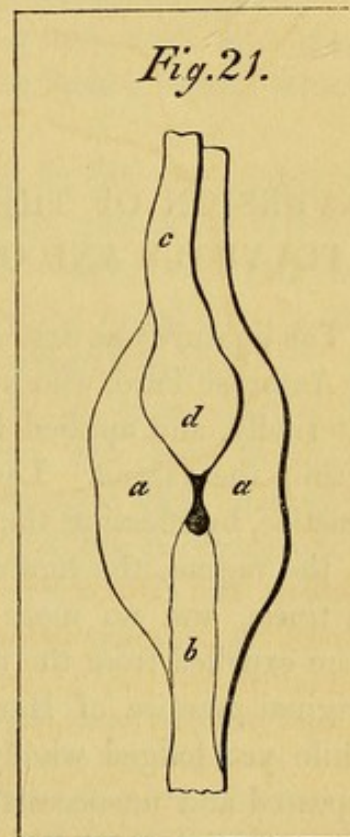


Boivin and Dugès¹¹² have given a representation of a case of vascular or encephaloid tumour, which lodged in the vagina, attached to the entire surface of the fundus uteri, which was brought down through the os and cervix: Fig. 20 will convey an idea of the displacement, and is half the size of the original plate.

¹¹¹ "Beobachtung und glückliche Heilung einer vollkommen invertirten, mit einem Fungus hæmatodes behafteten und brandig gewordenen Gebärmutter, mittelst der Unterbindung," in *Siebold's Journal der Geburtshülfe*, v., 628.—The patient had never been pregnant, and was forty-one years of age when she presented herself to the operator, greatly weakened and almost hectic from loss of blood. Her symptoms had lasted only a few months; and after severe uterine pains, a tumour prolapsed externally, being the polypus with the inverted uterus, now a dark, dry, and sphacelated mass. The uterine inversion was complete, no ring or fold encircling the part next the vagina, answering to the cervix, and which Rheineck states to be always the case when polypus is the cause of complete inversion. Examining per vaginam, he felt on the left side either the round ligament or Fallopian tube. The neck of the prolapsed mass, formed by the inverted vagina, was of the size of an infant's arm, soft, hollow, and yielding to the touch. The ligature separated on the seventh day, detaching the inverted uterus and with it the tumour; the patient was well a few weeks afterwards. A rough drawing is given of the semi-disorganized mass removed by this operation.

¹¹² *Maladies de l'Utérus*, Plate 35, Fig. 2.

In the vagina (*aa*) lodges the entire mass of malignant soft tumour (*bb*), resembling a cauliflower; it is largely attached at its root to the inverted fundus of the womb (*c*), which has descended into the vagina, and is encircled by the dilated cervix (*d*); the Fallopian tubes (*eeee*) are seen greatly enlarged, dropsical, and convoluted; (*ff*) is the uninverted portion of the body of the womb. The dip of the fundus in this case, as viewed from the abdomen, is shown in Fig. 21¹¹³ (*aa*); resting on the body of the uterus at the angle of reflexion, and between those letters, is the depression leading to the peritoneal cul-de-sac, a funnel-like cavity capable of admitting the finger; one Fallopian tube (*b*), although enlarged, is otherwise healthy; but the other (*c*) has a small cancerous tumour (*d*) attached to it and obstructing it, proving how unavailing, as regards a permanent cure, would have been the removal of the tumour in the vagina. Within a few years I met with a case of fungoid disease causing uterine inversion; the patient was an aged maiden lady, residing at a distance, to whom I was urgently summoned on account of hæmorrhage from the vagina, so profuse as to endanger life. I recognised the malignant tumour in the vagina, and was induced to apply a ligature, as I have more than once done on other occasions of the same pressing description, not in the hope of curing, but of arresting the alarming hæmorrhage; I placed the ligature within the os uteri, upon the firmer as well as narrower part of the tumour; it occasioned no immediate pain, but within an hour such severe symptoms arose—pain, vomiting, and syncope—as convinced me that the inverted fundus of the womb was included, and at the end of two or three hours I was compelled to remove the ligature, having previously loosened it without giving sufficient relief. The distressing symptoms speedily subsided; the hæmorrhage was also



¹¹³ *Maladies de l' Utérus*, Plate 35, Fig. 3.

arrested by the temporary application of the ligature, and did not return for some weeks, so that the patient more slowly fell a victim to her incurable malady.

Since pregnancy may exist in conjunction with polypous tumours of the uterus, it results that uterine inversion may occur under this complication. Where a polypous tumour is attached to the fundus, and the placenta is engrafted upon the polypus, as has happened, inversion of the uterus in the delivery would seem to be almost inevitable.

SECTION V.

INVERSION OF THE WOMB FROM THE REMOVAL OF POLYPOUS AND OTHER TUMOURS BY OPERATION.

The ligature was first employed, for the removal of uterine polypi, by Ambrose Paré, who used it only when the tumour was prolapsed externally, and applied it on a level with the external labia, or just within the vagina. Levret made a great advance in this line of practice, by effecting the removal of polypous tumours still retained in the vagina, the ligature being put around their pedicle at the *os tinæ*, and no more of the diseased mass removed than had been expelled from the uterus. We are indebted to the bold and original practice of Herbiniaux, for undertaking to remove polypi while yet lodged wholly or in great part in the uterus. After repeated and unsuccessful attempts to remove by ligature a large fibrous polypus,¹¹⁴ which projected through the *os uteri* into the vagina, he imagined the method of producing inversion of the uterus, by drawing the polypus forcibly downwards, which he thought might be done with safety, from the circumstance of his having known the accidental occurrence of inversion after delivery terminate without a fatal result, the organ being speedily reduced. The polypus was accordingly seized with forceps, constructed after the manner of those used in midwifery, each blade being separately introduced, and by traction he brought down the polypus to the external labia: this was done thrice, at short intervals, before the operator could make any part of the polypus appear external to

¹¹⁴ *Traité sur divers Accouchemens, et sur les Polypes de la Matrice*, ii., 109.

the labia, which was at length, however, accomplished, without producing more than a partial inversion of the womb. The pedicle of the tumour was thus rendered visible, and a ligature being placed in the furrow caused by the former ligature, and fastened, the polypus was cut off a finger's breadth below it, and instantly the inverted fundus uteri disappeared, being drawn up and concealed within the vagina, taking the ligature with it. Threatening symptoms soon ensued, which compelled the operator to brave the danger of hæmorrhage from the stump or cut surface formed by the operation, and to loosen the ligature a very little at a time. After six days the ligature was taken away; no hæmorrhage followed, but a quick and perfect recovery.

The name of Dessault has been associated by his countrymen¹¹⁵ with that of Herbiniaux, for first suggesting traction in order to invert the uterus and to facilitate thereby the removal of a polypus; but the latter seems to me alone entitled to originality in the matter, and has an undoubted claim to priority in date.¹¹⁶ In France the practice of inverting the womb in some degree, to facilitate the removal of polypi by excision, has been much in vogue; it is little followed in England, because the ligature is usually preferred, which can be applied whilst the polypus is still partially situated within the cavity of that organ. In the removal of very large polypi from the uterine cavity, the os and cervix

¹¹⁵ Desormeaux, *Dict. de Méd.*, xviii., 270.—A woman, about forty-five years of age, was supposed to suffer from descent of the womb, and wore a pessary for ten years. Dessault being at length consulted, ascertained that there was a large uterine polypus, beginning to escape into the vagina; she was exhausted by menorrhagia, and had long kept to her bed. Dessault directed that she should rise and walk about her room, which she did the same day, and was only just up and moving about when the polypus made its escape, bringing with it the fundus uteri, and causing complete inversion, not of the uterus only, but of part of the vagina. The tumour was so large, and the patient in so exhausted a state, that Baudelocque deemed all attempts to replace the former in the vagina useless; and Dessault, on arriving after a few hours, passed a seton-needle through the pedicle of this enormous tumour, and conducted two ligatures, which were applied one to each half; these ligatures were placed on the inverted uterus. The tumour was next day cut off below them, and weighed five pounds, and immediately the stump retired within the os uteri, where it formed adhesions and remained permanently after the cure, so as to be felt presenting like an acorn in its cup (*sous forme de gland dans son châton*). (Dailliez, *Thèse, Obs.* xix., p. 60; from *Journal de Méd.*, lxxii., Août, 1787.)

¹¹⁶ Herbiniaux's first case occurred in 1769, and Dessault's, as quoted in the preceding note, in 1787.

uteri have sometimes been incised freely, which must have the effect of rendering inversion more liable to take place, and facilitate its proceeding to the greatest degree.

When large fibrous tumours, situated in their origin near to the internal surface of the uterus, do not increase in this direction, so as to become pediculated, but in the opposite direction, towards the abdominal cavity, they carry the walls of the uterus before them, and these walls become greatly extended, and also thinned: such tumours, even when of immense size, if they present at the os uteri, may be removed, and in the course of the operation the uterus can scarcely fail to become inverted, and may descend into the vagina in this state, or prolapse at the external labia. Scoulteten¹¹⁷ relates a remarkable case of this kind; and still more important are two cases recently recorded by Amussat, in which the tumours implicated more decidedly the walls of the uterus.

In Amussat's first case,¹¹⁸ the fibrous tumour removed weighed about eleven ounces, and the operation lasted two hours. The tumour, presenting at the os uteri, was first exposed by cutting through the lining membrane of the uterus, which covered it, and was then gradually and with great difficulty enucleated and pulled downwards. When it was nearly detached, and about to be expelled, the patient was cautioned to avoid expulsive efforts, from the fear of too sudden an inversion of the uterus; the operator

¹¹⁷ The patient was forty years of age and the mother of several children. After profuse hæmorrhage, and pains like those of labour, a tumour of great size was found presenting at the *os tincæ*. During two days, horrible pains continued; and on a consultation being held, the tumour was felt in the vagina, hard, resisting, smooth on its surface, with all the characters of a fibrous tumour; the abdomen was painful and tender to the touch. In the midst of these dangers an operation was determined upon; and on the tumour being seized and pulled downwards, it was found to adhere by a large surface to the uterus, which became inverted, and could not be replaced. A ligature was put firmly round the neck of the tumour, which immediately assumed a darker colour from obstruction to the circulation of blood in its numerous vessels. On the third day, the tumour was cut through below the ligature and removed, and the inverted uterus was gently replaced, with relief to all the symptoms, and a cure in less than a fortnight. The tumour weighed about thirty-six ounces, (*onze cents grammes*), and was oval-shaped, its greatest circumference measuring above sixteen inches, and around the centre of the oval above twelve inches. (*Encyclographie des Sciences Médicales*, 3 ième Série, ix, 269; from *Gazette Méd. de Paris*, Août, 1839.)

¹¹⁸ *Mémoire des Tumeurs fibreuses de l'Utérus*, p. 15; also Troussel, in *Revue Méd.* du mois d'Août, 1840; and *Encyclographie des Sc. Méd.*, 4 ième Série, i., 296.

also found the necessity of being most careful, for so thin were the walls of the uterus at one part, that the slightest mistake might have led to a wound of the peritoneum, and a dangerous if not fatal result. As soon as the tumour was quite delivered at the os externum, it was followed by the inverted fundus, which, however, did not pass through the os uteri, the latter contracting; and as the operator at the same time pushed back the inverted fundus with his fingers, it became replaced, and the patient recovered.

In Amussat's second case,¹¹⁹ which was likewise successful, the fibrous tumour removed weighed about fourteen ounces, and the uterus was only slightly inverted, but sufficiently so to induce him to enjoin that, towards the conclusion of every such operation, where inversion is so liable to happen, you should avoid incisions and ligatures, and trust to the fingers for accomplishing the enucleation and final detachment of the tumour, lest you wound the peritoneal cul-de-sac formed in consequence of the uterine inversion.

Recently, at the Norfolk and Norwich Hospital, my colleague, Mr. J. Godwin Johnson, removed a fibrous tumour of enormous size, weighing thirty-two ounces; it is preserved in the pathological museum of the Hospital, to demonstrate the fact to any scientific observer. The patient sought advice on account of difficulty in emptying the rectum, and still more so in evacuating the bladder; indeed, retention of urine brought the nature of the disease first under our inspection. The tumour could be felt through the abdominal parietes, at least for six inches in length above the brim of the pelvis and towards the right iliac region; and in the vagina, it presented a large convex surface, implicating the os tincæ posteriorly and to the right side, so that the tumour must have been altogether nine or ten inches in length. Having been exposed, where it was accessible in the vagina, it was in part enucleated; and by successive trials day after day, more of the tumour was separated, chiefly by the fingers; at length the whole hand entered the uterine cavity and completed the separation of the tumour, which was removed by traction and by the aid of suitable instruments. When the last part of the tumour passed the external labia, the operator, who alone could be cognizant of this circum-

¹¹⁹ *Mémoire des Tumeurs fibreuses*, p. 48; also Filhos, in *Revue Méd.*, Decembre, 1841; and *Encyclopedie des Sc. Méd.*, 4 ième Série, ix., 63.

stance, felt the inverted portion of the uterus in the vagina, and judged its thickness to be not more than one-sixth of an inch. It was pushed up, so as to be in some degree replaced in the pelvis, and above the os; and although so thin when expanded, the uterine wall must have contracted, for Mr. Johnson assures me, that on examination after the patient's perfect recovery, there was not the slightest projection or irregularity observable, the uterus occupying the same space, and presenting the same shape, as in health. This heroic operation, not less remarkable for its successful issue than for many circumstances attending its execution, deserves to be speedily published in detail.

The result of operations of this description is always liable to be influenced by the presence of other fibrous tumours, for seldom do we find the tumour solitary; more commonly several are present, in different parts of the organ—sometimes as many as ten or a dozen, of different sizes. But I cannot dwell upon the subject here, as I permit myself to notice it only incidentally as a novel proceeding, and in conjunction with inversion of the womb, which is a constant attendant on almost every operation of the kind, and requires to be fully known, that danger may be avoided by the skill and judgment of the operator.

SECTION VI.

ON INVERSION OF THE UTERUS UNDER CIRCUMSTANCES NOT INCLUDED IN THE PRECEDING SECTIONS.

It is admitted that whatever distends the uterus and remains in it for a time, relaxing its parietes as well as enlarging its cavity, may, on expulsion, be followed by inversion of that organ. In addition to what has been already stated, we may, therefore, enumerate coagulated blood accumulated in the uterus, and an hydatidous growth or mole occupying its cavity, each of which has been known to cause uterine inversion. Distention of the uterus by air, or by aqueous fluid, has also been brought into this list; but no example of inversion from either of these sources has, so far as my researches extend, been satisfactorily recorded:

the statements relating to this part of the subject are conjectural, and based upon what is deemed probable—not upon the observation of actual occurrences.

The accumulation of blood in the uterus ranges next after pregnancy, and polypous or other tumours, as a disposing cause of inversion. How continually after delivery do we find the uterine organ re-distended, even to a great degree, with coagula! In every such instance that organ is placed under conditions rendering inversion possible, but in a very small proportion does the displacement happen. A few recorded cases might be quoted, and of these some are unsatisfactory; others evidently stated in error, the epoch of the inversion having manifested itself to the unsuspecting or uninstructed observer (perhaps some seven or ten days after delivery) not being the commencement of the displacement, which was coincident indeed with the termination of the labour. With more correctness may we regard distention of the uterus from blood as a cause of the *relapse* of inversion. A woman,¹²⁰ delivered at the full term, suffered inversion of the uterus by the removal of the placenta: the inversion, it is said, was reduced, and on the tenth day she felt severe pains, followed by abundant loss and a relapse of the uterine displacement. It has been conjectured¹²¹ that blood had accumulated in the uterus, and that its sudden expulsion led to the relapse; but even in this instance we cannot dismiss the suspicion of the first reduction having been incomplete, a slight degree of inversion remaining, which at the end of nine days was rendered complete.

A woman, in whom the menses had been suppressed for three months, was supposed to be parturient: after pains had been experienced for four hours, there was considerable loss, and it was believed that the head of the fœtus descended to the external labia, where it remained, and the attendant was surprised to find it so large, as the patient was supposed to be only three months gone in pregnancy. In this difficulty Le Blanc¹²² arrived, and found no fœtus, but a tumour in the vagina, equalling in size the fœtal head at six or seven months; he convinced himself that it was the uterus inverted, which he reduced according to art, and

¹²⁰ Sabatier, in *Mem. de l'Acad. de Chir.*, 8vo. edition, iii., 363.

¹²¹ Ferrand-Demissols, *Thèse*, p. 9. For examples bearing on the same question, see foot-note No. 46, section II.

¹²² *Précis d'Opérations*, i., 361.

the patient recovered. The idea has been suggested,¹²³ that Le Blanc mistook the case, and that it was simply a descent of the uterus. It seems quite as reasonable to regard it as an abortion, occurring after three months of utero-gestation, and giving rise to inversion, of which an instance in the experience of Lisfranc¹²⁴ has already been referred to in this Essay.

In all the preceding remarks and references, the accumulation of blood in the uterine cavity may be either affirmed or suspected to have been connected with pregnancy; and it will always be difficult, during the menstruating period of a female's life, to avoid all suspicion of this complication; the motives for concealment, or the ovum escaping unobserved, will tend to maintain the difficulty. Are there any cases, uncomplicated and authentic, of inversion, where blood was the primary cause of enlargement of the uterine cavity? I can not quote any so unobjectionable as the case related by Mr. Watkinson.¹²⁵ The woman is represented to have attained about fifty years of age, when the inversion took place during a protracted and very severe menorrhagia; the inverted organ prolapsed, and at the expiration of four or five years it hung pendulous half way towards the knees, with a neck formed by the inverted vagina about the size of one's wrist. The patient was reduced to imminent danger of life by sloughing and abscess, when the uterus was removed by incision below a ligature placed on the vagina, with a fatal result. No account, however, being given of an anatomical examination of the part excised, and the early history resting on obscure testimony, we cannot even in this case rely implicitly on the suggestion that menorrhagia solely, unconnected with pregnancy, led to the uterine inversion.

I am enabled to authenticate the production of inversion of the womb on expulsion of hydatidous masses, formed within its cavity, by the following original and interesting case, communicated by Dr. Thatcher, of Edinburgh, who has, for many successive years, detailed it to his numerous pupils, in his valuable Lectures on Midwifery, but not otherwise given it publicity:—

¹²³ Dailliez, *Thèse, Obs.* vii., p. 41.

¹²⁴ *Clinique Chir.* iii., 383.

¹²⁵ *London Medical and Physical Journal*, vii., 435. The explanation offered by this writer of the cause and origin of the inversion is, that in a relaxed state of the os uteri, and perhaps of the uterus itself, owing to protracted hæmorrhage, the organ became inverted on the expulsion of coagula, p. 436.

"The subject of this singular history had been a widow for seven years or more, when she sent for me in March, 1818, to relieve her from retention of urine. On examination I found the external parts covered with blood, which had been freely discharged from the vagina. I inquired if she had miscarried, or been delivered, both of which she denied; but requested me to examine what had passed into the chamber utensil, which I found nearly filled with an immense accumulation of hydatids, firmly cemented by nearly cartilaginous bands. In the vagina I traced a fleshy tumour, conoidal, about the size of the foetal head at the seventh month of utero-gestation, and with every diagnostic mark of the inverted uterus, with the *os uteri* clear and defined, surrounding its upper base. There was also severe, dragging-down, dorsal pain, and exhaustion. The patient acknowledged that, being alone and unassisted, and finding this very unexpected mass protruding, she had used manual efforts for its extraction, and, in fact, she had produced the same consequences as would result from an injudicious and rude exertion with the umbilical cord, in removing the placenta after delivery at the full term of pregnancy. The distended bladder having been relieved by the catheter, persevering trials were made to re-invert the organ, and repeated at periods, for hours afterwards, until the latest visit at midnight; at this time the uterus was close down on the *os externum*. Next morning it was found fully protruded at the *vulva*, in shape and size like the largest caoutchouc bottle prepared for injection. Warm fomentations were used; afterwards an opiate ointment to cover the part; antimonials and opiates were also given freely, to relax, with the hope that reduction might still be effected; but all without success. On the following day, the prolapsed mass became more enlarged and congestive, with considerable exudation of sanious matter from its exterior surface; the *os uteri* was now, by careful examination, found so strongly compressing the tumour superiorly, as to interrupt the circulation in the mass below, and contributing to its separation by strangulation. It therefore became the duty of art to imitate nature; and as no portion of intestine could be traced in the peritoneal uterine cavity, a ligature of silver wire was applied close to the *os uteri*, with the double canula, as for a polypus. The ordinary means for supporting strength and preserving cleanliness were used. On the third day from the application of the ligature,

separation was nearly effected, and the slightly remanent portion was divided with the scalpel. The catamenia never returned, although the patient had previously, when in health, been regular."

I believe Dr. Thatcher's case to be unique. Hydatidous tumours¹²⁶ of the uterus have been justly named as by possibility giving rise to inversion of the containing organ; but I am not able to refer to any distinctly recorded case in which it happened; and there is certainly no other of the uterus, inverted from this cause, having been successfully removed.

Passing by the inadmissible statement made by Puzos,¹²⁷ in 1744, I find occasion only to note, in this section, certain histories, given upon the highest authority, where inversion of the womb was believed to have occurred in virgins, without the organ having been previously distended by any morbid growth. If we admit their correctness, we can only regard them as being of such rare occurrence as not materially to affect the general rule laid down in an early page of this Essay.

Baudelocque¹²⁸ relates that, in 1790, a young female, only fifteen years of age, who had for a long time suffered menorrhagia, consulted him when brought to a dangerous state of emaciation and debility. He found in the vagina, and above the hymeneal membrane, a tumour of the size of a small pullet's egg, oval, larger inferiorly, firm to the touch, like a healthy uterus, painful, and bleeding readily on pressure. The tumour was from one and a

¹²⁶ Excluding animal hydatids, which may sometimes be found in the cavity of the uterus, or in its walls, and referring only to the diseased masses not unfrequently occupying the uterine cavity, and denominated in France *la mole vésiculaire*, I was led to consider this a disease of the placenta, and an incidental result of pregnancy, by a case referred to in the *Transactions of the Provincial Medical and Surgical Association*, vol. iv., p. 303, and represented in Plate 6, the foetus often dying in consequence of the diseased placenta, leaving this to increase indefinitely, both as to bulk and time. The same explanation had been previously offered by Boivin (*Recherches sur l'origine, la nature et le traitement de la mole vésiculaire*) and others. The firmness of the texture uniting the hydatidous cysts may be regarded as in some measure indicating the date of the disease; and in Dr. Thatcher's case, where the cysts were "firmly cemented by nearly cartilaginous bands," I consider it allowable to suppose that lawful pregnancy gave rise to the hydatidous disease, which had its seat in the placenta originally, although the patient had been a widow for seven years or more.

¹²⁷ The account given by Puzos may be read in Boyer, (*Traité des Mal. Chir.*, x., 488) and in numerous other authors; but it is so extravagant and unsatisfactory, that it should be allowed to pass into oblivion.

¹²⁸ Dailliez, *Thèse, Obs.*, vi., p. 39.

half to two inches long, and the vagina terminated at its pedicle in a circular cul-de-sac, no *os tincae* being found. Baudelocque examined this patient very carefully twice at a short interval, and knew not the subsequent issue; but he regarded the tumour¹²⁹ to be an inverted uterus, from original malformation. Are we to suppose that Baudelocque, the most experienced of accoucheurs, and in this department particularly, was mistaken? Dubois has asserted this; and Lisfranc,¹³⁰ whilst he relies on Baudelocque's accuracy, suggests that retention of the menses, dropsy, hydatids, or even gas distending the uterus, might lead to an explanation of the inversion having taken place. Velpeau,¹³¹ on the other hand, asserts that he has himself met with a case of inversion without pregnancy or other cause of uterine distension.

Let me conclude by referring to Boyer,¹³² one of the ablest of surgeons and most perspicuous of authors, both pretty sure guarantees for his having been an accurate observer. He doubted the accuracy of the statement of Baudelocque, his contemporary, partaking of the prevailing doctrine as to the causes predisposing to inversion of the womb, and believing that such a displacement could not happen without the previous enlargement and distention of this organ, until he met with the inverted uterus in a woman who had not been pregnant for fifteen years, and in whom the uterus contained no foreign body: she was forty-four or forty-five years of age, had suffered no sanguineous loss beyond regular menstruation, no leucorrhœa, and had been the mother of three children. After experiencing weight in the pelvis, and a dragging in the loins, particularly when in the erect posture, she found a swelling presenting at the labia, which soon appeared externally; it was regarded as polypus, and the ligature was proposed for its removal. Boyer's attention to the case being now sought, he found the tumour prolapsing at the labia nearly an inch (*huit à dix lignes*),

¹²⁹ "Baudelocque regarda ce renversement comme un vice de conformation de l'organe."—(*Ibid*, p. 39.)

¹³⁰ *Clinique Chir.*, iii., 379.

¹³¹ "Elle est possible même avant la grossesse, ainsi que Diemberbroeck, (*Anat. du Corps humaine*, i., 306,) le prouve déjà, et que j'en ai observé un cas." (Velpeau, *Traité des Accouchemens*, ii., 618.) I have sought in vain for Diemberbroeck's case, as here quoted, in the Latin edition of his works. Are we to add this to the numerous errors in the quotations and references by Velpeau, and regard them as the result of vicarious authorship in the literary department?

¹³² *Traité des Mal. Chir.*, x., 489

of a pyriform shape, and rather larger than the uterus in its normal state; its pedicle was large, but short, and was encircled by a thin ridge (*bourrelet peu saillant*), within which the tip of a finger or a probe could pass to the depth only of a few lines. The surface of this tumour was unequal, sensible to the touch, of a greyish colour, and villous appearance; there were superficial ulcerations, which healed and re-appeared successively. At each menstrual period the sanguineous fluid could be seen to exude from the surface of the tumour, in drops separate from each other, which soon, by increase of number as well as of size, united together, forming a covering to the whole. In the intervals between the menses, the same surface furnished a yellow mucus. The tumour could readily be pressed up within the labia, but descended as soon as the pressure was discontinued. There rests no doubt of this being an example of inversion of the womb, in the chronic stage; but had there not been a concealed pregnancy of recent date, some months or a year or two, which gave rise to it? Boyer seems to have been satisfied that no such cause had preceded. The patient would readily have submitted to the ligature for removal of the disease, but Boyer feared that the effects of such treatment would be fatal, and advised her to continue with her present inconvenience, more especially as she enjoyed good health.

I anticipate that the cautious and enlightened reader will regard few of the histories contained in this section indisputable, besides the occurrence of inversion from the hydatidous intra-uterine tumour; but it seemed scarcely allowable, in an Essay intended to be systematic, to pass over statements proceeding from such high authorities as those I have just enumerated. Thus far it has been my endeavour chiefly to present undoubted facts, devoid of theories. In the remaining part of this Essay there will be ample opportunities for reasoning upon these facts, in considering the *causes, diagnosis, and treatment* of uterine inversion, including the *removal of the organ*; and until each succeeding section is actually written and in type, I shall assiduously employ myself in collecting further information, and thankfully receive it, through any of the numerous channels which have been so promptly and so liberally opened to me, not only in the United Kingdom, but in various parts of Europe, and in far more distant countries.

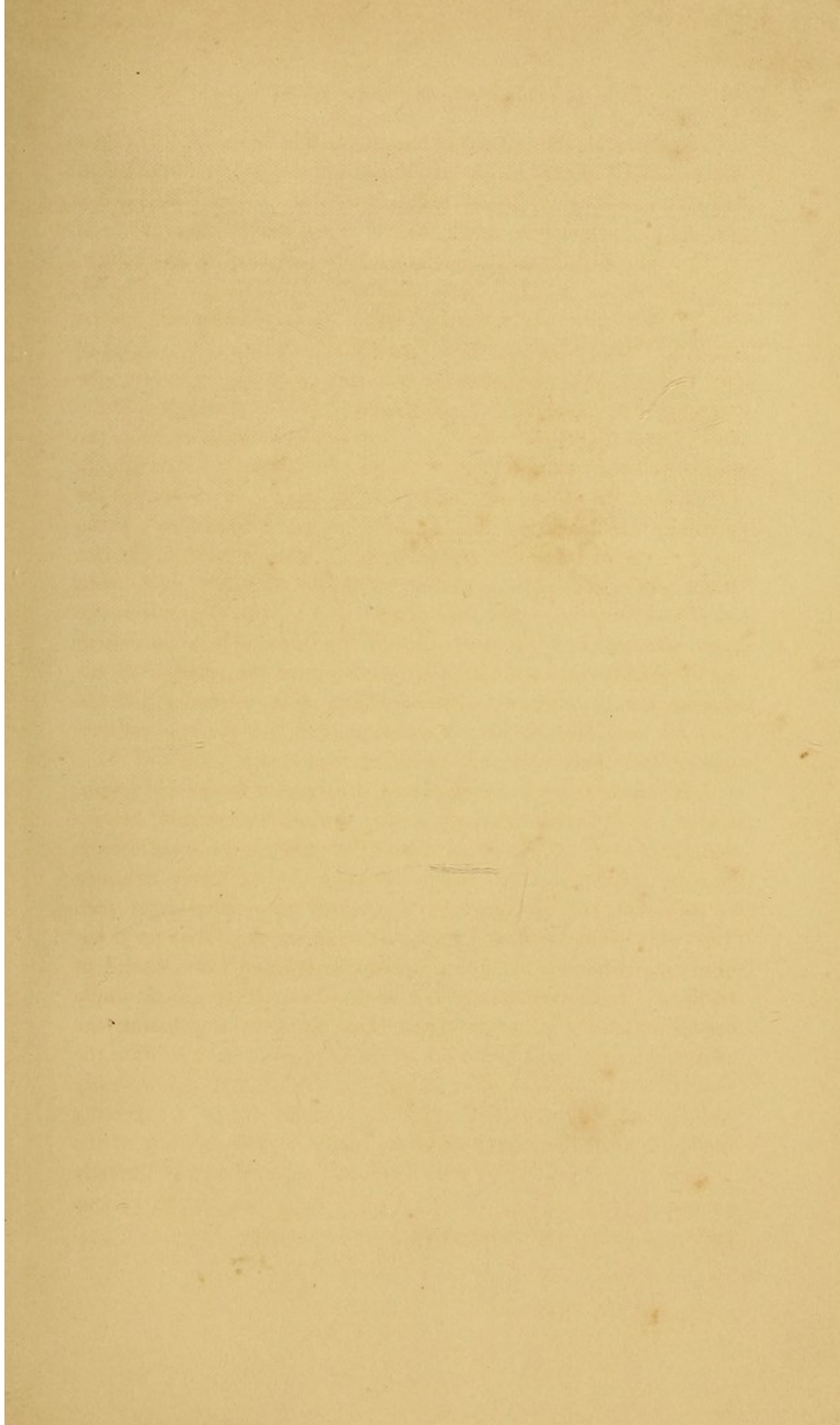
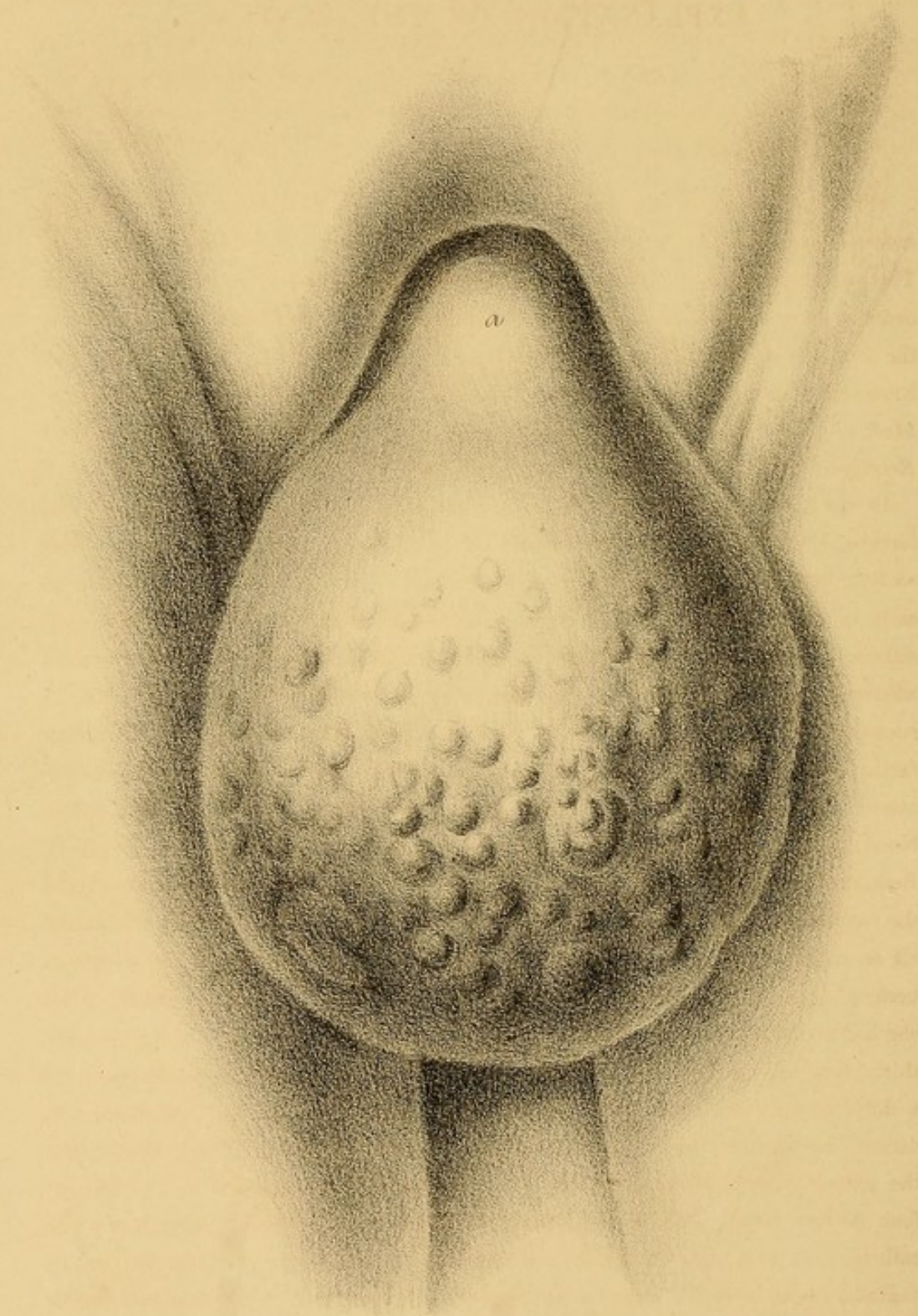


Plate 1.



O. Short del. Norwich.

J. Perry lithog.

Hallmandel & Walton Printers.

EXPLANATION OF THE PLATES.

PLATE I.

This plate refers to the case, in which I removed by ligature the completely inverted and prolapsed uterus, one month after delivery; it is of the natural size. The pyriform shape of the organ, and the nodulated surface, are observable. In order to show the thickening (*a*), which indicates the precise situation of the cervix, the mass has been pulled downwards a little; when left to itself, the cervix was just concealed within the external labia. The case is narrated fully in the *Provincial Medical and Surgical Journal* of June 12, 1844, p. 155; and in Braithwaite's *Retrospect of Practical Medicine and Surgery*, vol. x., p. 256.

In her first labour the patient had a difficult time, and was delivered with the forceps, for which purpose I was summoned by the accoucheur in attendance. Half an hour afterwards there was uterine contraction; and the placenta descending so as to be felt in the vagina, with my hand I brought it past to the *os externum*; but although nine-tenths of the placenta were thus made visible, a portion still remained adherent to a mass occupying the vagina, as if there were another placenta. I succeeded in detaching the placenta on a level with the external labia, avoiding further traction, and then grasping the mass in the vagina, I carried it up into the uterus. All these occurrences occupied very little time; the patient was losing blood, had become pallid and faint, and promptitude of action was required. Reflection confirmed my belief that the uterus had been inverted till it occupied the vagina; and in the relaxed state of the organ, I had readily *reverted* and placed all *in situ*. There were unfavourable symptoms for a few hours; the abdomen became large and tympanitic; but she recovered. Fifteen months afterwards, when she had arrived at the full term of her second pregnancy, and nearly completed her thirty-first year, she was delivered of a healthy child, under the superintendence of a different surgeon, who found profuse hæmorrhage, and deemed it necessary to detach the placenta, which he removed piece-meal. The hæmorrhage abated, but the patient continued faint, pallid, cold, and with a pulse scarcely to be felt, for four or five hours. She then rallied; and at the expiration of thirty hours the catheter was required, on account of retention of urine, when I discovered in the vagina a round body, as large as my fist, which I recognised to be the uterus totally inverted. Having requested the attendance of the surgeon who had officiated at the delivery, I drew off three pints of urine, and proceeded to replace the uterus, trying the various manipulations advised on such occasions. All the efforts both of my

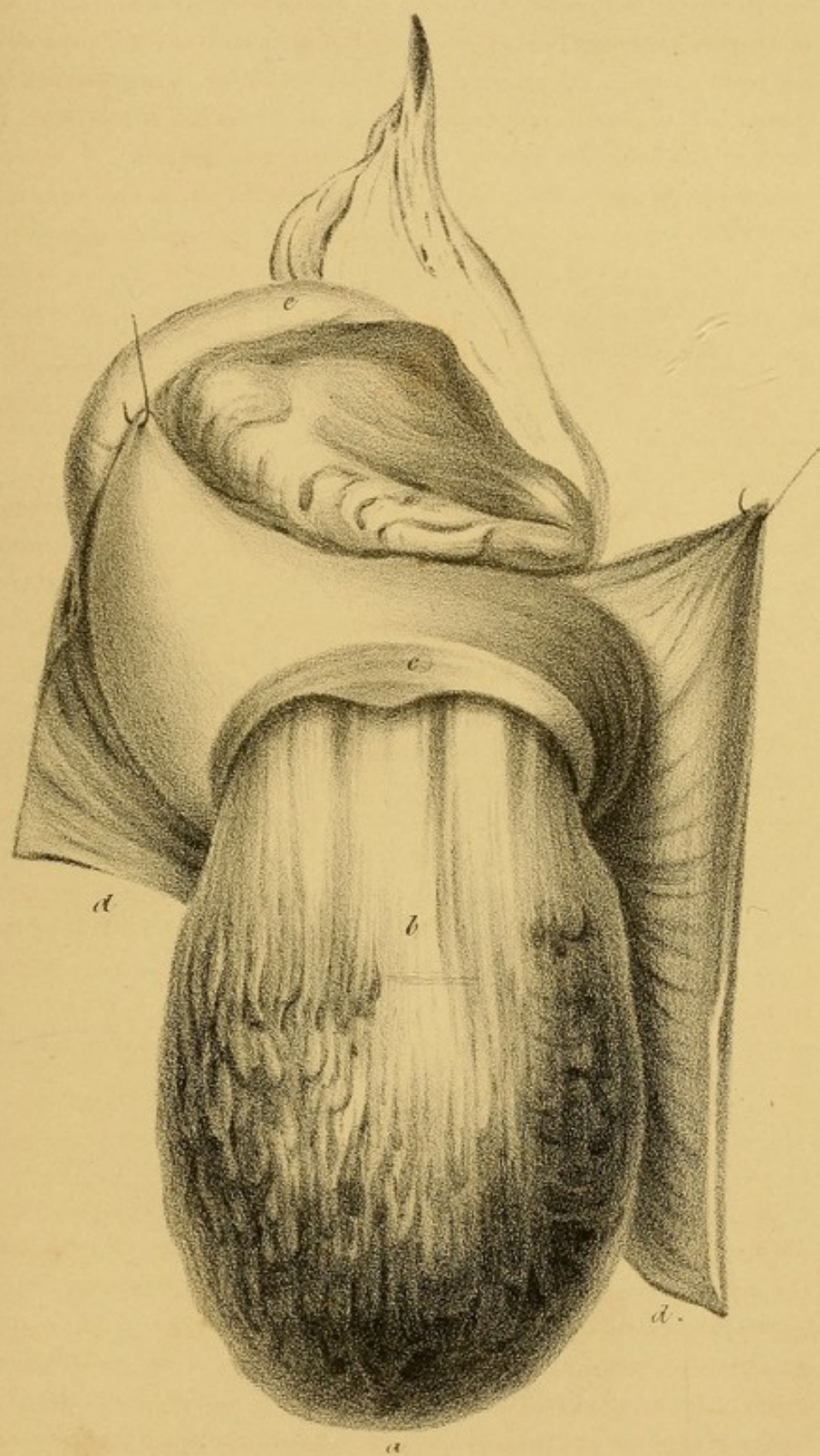
associate and myself proved unavailing; the uterine tumour was firm and contracted; no advancement towards reduction was effected after an hours' trial, and we deemed it prudent to desist, the patient's pulse being 120, the abdomen distended, and the symptoms indicating immediate danger. At the expiration of four days, under an effort at defæcation, the inverted uterus prolapsed at the labia. I supported the tumour with bandages, to protect it from the external air, and to diminish its size, which, after one month had elapsed, answered to the representation here given. The termination of the vaginal membrane in the uterine membrane, answering to the os, was very distinguishable, as well as the circular thickening answering to the cervix. The particulars of the successful removal of the entire organ by ligature will be subsequently noticed.

PLATE II.

The drawing in this case is made from a preparation in the possession of Dr. Joseph Warrington, of Philadelphia, and was forwarded to me by my associate and most valued correspondent, Dr. C. D. Meigs, Professor of Midwifery, who vouched for the correctness and fidelity of the representation. The plate is half the size of the original, which was obtained on autopsy of a female, who died speedily after delivery at the full term of pregnancy, from *foudroyante* hæmorrhage, in the hands of her accoucheur, before the consultant arrived. It exhibits an anterior view of partial inversion in the greatest degree, (*perversio*,) the cervix uteri not being inverted. The whole of the organ was still within the vagina at the time of the patient's decease, so that the nature of the case was only discovered on a digito-vaginal examination. The inverted fundus (*a*) was just within the external labia; and as death happened when the organ was in a state of collapse or inertia, the inverted body of the uterus (*b*) is observed to be flaccid, and to have fallen into longitudinal folds at its superior part, next the cervix; it is also flattened anteriorly, whilst the os tincæ (*c*) is relaxed and expanded to a great size. The vaginal membrane (*dd*) covers the uninverted cervix, and above is (*e*) the bladder.

PLATE III.

Is a posterior view of the same preparation in Dr. Joseph Warrington's possession, (*a*) again designating the fundus. The inverted body of the uterus is flattened in this aspect also, and is partly concealed by the peritoneal membrane (*bbb*), which covers the uninverted cervix (*cc*), and descends to line the pouch or cul-de-sac, answering in depth and circumference to the displaced portion of the uterus. The ovaria (*dd*) are just above the cervix, as are also (*ee*) the Fallopian tubes. The broad ligaments (*ff*) are stretched, and in part sustained above the ample entrance into the peritoneal pouch referred to by the dotted white line (*g*). The posterior part of the bladder (*h*) forms the summit of the figure.



W. McIlwaine del. Philadelphæ.

J. Perry lithog.

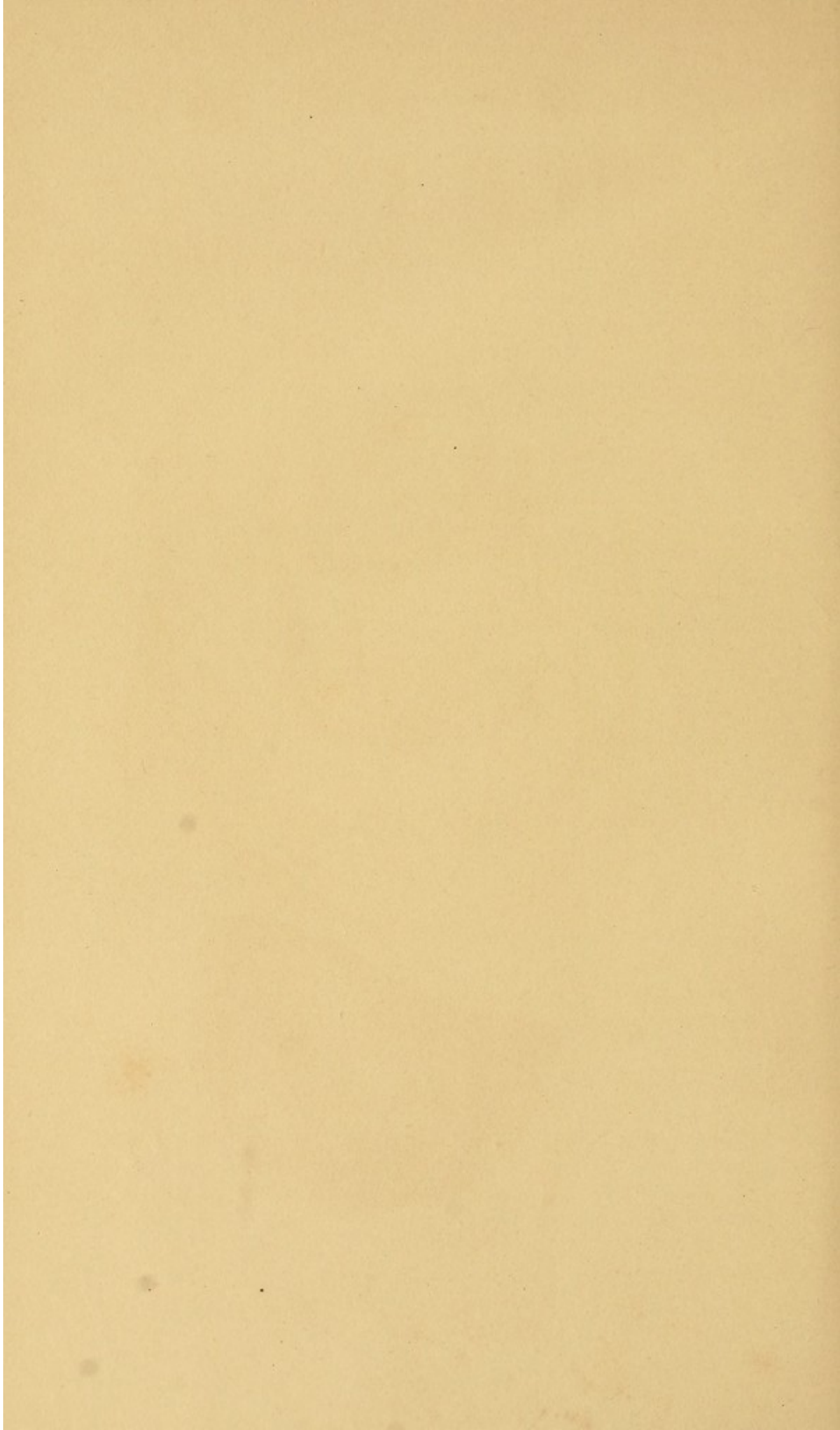
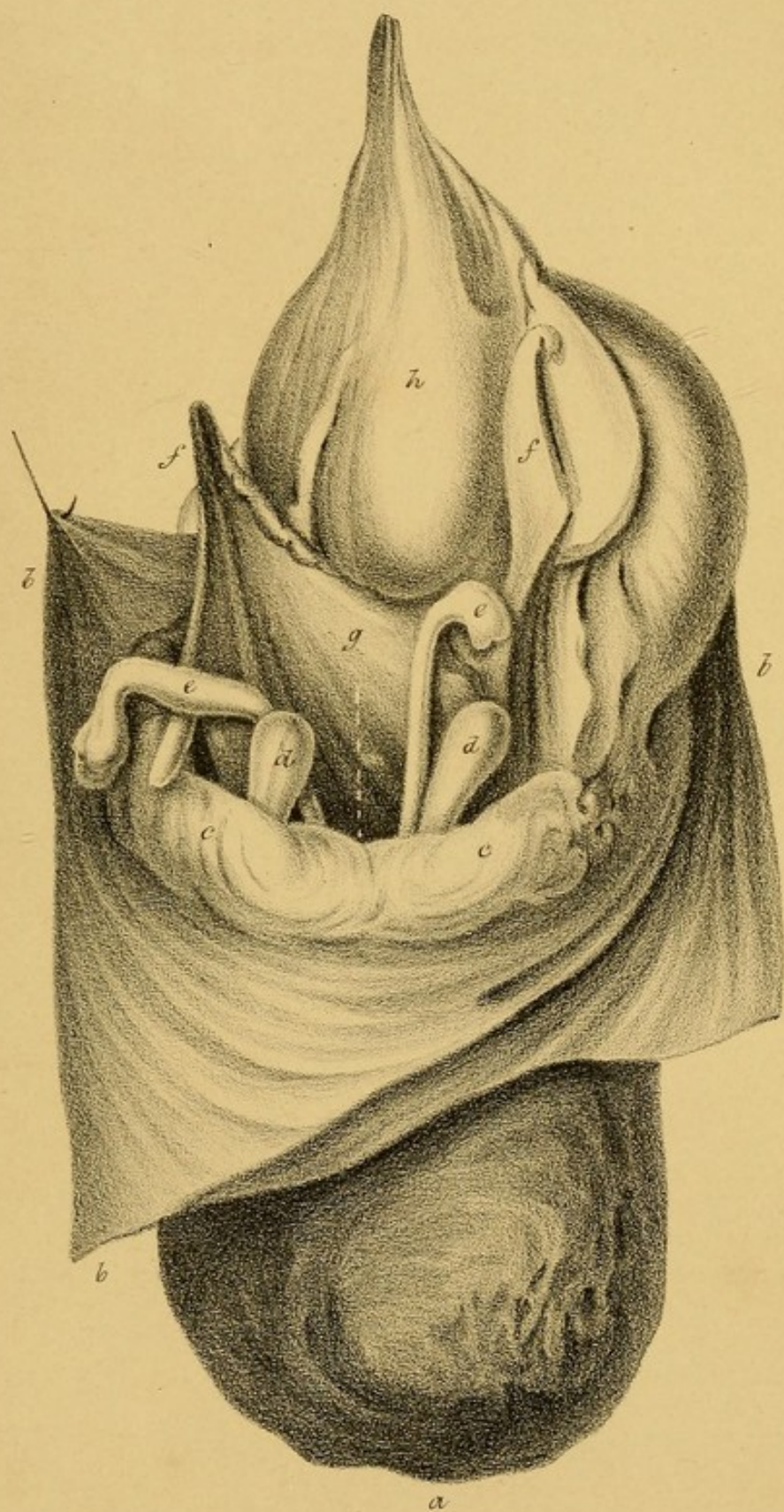


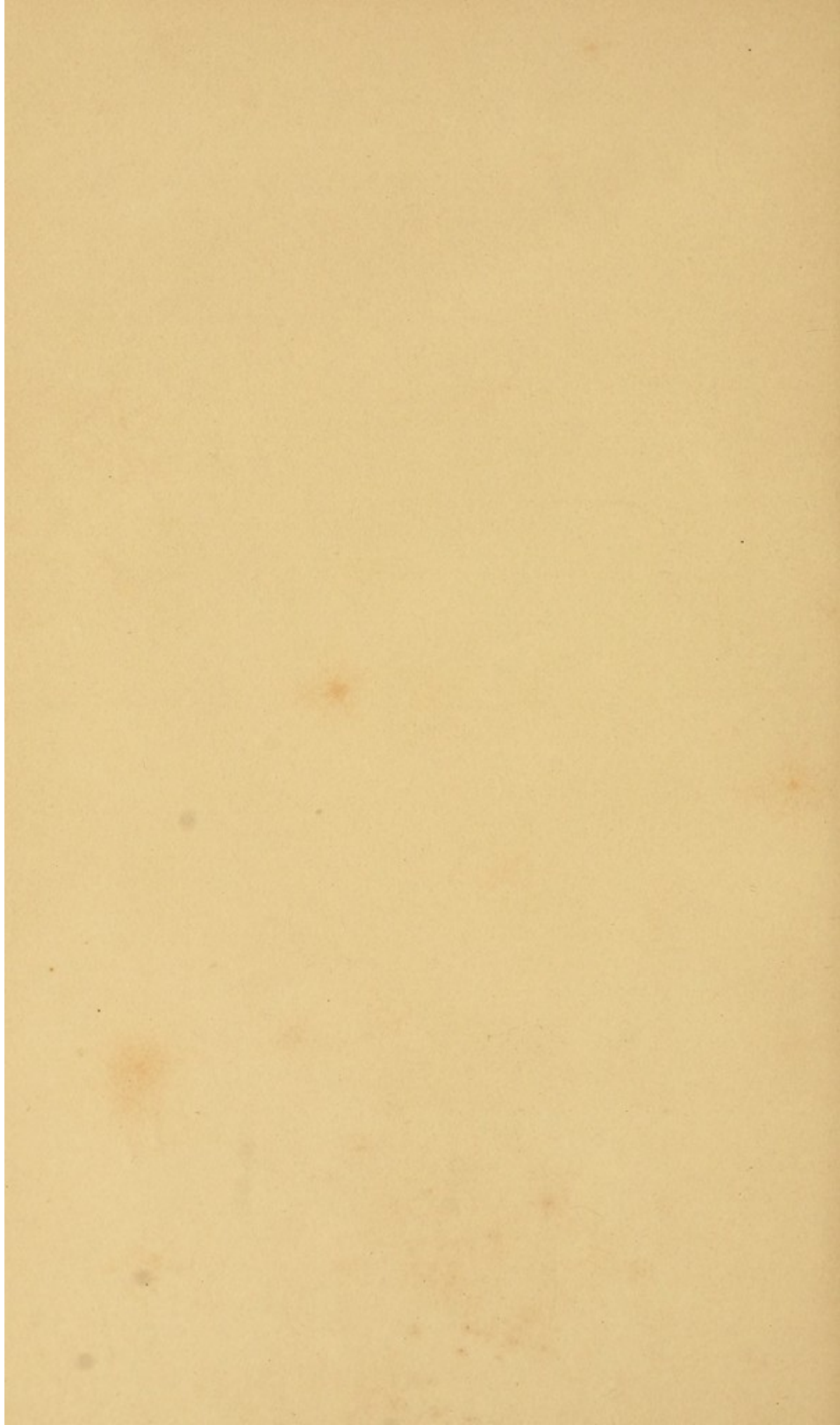
Plate 3.



W. M.° Ilvaine del Philadelphia.

J. Perry lithog.

Hallman & Walton, Inventors.



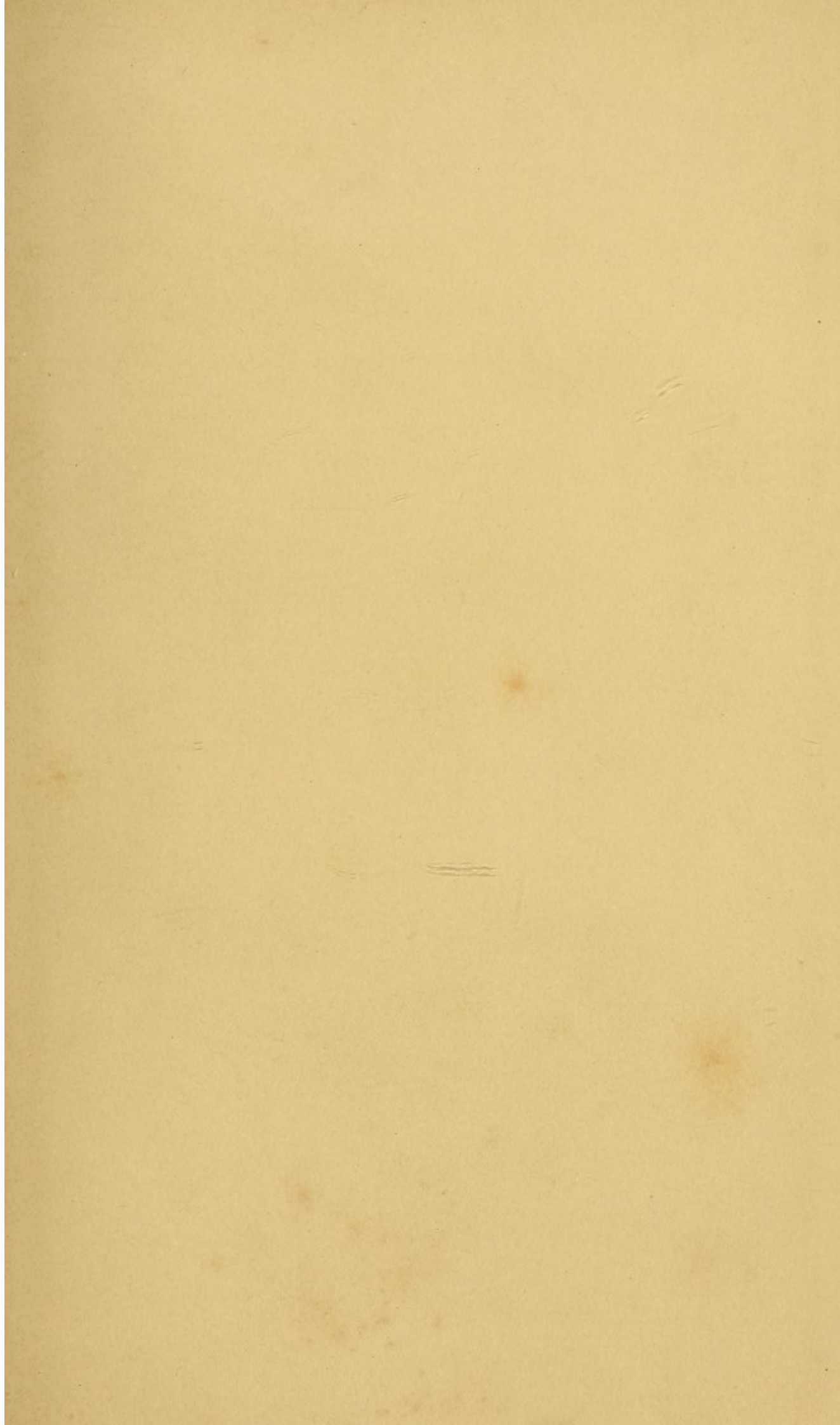
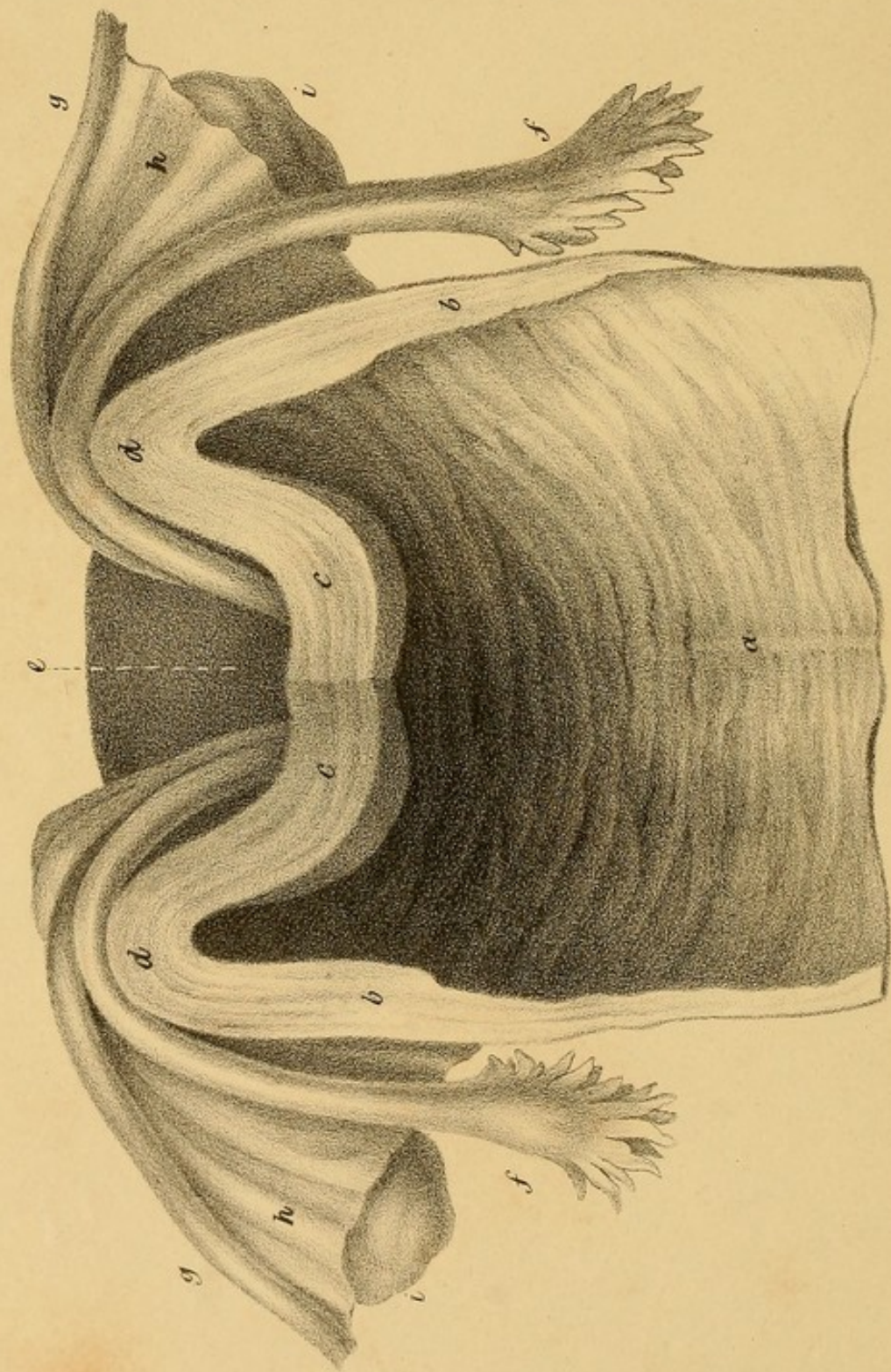


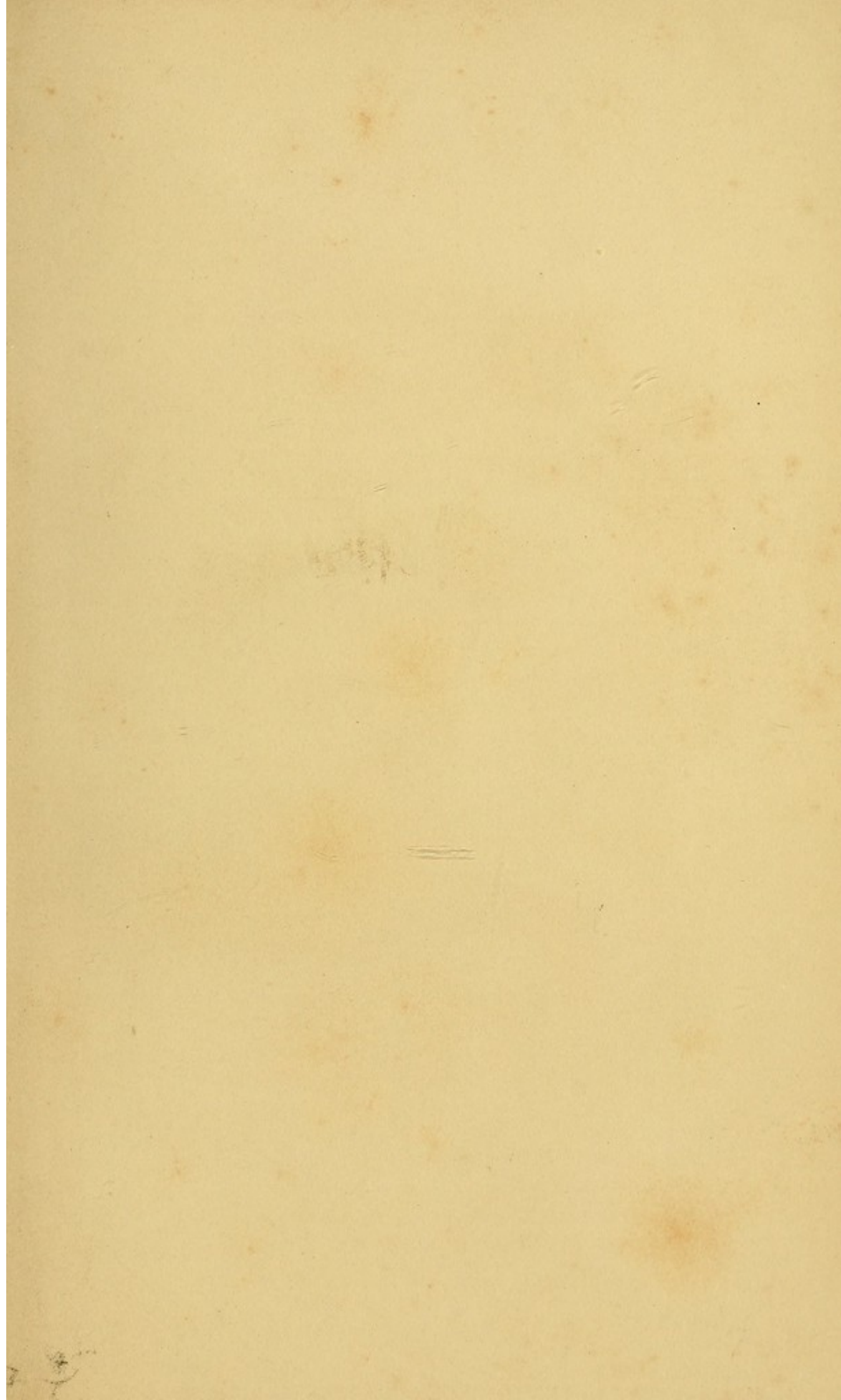
Plate 4.

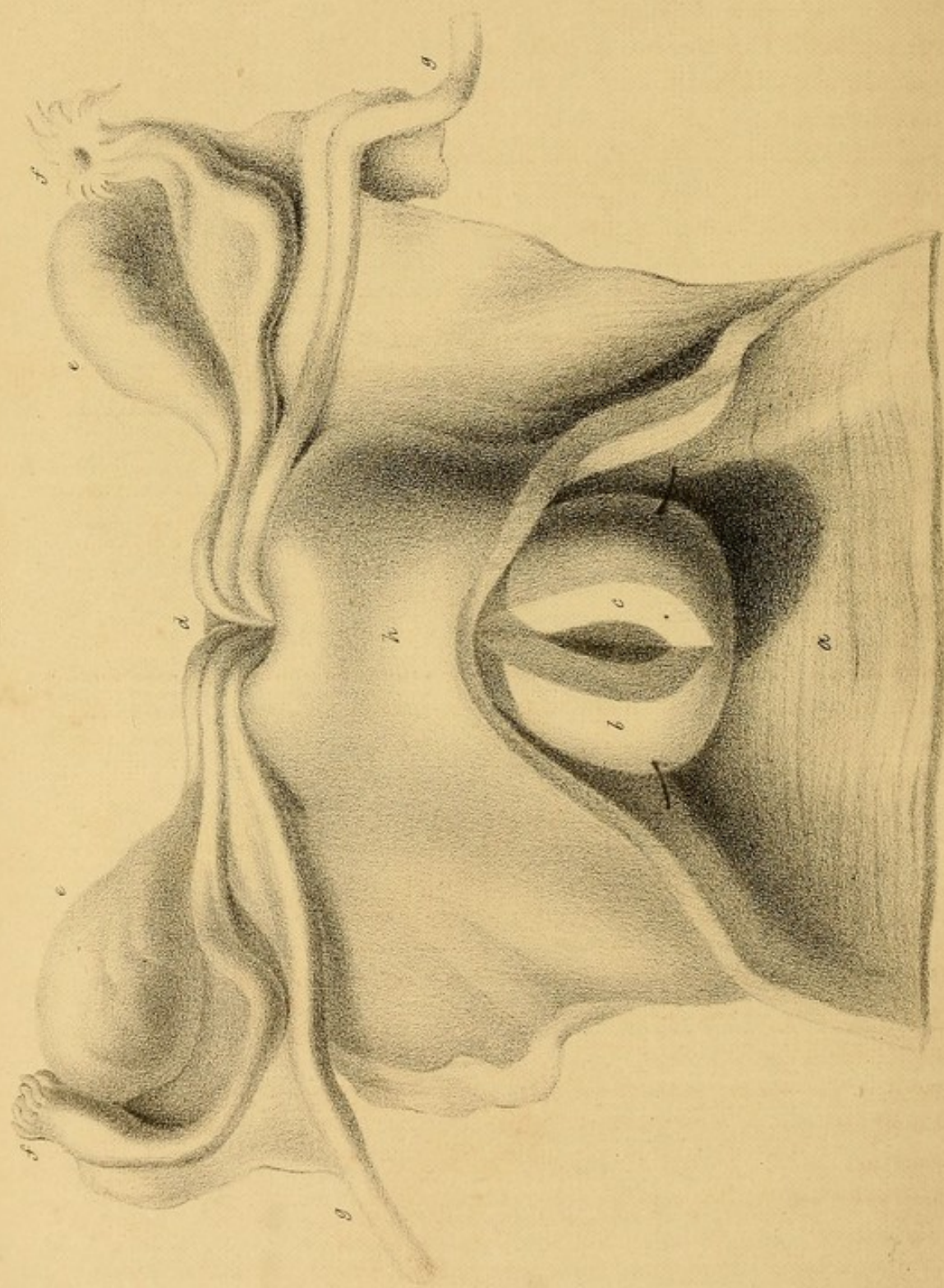


J. Perry delin.

H. Kneller & W. Kneller sculp.

Atlas Encephali del Glogou





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PLATE IV.

This plate is after a drawing executed for me by my friend, Dr. Allan Burns, of Glasgow, just before his decease. It represents a preparation in the Hunterian Museum in the University of that city, marked C. C. No. 60 *a.*, at p. 143 of the printed catalogue of that Museum. A section is made in the median line to expose the interior, and the whole is spread out by the cut surfaces being separated from each other; this deranges the shape and apparent size of the parts, but allows of the interior being more distinctly observed and explained. The texture is like that of the healthy uterus, to which it also corresponds in size. The interior surface of the vagina (*a*) is blended with the os uteri, so that there is little distinction between them. The continuous cut surfaces of the vagina and uninverted portion of the uterus are marked (*b b*), the boundary being indicated by the greater width of the uterine surface, on which the left (*b*) rests, whilst the right (*b*) is upon the divided vagina. The inverted portion (*c c*), being the fundus and the greater part of the body of the uterus, is above an inch long. The angle of inflexion is defined by (*d d*). The dotted white line (*e*) occupies the peritoneal pouch, into which descend the Fallopian tubes (*f f*), the round ligaments (*g g*), and the broad ligaments (*h h*). The Fallopian tubes and the round ligaments of opposite sides approach each other at their termination at the fundus; (*i i*) are the ovaria. Some account of this preparation is given by Dr. John Burns, in foot-note ‡ p. 561 of his *Principles of Midwifery*, ninth edition. I consider that this preparation affords an example of partial inversion in the second degree, (*introversio*,) a portion of the body of the uterus, as well as its cervix and os, remaining uninverted.

PLATE V.

This is an original drawing, recently made by M. Biot, from the preparation now preserved in the *Musée Dupuytren* in Paris. Its dimensions are somewhat smaller than those of Segard's representation, in his *Dissertation sur les Polypes Utérins*, 1804, (plate 2, p. 31,) owing to the action of spirit upon the specimen during forty years. Dailliez, (*Thèse, Obs. iv.*, p. 34,) gives an account of the case, which is still more fully narrated by Bayssellance, (*Diss. sur le Renversement de l'Utérus*, 1803, p. 25.) The patient was brought to l'Hospice de Perfectionnement in 1799, pallid, exhausted, and almost without a pulse, from continual losses, either serous or sanguineous, since her last delivery, being a period of twenty-two months. It was soon ascertained that an inversion of the womb was the cause of all the evil; but the malady was regarded as incurable, on account of its long standing and the exhausted condition of the patient, who expired just fifteen days from her admission into the hospital. The interior and upper part of the vagina is marked (*a*); the inverted fundus of the uterus (*b*) is seen to project beyond the dilated os; the inverted body of the organ has been cut through, and (*c*) rests upon one of the divided surfaces; thus the

peritoneal pouch, formed by the inversion, is laid open. Bristles are inserted into the terminating orifices of the Fallopian tubes. The opening from the abdomen into the peritoneal pouch, formed by the inversion, is indicated by (*d*), towards which both the Fallopian tubes (*ff*) and the round ligaments (*gg*) converge, till they meet and descend into the peritoneal pouch. The ovaria (*ee*) are nearer to each other than in the normal state, and are seen above the Fallopian tubes. The view offered is anterior, and the uninverted cervix uteri is covered and concealed at (*h*) by the peritoneum and parts beneath it.

PLATE VI.

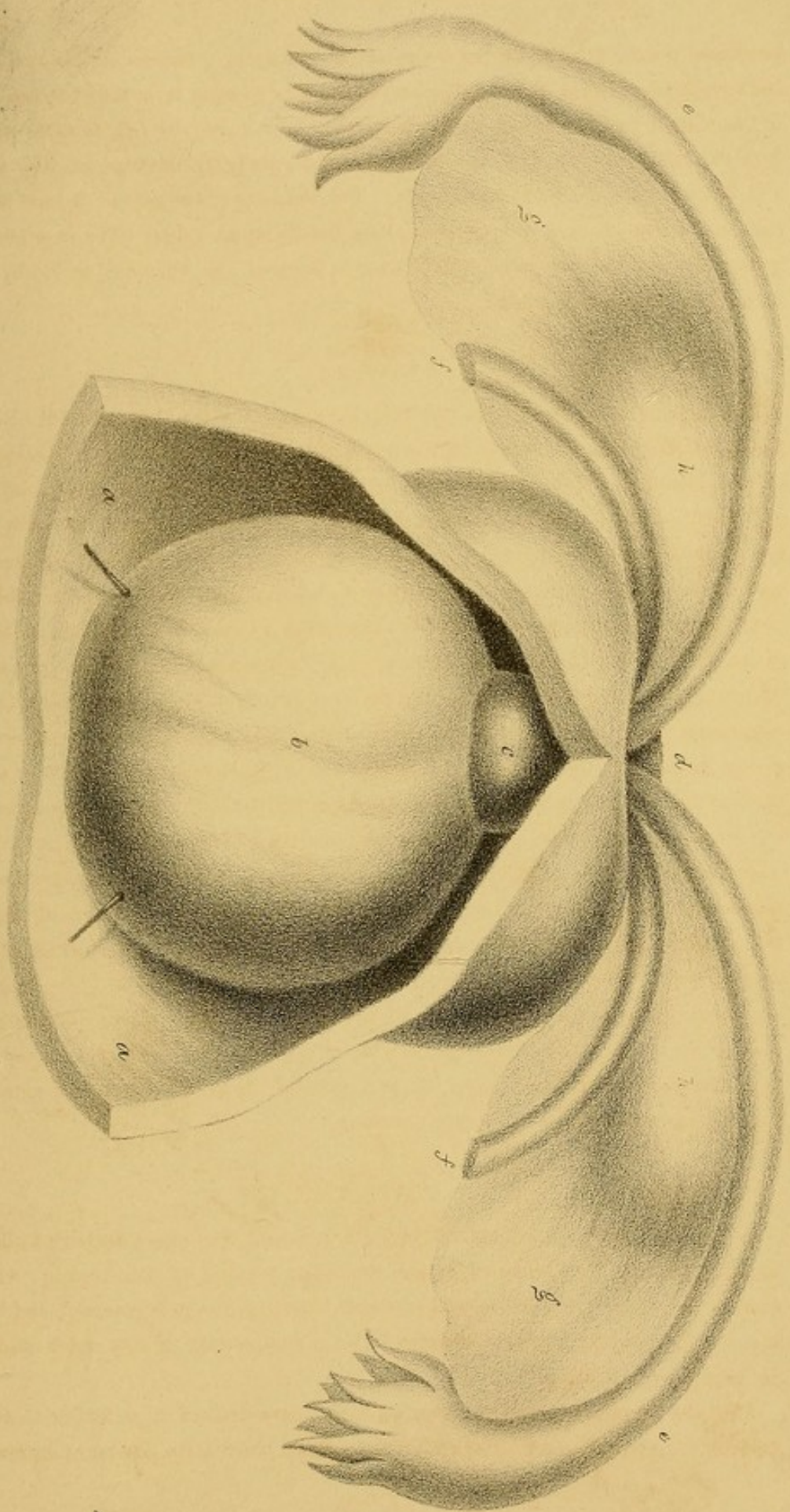
The preparation represented in this plate is preserved in the Museum of the Royal College of Surgeons of Ireland, and is noted in Dr. Houston's descriptive Catalogue of that Museum, vol. 2, p. 509, F. c. 691. There is no previous history of the individual to whom the preparation refers. Dr. Houston himself met with the specimen in the dissecting room, and remarks to me that the woman appeared to have borne children, but was not old; it was a case of chronic inversion. The dilated, but otherwise healthy vagina (*a*), contains the totally inverted uterus (*b*), of a globular shape, and with a smooth, unbroken surface; two bristles mark the terminating orifices of the Fallopian tubes upon the inverted fundus. The narrow pedicle (*c*) is continuous with the vagina above, and is hollow and lined with the peritoneum, giving passage to the Fallopian tubes and round ligaments, which converge until they meet at (*d*), where is clearly represented the circular entrance into the peritoneal cul-de-sac formed by the inversion. If we trace the Fallopian tubes (*ee*) from their fimbriated extremities till they meet at (*d*), and imagine their further course through the inverted organ to their terminating orifices, marked by the bristles, we cannot fail to notice their great length, as if stretched or elongated in consequence of the displacement. The visible portions of the round ligaments answer to (*ff*); those of the broad ligaments to (*gg*); and as an anterior aspect of the preparation is presented, the ovaria (*hh*) are distinguishable through the broad ligaments, and are approximated towards each other, so as to rest at the border (*d*) of the entrance into the peritoneal cul-de-sac before mentioned.

PLATE VII.

The original specimen is preserved in the Anatomical Museum of Queen's College, Birmingham, and was obtained in the consulting practice of Dr. Ingleby, whose decease, so suddenly premature, and so deeply lamented, has just occurred, and been to me a most painful incident associated with the composition of this much studied, yet hastily written Essay.

After the minute descriptions already given, I have deemed it preferable to avoid defacing the beautiful, and I may add, from my own observation, the faithful drawing

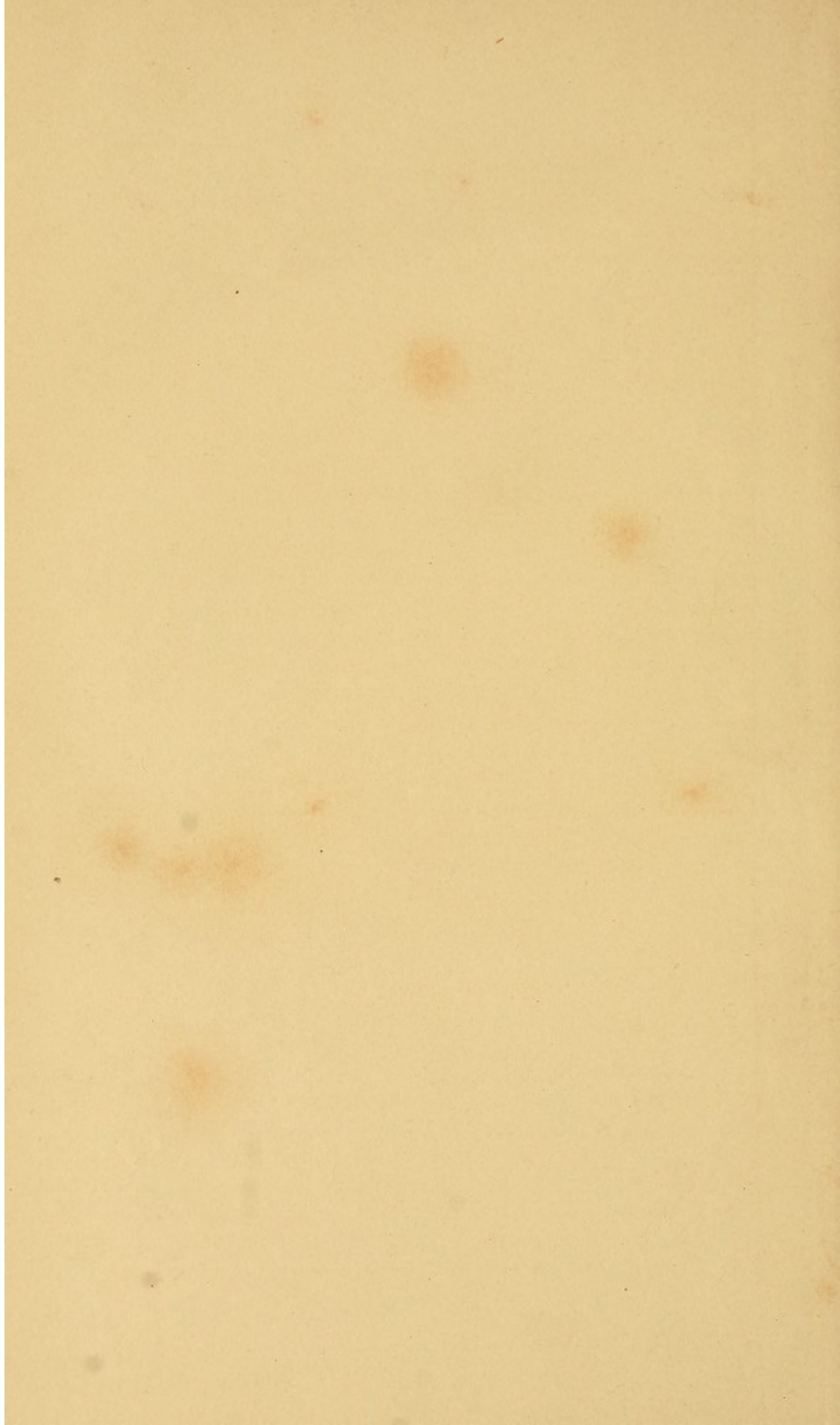
Plate 6.

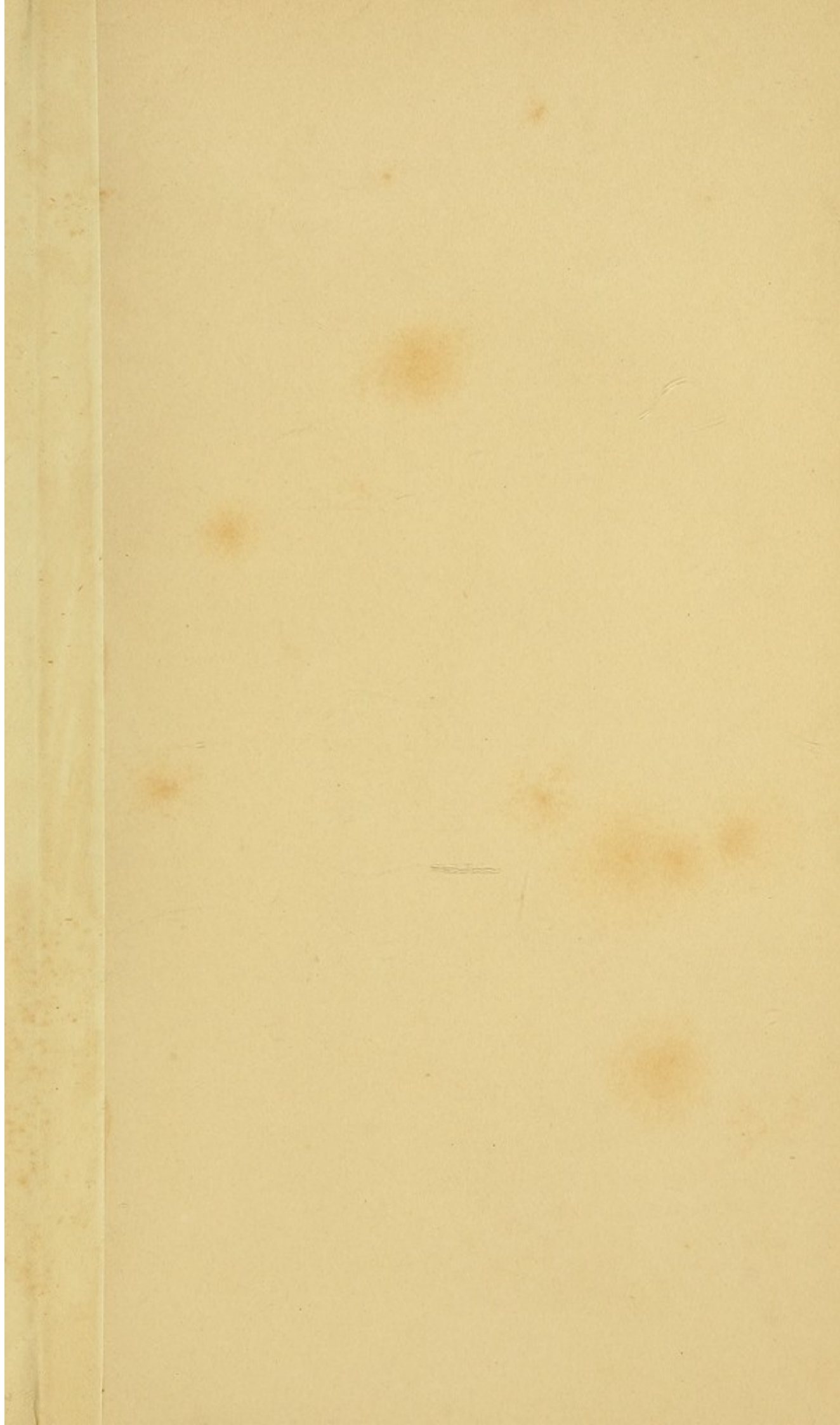


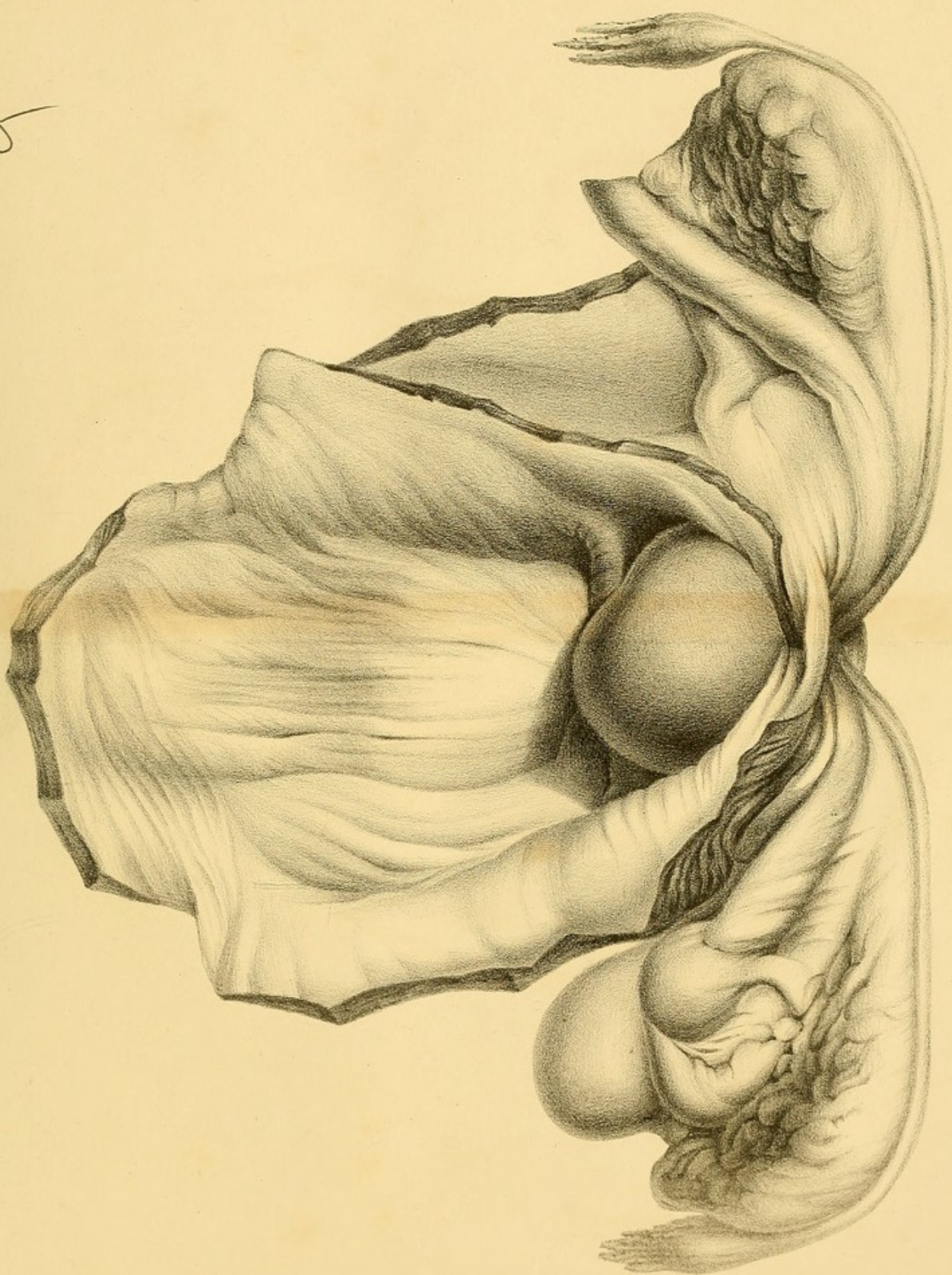
—1778—*Engraving of the Dublin.*

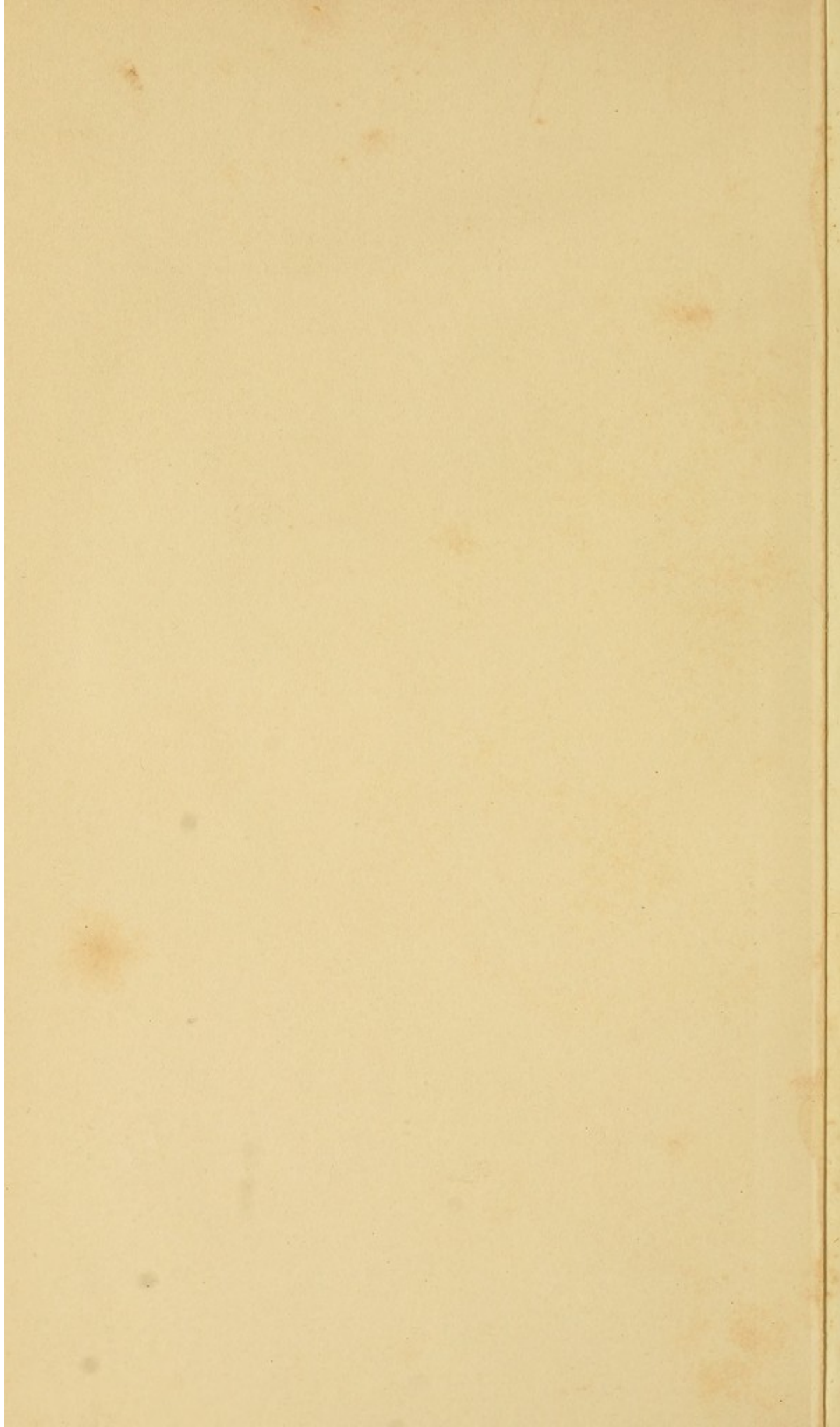
Engraving of the Dublin.

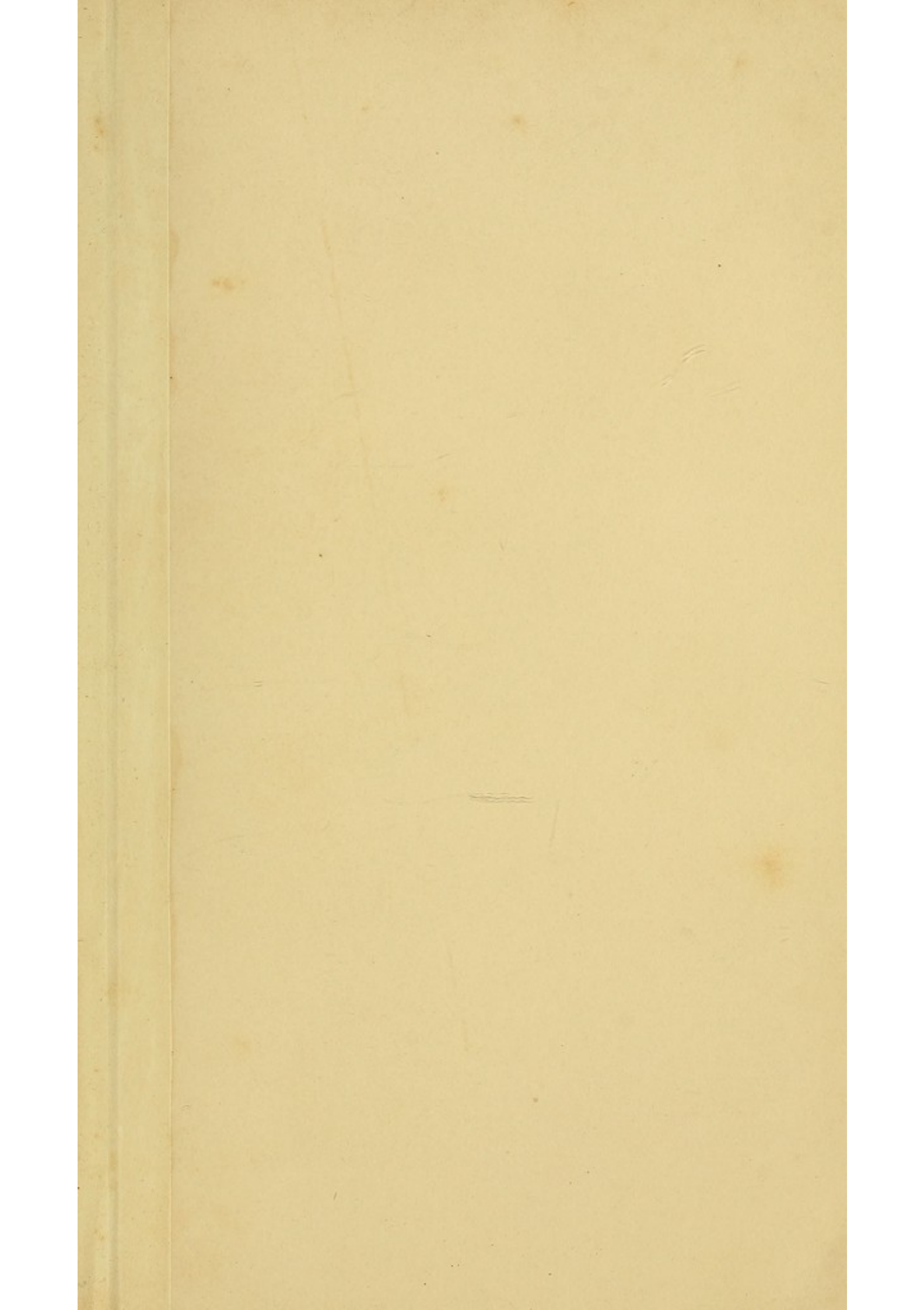
J. Perry delin.











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27. 1840. 447

Portrait of John Jay, 1790.



John Jay

Plate 6

of the artist, Mr. Samuel Moreton, by *letters of reference*, conceiving that they might be dispensed with, as unnecessary to the instructed and attentive reader.

The patient, a woman of delicate constitution, continued weak after her first and only delivery, and had frequent menorrhagia; at length an examination was made, and it was decided that she had an uterine polypus; but the mistake was discovered just in time to prevent an operation being performed under that impression. Becoming more and more exhausted by hæmorrhage, the patient died nine months after her delivery.

The plate represents partial inversion, merging into the commencement of the third degree, (*perversio*,) the fundus just projecting, in a somewhat conical form beyond the os uteri, which may be seen in deep shade to the right, and more distinctly to the left, where the fundus is indented from attempts made to replace the uterus; all the rest of the inverted portion of the uterus is inclosed in the uninverted. The vagina is laid open by a longitudinal and anterior section; its rugæ and folds are spiritedly shaded. One round ligament is cut off shorter than the other; the longer, on the left half of the paper, is more distinctly to be seen. From each fimbriated extremity proceeds the slender Fallopian tube in elegant outline, and of great length; the two tubes are closely approximated where they disappear on entering the peritoneal cul-de-sac of the inversion. Between the round ligaments and the Fallopian tubes the observer will find the ovaria represented in glowing character; on one side, towards the right hand, are several cysts, connected with the left ovarium. In some respects the lithographer has heightened the effect which had been so ably produced by the original artist. Since the drawing was made the preparation has been diminished in size, by immersion for some time in *pure spirit*, instead of *diluted*, so that its present dimensions will be found less than those of the plate; but I can vouch for the plate corresponding in size, and in all other respects, to the preparation in its more recent state.

PLATE VIII.

Through the liberality of the Council of the Royal College of Surgeons of Ireland, I obtained this representation of a most remarkable specimen of total inversion of both uterus and vagina, induced by the growth of a polypus from the internal fundus of the uterus. The case to which the plate has reference is briefly quoted towards the conclusion of section iv. of this Essay, and the preparation was met with at the Meath Hospital, in Dublin. By Dr. Houston's able method of displaying the morbid parts, the plate is rendered most clear and self-explanatory, and will be readily understood without any letters of reference. The left half of the preparation is exhibited in this plate, separated by a vertical section in the mesial line; the cut surfaces of the bladder, urethra, rectum, uterus, polypus, and vagina, are presented to view. At the inferior limit of the plate is the divided polypus, which was of the

size of a small pullet's egg, rough, and ulcerated on the surface, and attached by a rather narrow pedicle to the inverted fundus of the uterus. Next is the left half of the totally inverted uterus, equalling the natural size of that organ; its superior limit is indicated by an indentation or narrowing, being the termination of the uterine cervix and the commencement of the inverted vagina. The walls of the vagina are thickened, and its mucous membrane presents, in the specimen, several superficial patches of ulceration; in the intervals of the patches the covering is a white cuticular layer. The polypus, uterus, and great part of the vagina, formed a protruding mass at the external labia, between five and six inches in length. In the recent state, the polypous and uterine membranous surfaces were of a livid colour, and those of the vagina remarkably vascular. The bladder occupies the upper part of the drawing to the right; it is of moderate size, and its body and superior fundus rise up normally; but the inferior fundus is drawn down, so as to present, on the section, a conical cavity, nearly an inch in extent, with the apex downwards; all this displaced part of the inferior fundus of the bladder is below the level of the urethra, which is observable in its whole course, having been divided mesially by the vertical section.

Superiorly, and at the left boundary of the plate, is the half of the rectum, its cavity laid open, and its inferior termination characteristically marked; about two inches from the anal aperture, the section has very happily displayed a projection into the cavity of the rectum from its anterior wall, which Dr. Houston described as a valve of the rectum, several years ago, in the *Dublin Hospital Reports*, vol. v., p. 158, and which he considers the cause of the Rectum-Doctor being so often led upon the quicksands, when, in pursuit of his *ignis fatuus*, he thrusts a bougie through the coats of the bowel.

The parts which I have traced in the preceding description form together a boundary to the large peritoneal cul-de-sac, continuous with the general peritoneal cavity of the abdomen. This cul-de-sac is broadest superiorly, between the rectum and bladder, becomes narrower where it answers to the inverted vagina, and continues to diminish until it terminates conically at the inverted fundus of the uterus. In this cul-de-sac is observable the left ovarium, Fallopian tube, and round ligament; and it contained, also, when first examined, a coil of small intestine, not here represented, but which might have been included in a ligature, had this method of removing the disease been resorted to.

The preparation, marked F. c. 690, and described in the Catalogue of the Museum in which it is deposited, vol. ii., p. 508, is minutely injected. Dr. Houston, in the language of an enthusiastic anatomist, calls it "a speaking picture." It is certainly an unrivalled specimen of inverted displacement of the uterus and its appendages, induced by the presence of a small polypus.

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