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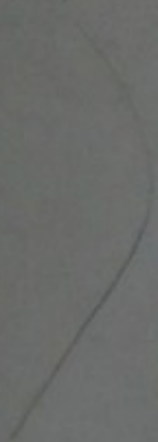
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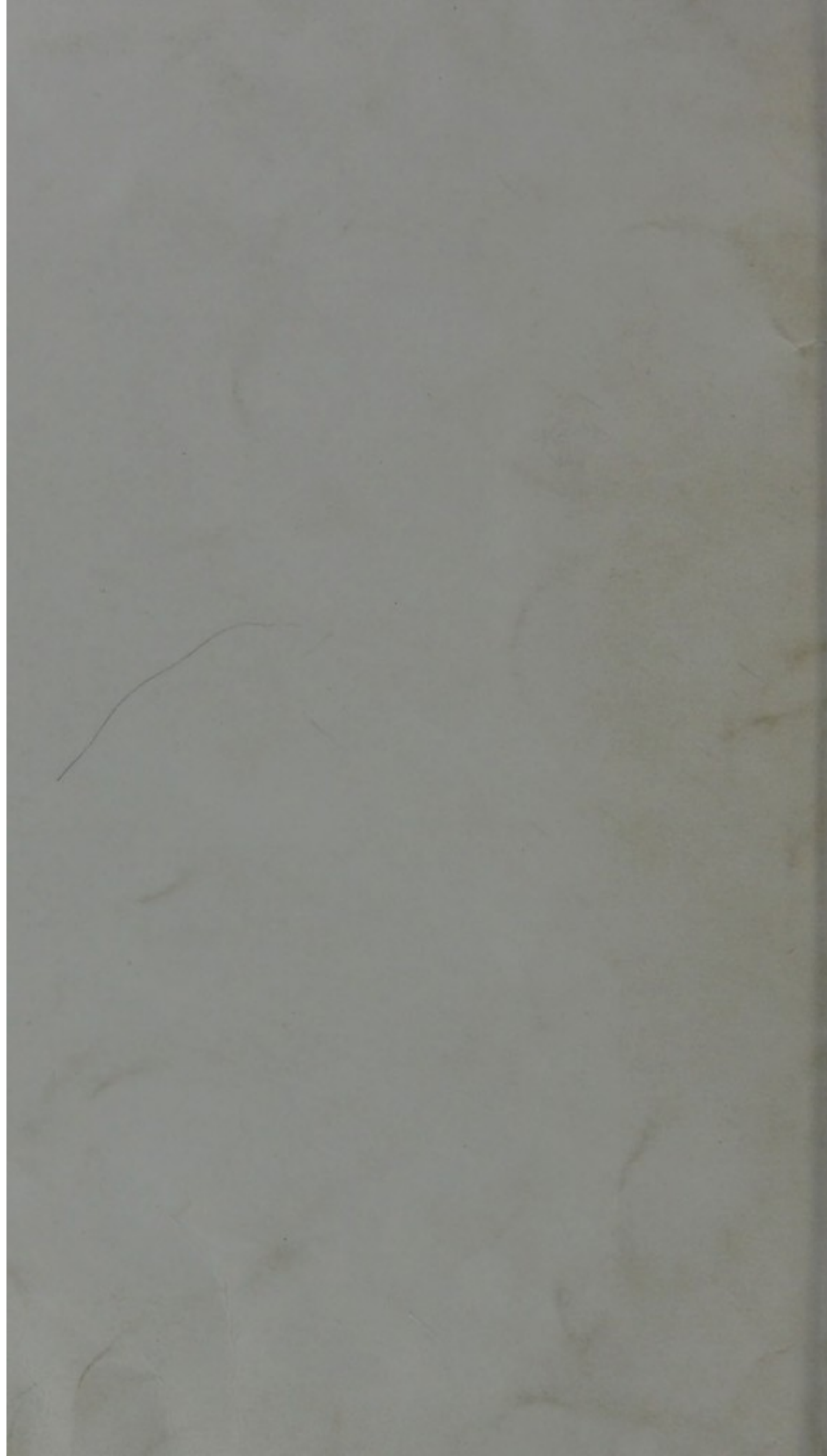
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OBSERVATIONS
ON THE
ANATOMY OF A HUMAN FŒTUS,
PRESENTING SEVERAL REMARKABLE CON-
GENITAL DEFORMITIES.

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From the Edinburgh Journal of Medical Science.

IT has been very generally admitted by anatomists and physiologists, that the consideration of the congenital deformities, usually described in medical writings under the term *monsters*, is one of deep interest, as well to the practitioner as the philosophic anatomist, and that, in all probability, some decisive *corps de doctrine*, or some important physiological deductions, must be the result of well directed inquiries into the exact nature of those singular aberrations in Nature's productions. I cannot find, however, on consulting medical works, that any very important theory, fit to be deemed a fair induction from facts, has been proposed by any writer; but, on the contrary, there have appeared, with few exceptions, numerous hypotheses, of a highly fantastic nature, many of which scarce merit the least attention.

That this was the state of the question as to the causes of these *lusus naturæ*, known by the name of acephalous fœtuses, anencephalous fœtuses, &c. was, I presume, sufficiently demonstrated by Mr Lawrence, in a very excellent paper published by that gentleman, in the Transactions of the Medico-Chirurgical Society of London *. It is therein shewn, I think satis-

factorily, that, of the causes usually assigned as explanatory of the production of monsters, some are absolutely untenable, others ridiculous, and all, in some degree, unsatisfactory. But it is not my intention, in the present observations, to speculate on the theories which have more lately been brought forward by a very distinguished naturalist and philosophic anatomist, the Chevalier Geoffroy St Hilaire,—theories, defended by an energy and eloquence peculiar to himself, and which have already borne along with them half the anatomists of Europe. My object, at present, is to record, in this Journal of Medical Science, a case I deem peculiar, and worthy the attention of the profession; to put scientific men in possession of the anatomical details, in order that the anatomist, the naturalist, the physiologist, and the physico-theologist, may speculate on the mysterious causes of these singular effects, after whatever manner each may think fit.

Preliminary Remarks.

As it is probable that there are but few of the junior part of the profession, who have paid any, the least, attention to the history, anatomy, and physiology of monsters, regarding the subject probably as altogether uninteresting, speculative, and not tending to any thing really useful (an opinion with which most anatomists not purely empirical, must entirely disagree), I shall, though very briefly, offer a few remarks on the progress of opinion relative to the probable causes of monsters; but this I shall perform with as much conciseness as possible, having in view a return to the same subject in the Number of this Journal to be published in October.

1. A deficiency of the brain and its osseous coverings, observed at birth, is a species of deformity by no means unfrequent; it constitutes the acephalous, or anencephalous fœtuses of authors. This defect in the cerebral development, has been known to extend to the *medulla spinalis*, and the portions of the spine completing the osseous case posteriorly. It was usual to consider the former cases as being occasioned by a hydrocephalous state, occurring in the fœtus whilst in the womb, occasioning the destruction of the cerebral matter; and this view was supported by the great Haller. I know of no physiological writer who, in the present day, would venture to defend this doctrine, nor even to say that the cause assigned is in the smallest degree probable.

2. The absence of certain organs has been observed to follow a deficiency in others, as the muscular system is proved to be defective when the nerves belonging to the part are wanting; but the mutual dependence of the organs in this way has not yet been

completely made out ; and I shall endeavour afterwards to shew, that some erroneous conclusions have been drawn, which may require correction.

3. The imagination of the mother has been supposed to exercise a powerful influence over fœtal existence ; and many instances are recorded, *of singular facts*, most of which, on strict inquiry, have turned out to be singular falsehoods.

4. The agency of supernatural beings has been occasionally resorted to, in order to explain the appearance of some outrageous looking monsters. Now, though I admit that mankind becomes daily more and more enlightened in some respects, in others it is just the reverse ; so that this opinion must not be scoffed at, since there might be found many even in the profession, who may be inclined to maintain this opinion seriously. When this happens, I shall endeavour to refute it, in as serious a way as the subject demands.

5. Frightful objects presented to the mother, during pregnancy, or a fright occasioned by the sudden appearance of an animal, such as a hare, dog, cat, or other harmless creature, have been supposed causes sufficiently potent to give rise to a *lusus naturæ*, in the formation of the human fœtus ; to produce a *headless* or *heartless* monster, with an organisation unable to maintain an independent existence. Mr Lawrence has, in the Essay already quoted *, triumphantly refuted this ; but the doctrine has returned in a new and much more tangible form ; I mean the theory which teaches that these monstrous human fœtuses always resemble one or other of the lower animals ; and I will venture to affirm, that this theory, even if ultimately it should not prove successful, will be backed by half the anatomists of Europe. But although the doctrine does, in some measure, resemble one of those cast-off theories of philosophers, which the idle, illiterate, and unthinking vulgar, are ever ready to catch at, and adopt as their own ; yet, in other respects, it differs most widely from them, and is, in its essence, profoundly philosophical. The new theory, so far as I understand it, may be considered as divided into two parts.—By the first it is endeavoured to be shewn, that by far the greater number of malformations of the human fœtus are dependent on, and occasioned by, adhesions of the placenta to the fœtus in an early state,—adhesions so extensive and unnatural, as to prevent the closing of the cavities of the thorax and abdomen, and cranium ; sometimes occasioning hare-lip, division of the sternum, exposure of the surface of the urinary bladder, which becomes thereby a portion of the common integumentary surface, &c. This part of the doctrine is beautifully illustrated by the anatomy of the

* Medico-Chirurgical Transactions, vol. v. p. 205.

monster I am about to describe, and in such a way as to leave no sort of doubt whatever as to the absolute correctness of the views brought forward by my friend M. Geoffroy St Hilaire.

The second part of the theory is of a more doubtful character; more suspicious; more at variance with the feelings of English physiologists; and this is the part which, it is probable, will meet with the most decided opposition in this country. It assumes for granted, that there is a unity of structure throughout the whole animal kingdom, and that when nature departs from her regular or normal laws in the construction of any animal, as in the human fœtus, for example, her deviation from the usual co-ordination of organs is regulated, not capriciously, not by chance (there is no chance in the productions of the Creator), but agreeable to certain fixed laws of animal existence, agreeable to certain fixed types of organisation, from which she will not deviate.

If, for example, we examine the osteology of the head in one of these anencephalous subjects, we shall find that all the bones usually present in the human cranium are present in the monster, but in a rudimentary state*. Deviations, likewise, from the normal condition of the organs of generation, are supposed to bear the closest resemblance to the regular structure in some other animals; and, lastly, it is admitted, I think, by all anatomists†, that there is not an irregular distribution in the human bloodvessels, which may not be easily compared, and shewn to be identical, with a distribution of the same organs, which, in some of the lower animals, is of constant occurrence, and quite regular.

In the following history of a very peculiar congenital deformity, I do not pretend to follow up these analogies for the present; nor do I admit that they are to be received without scrupulous inquiry into their applicability to the human species. Neither do I admit, in this sweeping, unreserved manner, the absolute unity of organisation throughout the whole animal kingdom, but think it possible that there may be, at least, two great divisions. These various questions shall be considered in an early number of this Journal.

History of the deformed Fœtus.

Dr Barclay, in whose museum I observed the fœtus in question, and to whom I am indebted for this opportunity of examining so interesting a production, informs me, that its previous history is unknown to him.

Head.—This part of the fœtus, and all the organs contained

* St Hilaire, Beclard, Lallemand.

† Haller, Barclay, Tiedeman.

in or more immediately connected with it, as the brain (inferred from the size of the cranium), organs of sense, of mastication, &c. seem perfectly well formed. The whole length of the foetus is about sixteen inches.

Thorax.—This division of the trunk seems, in like manner, equally well formed with the head, judging from external appearances; for I did not judge it necessary to open and examine it.

Abdomen.—The muscular parietes of the abdomen are wanting (See Plate Fig. 1. *a*), but the peritoneum *b* is entire. To this peritoneum is attached, by numerous short and strong membranous cords, a placenta *c* sufficiently large and natural, excepting that its lobules are separated more completely than usual, which may be the result of maceration in spirits*. The vessels forming the umbilical cord are present and distinct, but this cord is only a few inches in length, and does not differ in appearance or length from the membranous attachments spoken of.

In Fig. 1. of the Plate the placenta is marked *c*. On raising the placenta a very remarkable distribution of the urinary and genital organs presents itself. There is first a large open cavity, Fig. 2. *a*, the surface of which is evidently integumentary. Towards the margin of this cavity we observe two small apertures *b*, ascertained to be the common opening of the ureters and vasa deferentia. Outside the cavity, and situated on the common integuments, is a papilla *d*, having some distant resemblance to, and occupying the situation of, the penis. An opening *e*, exists immediately below this, leading into the large cavity already described, sufficient to admit a common silver probe *f*. This great external cavity, which the Continental anatomist will, no doubt, declare to be analogous to the cloaca of a bird, and in which exists the openings of the urino-genital organs, leads directly, and by a very wide aperture, into another cavity *g*, which proved to be the termination of the intestinal canal, and may almost be viewed as the cœcum deprived of a portion of its parietes; for the stomach and small intestines are naturally enough formed, but the latter terminate in the mucous cavity I speak of, and in such a way, that this cavity evidently occupies the situation of the cœcum. The irregular honeycomb-appearance of this second cavity, and the numerous orifices of smaller cavities, filled with mucous fluids, together with the termination of the small intestines, mark sufficiently its character.

The form of the liver Fig. 3. *a* is not quite natural, but the supra-renal glands are present and large; the left kidney Fig. 3. *b* (the only one noticed) seemed quite perfect, as well as the corresponding ureter.

The pelvis and lower extremities are turned quite round and

* I will not affirm this. There is an evident tendency in the human placenta to divide into lobules.

are deformed; and from the loins there depends a vast sac *f*, Fig. 4; on opening which there was observed only a fringed cellular-looking substance *g*, situated somewhat below a small aperture *h*, Fig. 4. leading apparently into the spinal canal.

Such is the brief history of this very singular production, to which I shall shortly return: it does not seem necessary, therefore, to enter into a more minute detail of the anatomical structure for the present; nor do I think that any thing very essential has been omitted. The engravings may be considered as giving a good representation of the monster; and their inspection, during a perusal of the description, will be found greatly to facilitate a right comprehension of the case.

It may possibly, and indeed it has already been objected to me, that cases of congenital deformity, which exhibit a combination of organs, ineffective in maintaining life in a separate and independent state, are but of very secondary importance, even though they occur in the human fœtus: but this objection scarcely, I think, holds good in the present instance of monstrosity; and I entertain, moreover, with many others I trust, a decided feeling against the doctrine attempted to be promulgated extensively, that anatomical inquiries, which do not immediately lead to the improvement of the surgical art, are useless. The establishment of such an opinion must, beyond all doubt, reduce anatomy to mere empiricism, and the operator to the level of the common mechanic.

Fig. 3.

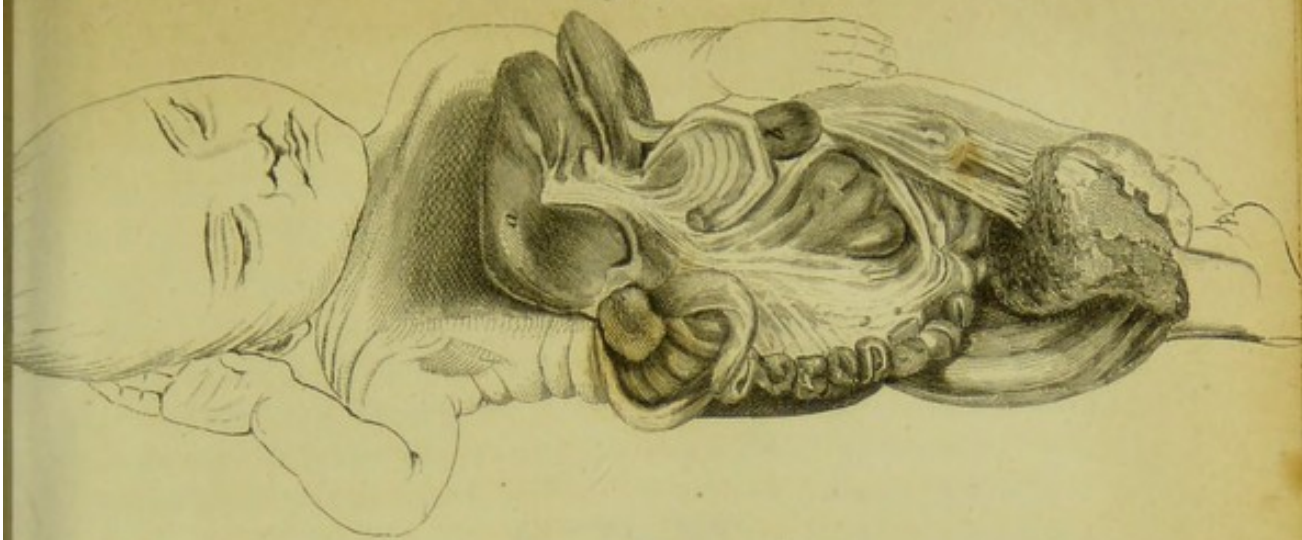


Fig. 2.

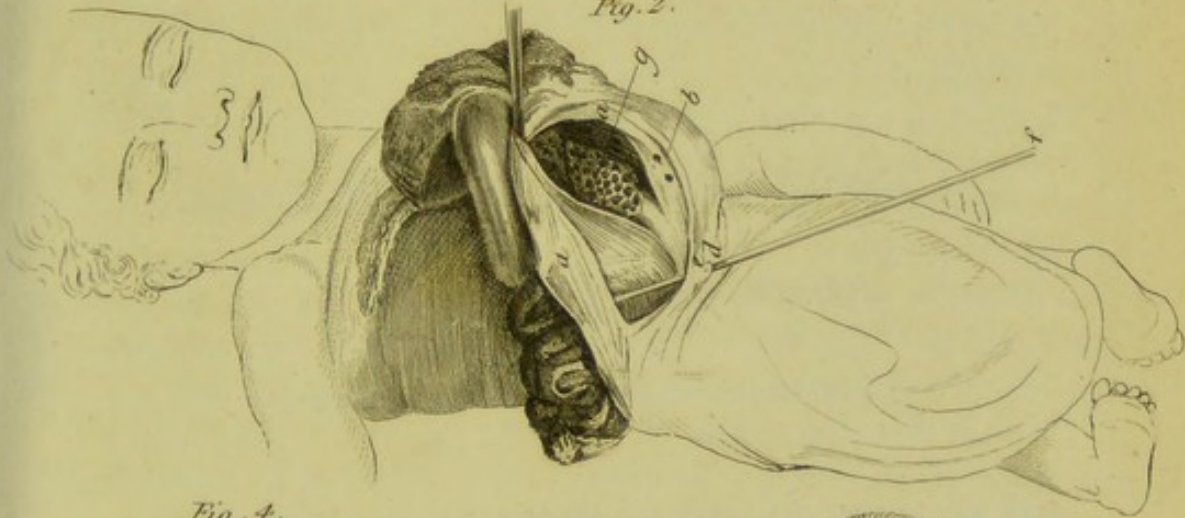


Fig. 4.

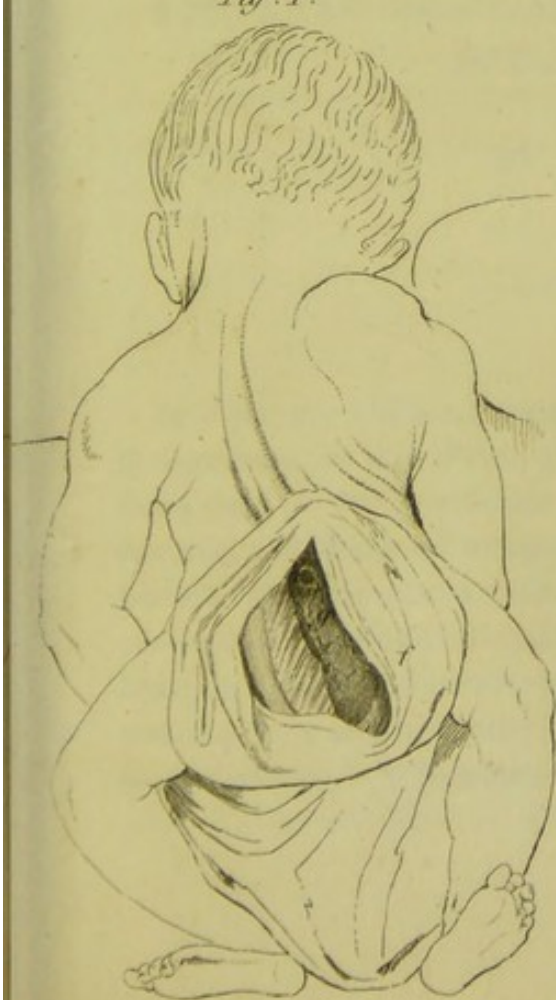


Fig. 1.

