XVI. *On a mal-conformation of the uterine system in women; and on some physiological conclusions to be derived from it. In a letter to Sir* Everard Home, *Bart. V. P. R. S. from* A. B. Granville, *M. D. F. R. S. F. L. S. Physician in ordinary to H. R. H. the Duke of Clarence; Member of the Royal College of Physicians, and Physician-Accoucheur to the Westminster General Dispensary.*

Read April 16, 1818.

DEAR SIR,

WHEN I proceeded, two years ago, to Paris for the purpose of studying still farther, and in a more advantageous manner, the particular branch of the medical profession I have embraced, you did me the honour to request that I would communicate to you any fact, which might occur to me during my stay in that capital, calculated to elucidate the process of generation. The good fortune I enjoyed in being admitted into the *Maternitè*, or Great Lying-in Hospital, than which no other similar public institution in Europe, except perhaps that at Vienna, is better calculated to advance the study of the obstetric art; and the frequent anatomical investigations at which I assisted, through the kindness of Mons. CHAUSSIER, one of the most distinguished professors of the Faculty of Medicine, have, I am willing to believe, placed it within my power to satisfy you on the subject of your request.

Of the many facts, however, which the numerous opportunities I possessed have brought before me, connected with the physiology of generation, none, in my opinion, deserves more

to be mentioned than the one which it is the purport of the present letter to describe; and when I reflect on the many important researches you have made on this interesting subject, I feel confident, that you will find the contents of the following pages worthy of your attention; since the case they record appears to me to stand single in the annals of descriptive anatomy. It is for this reason, therefore, that I shall confine myself to its description alone, leaving any other information I may possess on the subject, as matter for future correspondence.

Early in June 1817, I was summoned to attend the opening of the body of a woman aged 40, who died at *La Maternitè*, six or seven days after delivery, of what had long been suspected to be a disease of the heart, or of some of the larger vessels. This conjecture was not ill founded; for on examining the contents of the thorax, an aneurism of the aorta was discovered, together with a considerable enlargement of the heart. As a subject for secondary consideration, it may not be improper to mention, also, that the bronchiæ were found lined by a beautifully formed membrane, entirely detached from their inner surfaces, and admitting of being extracted without deranging its tubiform structure; yet, the patient had never complained of any disorder of the respiratory organs.

Our attention, however, during dissection, was soon engaged by a still more curious anatomical arrangement, which presented itself to our view on the examination of the abdominal viscera. The womb, half concealed by the intestines, and immersed in a considerable quantity of serous fluid, being four times at least the size of what it is in the unimpregnated state, was lying in its natural position. On clearing it from all the surrounding parts, it was found that this viscus had acquired

its full developement on the right side only, where it presented the usual pear-like convexity and undulation; while the left, exhibited a *direct straight line*, scarcely half an inch distant from the centre, although more than two inches could be measured from that same point to the outline of the right side. But this is not all: the spermatic and uterine vessels, the Fallopian tube, and the ovarium, with its surrounding peritonæal folds (which on the right side were placed as usual, and in their natural state, with the regular opening into the fundus uteri) were not to be found in the left. The rudiments, for they could be called by no other name, of those appendages of the uterine system on that side, were discovered lying in the inferior part of the cavity of the pelvis, loosely connected with the cervix of the uterus; the ligamentum rotundum being inserted into the superior and interior ridge of the os pubis of the same side. In dissecting this confused mass, we perceived what may be said to have been an ovarium, shrivelled, horny, and dry, and lost within the intricacies of the substance to which it was attached.

None of the other parts of generation presented any particular appearance worthy of remark.

I have endeavoured to pourtray the peculiar arrangement of the parts above described in the accompanying sketch, taken at the time. (Pl. XVII.)

This woman had been the mother of eleven children of both sexes, and had, as I have before observed, been delivered a few days previously of twins, a male and a female.

From this latter circumstance, in particular, we are enabled, for the first time, to form a definite opinion regarding the theory which has been advanced, at different times, respecting

the cause that has been supposed to influence the procreation of the two sexes: and to answer effectually, if an answer to such a proposition can be thought necessary, the arguments adduced by some systematic writers on the subject, but more particularly by Mons. MILLOT, in a recent work, "on the art of procreating the two sexes at pleasure;" in which he lays down distinct precepts for ensuring to parents either a male, or a female succession. Most of these systems, and that of the latter physiologist more especially, are founded on the ovarium and the other uterine appendages being always double; and it is curious to reflect, that however gratuitous such an idea might seem, no proof to the contrary has ever been brought forward before, to my knowledge.

The case I have now recorded, however, expunges of course for ever from our books of physiology such an hypothesis, and leaves us to discover a more plausible reason for this peculiar and very interesting feature in the process of generation.

It moreover puts to rest our doubts respecting a phenomenon of even greater importance, the existence of which, every physiologist, who has treated on the subject, with the exception of yourself, seems to have been disposed to deny. I allude to the fact of the ova of twins, and those of different sexes too, coming from the same ovarium; when, as in the present case, the fimbriated part of the Fallopian tube must necessarily remain attached for a considerable length of time to the ovarium, so as to allow both ova to pass into the uterus, without any union taking place between their membranes at any period of their progress through the tube, and afterwards coming in contact with a different part of the womb, to which they adhere. These circumstances necessarily suppose a dis-

tance between the ova, which distance cannot exist without two distinct momenta in the propulsion of the two ova from the ovarium into the oviduct.

What obtains in cases of twins, must also take place where three, four, or even six children have been brought forth at one birth; three ova being formed in each ovarium, so near to each other, that the three points at which they were expelled, must have all come within the long continued grasp of the fimbriated bodies. Indeed it is possible, that the separation of more than one ovum at a time, from one ovarium, or from both, takes place oftener than we are led to believe, from the mere calculation of the number of complex labours. For if the ova pass into the uterus even without copulation; it is no bad logic to suppose, that some will occasionally go through that viscus, which are never impregnated at all. This is indeed proved by a greater number of corpora lutea being found in the ovaria of some females, than corresponds to the number of young they have produced; a doctrine, which I first read in your valuable communication in the Philosophical Transactions, "*On the Passage of the Ovum in Women, &c.*" when you last year gave me the paper to carry to Monsieur CUVIER, and which I was happy to find afterwards immediately adopted by that eminent naturalist, in his course of lectures on generation.

These remarks lead to another, and the last consideration on the present subject; namely, the existence of separate placentæ in cases of twins, or even triplets; which unless viewed in its true light, will make us run the risk of rendering that obscure, which in the process of generation seems perhaps the most intelligible. Instances of such occurrences are very numerous; they have been often mentioned by

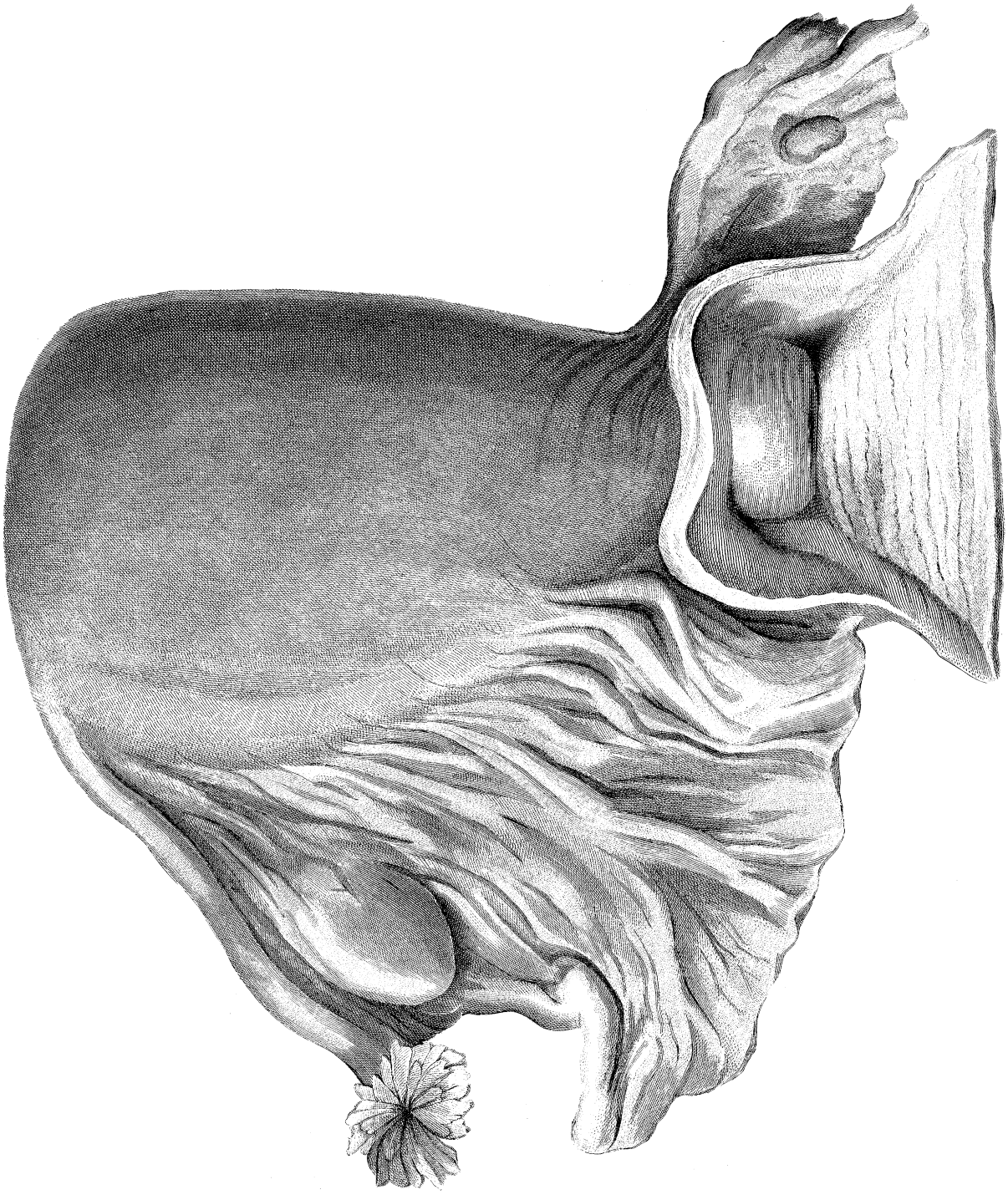
authors of veracity, and are recorded in the registers of the Great Lying-in Hospitals at Paris and Vienna. Within the last eighteen months, four cases have occurred within my own practice; and I have at this moment in my possession, the preparation of two placentæ, one of which was expelled several days before the membranes of the second were ruptured. In the case I have related, both the placentæ and membranes came away separately, and at different periods; proving still farther the soundness of the foregoing reasoning, giving a greater weight to the present observations, and explaining a number of cases in the ordinary process of generation, which have been brought forward as cases of superfetation.

In one of the volumes of the Transactions of the Royal College of Physicians, is a paper entitled "A case of superfetation," which merely goes to prove the occasional co-existence of separate ova in utero, and proves nothing farther.

The Lady, whose prolific disposition is much descanted upon in that paper, and with whom twin cases were a common occurrence, was delivered of a male child sometime in November, 1807, "*under circumstances very distressing to the parents, and on a bundle of straw;*" and again in February, 1808, (that is, scarcely three months afterwards) of another male infant, "*completely formed!*"—mark the expression, for it was not made use of in describing the first. The former died "*without any apparent cause,*" when nine days old; the other lived longer. Now, can we consider this otherwise than as a common case of twins, in

which one of the fœtuses came into the world at the sixth, and the other at the ninth month of pregnancy, owing to the ova being quite distinct and separate? Had this not been the case, the *distressing circumstances*, which brought on the premature contraction of the womb, so as to expel *part* of its contents in November, as in the simplest cases of premature labour, would have caused the expulsion of the whole, or in other words, of both ova, in that same month; and we should not have heard of the second *accouchement* in the following February; which led the author of the paper in question to bring the case forward as one of superfetation, in opposition to what he has called "the scepticism of modern physiologists." Had it been proved that the child, of which the Lady in question was delivered, had *reached its full term* of uterogestation in November, and that she had brought forth another child one, two, or three months afterwards, of equally full growth; then a case something like superfetation would have really occurred, and scepticism would have been staggered.

I have now under my eyes a recent preparation from Mr. CHAPMAN, at Windsor, destined for Mr. CLARKE's collection; but which through the kindness of Dr. BAILLIE I have been allowed to examine for my private information; where the *complete* ovum is seen, such as it was expelled at the seventh month of pregnancy; the Lady being safely delivered of another child alive, two months afterwards. Although the first fœtus was expelled at the seventh month, it was evidently of a growth of a shorter period, and had remained in the uterus dead for three months. When the case was read before the Medico Chirur-



gical Society, I ventured to give an explanation of it, similar in point to the one I have offered with regard to the Lady from Palermo, mentioned in the Transactions of the College; and I was happy to find that every one present coincided in my opinion; throwing quite out of the question every idea of superfetation.

I have the honour to be, Dear Sir,

yours truly,

A. B. GRANVILLE.

Saville Row.