

NOTES AND REMARKS ON THE BIRTH OF A DOUBLE FŒTUS,  
SOMEWHAT RESEMBLING THE SIAMESE TWINS.<sup>1</sup>

BY AUGUSTIN M. FERNANDEZ, M.D.,  
PHYSICIAN TO THE NORTHERN DISPENSARY, NEW YORK.

AT half-past seven o'clock on the evening of September 13, 1889, I was hastily called to attend Mrs. M., a native of Nicaragua, Central America, twenty-three years of age, and not quite one of marriage, who with her husband was visiting this city on their way to the Paris Exposition. The membranes had ruptured about half an hour before. When I arrived at the house I found the lady lying on a sofa in her bedroom, the floor of which was wet in several places. Questioned, she said that for two days she had been very busy, working continuously for hours at the sewing machine, and on that evening about seven o'clock, after finishing her work, she felt water dribbling along the sides of her legs. Satisfied that it was not urine, and not knowing what that flooding meant, she called for the lady of the boarding-house where she was stopping, and informed her of her condition. Both then agreed to send for me. After being told that she was already past her sixth month of pregnancy, I explained to them it would probably signify that she was going to have a miscarriage; told her to lie in bed and keep very quiet, to see if I could avert the threatened accident, although I had very little hope of succeeding. At ten o'clock the labor pains began, and I immediately ordered the necessary arrangements as to the bed, room, nurse, etc.

The patient would not consent to my making a vaginal examination. At half-past twelve the pains became severe and followed one another at short intervals. At one o'clock in the morning I was finally allowed to make a vaginal examination under cover of the sheet, and found to my great surprise three feet protruding about an inch through the vulvar orifice. I say *to my great surprise*, because I had not expected labor to be so far advanced. By the relative position of the three feet, two being turned upward and one downward, I knew I had a case of twins (though it might have been a single body with three legs, as the *derodymus* monster of Dr. Boerstler<sup>2</sup>) but the idea of their being united never crossed my mind.

The true propulsive pains then commenced, and during the intervals I made numerous efforts to push in and out of the way the foot belonging to the second child, while at the same time I took hold of the other two with my left hand. For about ten minutes I kept up this manœuvre without success. I sent then to the New York Hospital, near by, for one of the house staff for consultation. Dr. Frank P. Wilson came. Before his arrival, during a long expulsive pain, the other foot of the second child came out, and as I am gifted with very small hands, I easily introduced the right one into the vagina and ascertained the cause of the impediment. After that I decided to let the great powers of Nature operate, helping her only myself as a servant and not as a master. I saw

<sup>1</sup> Read before the New York County Medical Association, with exhibition of the specimen, October 21, 1889.

<sup>2</sup> AMERICAN JOURNAL OF THE MEDICAL SCIENCES, vol. xxx., 1855.

immediately that I had a good inspiration, for while Dr. Wilson was holding the four legs and I rubbing the perineum with a little olive oil, the two bodies began to come out with a slight screw movement, as if to adapt themselves better for the delivery of the two heads. I exerted a little traction on the lower extremities of both fœtuses, bringing their bodies over the abdomen of the mother after they had placed themselves with their backs in the oblique diameter by spontaneous evolution. Another



propulsive pain, a little more traction, and out came the lower head, immediately followed by the upper one. It was then half-past one in the morning. The rest of the delivery had nothing worthy of record, everything being normal. The children were born dead.

The two bodies are nearly of the same size. They measured when born, one fourteen inches in length, the other thirteen and a half, and weighed four and three-quarters pounds. The circumference of one of the heads was ten and a quarter inches, and that of the other eleven and three-quarters. Around the two pelvis they measured thirteen inches. They are united throughout the whole length of the sternum and upper part of the abdomen, the umbilicus, which is common to both, included ;

the liver, very large and single, protruded between the two bodies. They face each other in contact, are both males and well developed.<sup>1</sup>

The placenta, large and single, was expelled without difficulty twenty-five minutes after the birth, the uterus contracting firmly without any hemorrhage. From the centre of the placenta sprang a single umbilical cord, of normal length and thickness for a six and a half months' pregnancy.

On the afternoon of the 14th the patient complained of a little pain in the abdomen, of a neuralgic character. Fully aware of the good results obtained in this country with quinine in the treatment of the after-pains, I prescribed four grains in solution with a few minims of hydrobromic acid twice a day. Temperature 99°.

Next day the pain had disappeared. Pulse and temperature normal.

On the 16th there was milk in the breasts, which were somewhat painful but soft. No fever. Liniment of one drachm of the extract of belladonna with an ounce of glycerine. Directed the nurse to rub this gently twice a day, covering the breasts with a layer of lint kept in position by a bandage. Ordered a dry diet.

The following day, the bowels not having moved since the 13th, I ordered a laxative of castor oil, which caused them to act twice. Pulse and temperature normal.

On the 20th the milk disappeared. The 23d the patient was allowed to sit in a reclining-chair for a few hours. Three days afterward she left her bed altogether, and made a perfect recovery, not having had the least fever in the whole period of the puerperal state, due, no doubt, to the strict observance of antiseptic rules and hygienic precautions.

From the earliest times in history congenital malformations of the newborn have attracted the attention of philosophical writers, and excited the wonder and superstition of the illiterate. In modern times the French and German languages especially abound in treatises on human monstrosities. In Italian there are three such works, one of them the recent exhaustive *Storia della Teratologia*, by Taruffi (Bologna, 1881-9). The English language contains no systematic original treatise on this subject, nor do I know of any in Spanish, except the translation of the universally known work of Dr. Geoffroy St. Hilaire.

Recently the observations of St. Hilaire have been corrected in certain particulars by Dareste (*Sur la production artificielle de monstruosités*, Paris, 1877), in accordance with the progress of embryology. The interesting and valuable researches of Wolff, von Baer, Reichert, and Allen Thomson have also been supplemented by the investigations of Panum, Förster,<sup>2</sup> and Lereboullet,<sup>3</sup> whose labors contribute much to the solution of many embryological questions hitherto based on hypothetical grounds.

<sup>1</sup> When they were photographed they had been in alcohol three weeks, and of course had shrivelled considerably. The flattening around the axillæ is due to the pressure of the cord by which they are suspended in the alcohol jar.

<sup>2</sup> *Die Missbildungen des Menschen*. Jena, 1861.

<sup>3</sup> *Recherches sur les monstruosités du brochet, observées dans l'œuf et sur leur mode de production*. Paris, 1863.

Dr. George J. Fisher, of New York, who has devoted more than twenty-five years of his life to the collection of works on, and the study of this interesting topic, proposes the name "Diploteratology" as a distinctive title for the special branch of teratology comprising all the compound monsters, including double and triple formations, the so-called "parasitic monsters," and *fœtus in fœtu*. The special genus or family to which my case belongs, he calls "*omphalopagus symmetros*," or symmetrical navel-joined monsters. The varieties of it range from junction by a small band (as in the Siamese twins) to a junction which extends from the top of the sternum to the lower part of the abdomen.

The distinction made by Aristotle between single and double monsters is very curious. He says that if the monstrosity has only one heart, it ought to be considered single, and if it has two then it is a double monster.<sup>1</sup>

Prof. W. Vrolick, of Amsterdam, claimed that a scientific classification of monstrosities is impracticable from being too cumbrous. He grouped all double monsters in three simple classes, viz: (a) anterior junction, (b) posterior junction, and (c) lateral junction. But for obstetric purposes, that is, for practical value, I prefer Prof. Playfair's division into four varieties, viz: (A) two nearly separate bodies united in front, to a varying extent, by the thorax or abdomen; (B) two nearly separate bodies united back to back by the sacrum and lower part of the spinal column; (C) dicephalous monsters, the bodies being single below, but the heads separate; (D) the bodies separate below, but the heads partially united. As the author himself acknowledges, this classification by no means includes all the varieties of double monsters, but it comprises all those that are likely to give rise to much difficulty in delivery.

Several theories have been advanced to explain the embryonic formation of a double monster, but the one most generally accepted is that it is the result of fecundation of an ovum with a single vitellus and vitelline membrane, upon which two primitive traces are developed. E. Bugnion,<sup>2</sup> speaking on this subject, says:

"The question, whether double monstrosities are developed from one or two separate germs, is only a play of words; its solution depends on the meaning given to the word *germ*. Certainly, the double monster is formed from a single germ, if we understand by the term germ the germinal vesicle, or the vitellus not fecundated; it is formed, on the contrary, from two distinct germs, if we call germ the *noyau* (cytoblast) of segmentation, the segmented vitellus, or the young embryo."

The theory before given, notwithstanding, furnishes a satisfactory explanation of the three laws governing all cases of double monsters, viz.:

<sup>1</sup> De generat. animalium, book iv. chap. 4.

<sup>2</sup> Revue Médicale de la Suisse Romande, Genève, 1889, vol. ix. p. 347.

1st. The law of unity of sex, proved by more than five hundred cases in the human species, and innumerable ones in animals. 2d. The law of homologous union; that is, the union of the two fœtuses being of exactly the same parts in each. In cases of a parasitic fœtus, or a monster within another (*fœtus in fœtu*), it has been found that the union was homologous in the early embryonic periods. 3d. The law of right and left symmetry, which means a transposition of the viscera of one of the fœtuses, in order to be immediately opposite to the corresponding viscera of the other: the heart of one child will be found on the right side, and their apices converging toward the line of fusion of the two bodies; the same is true of the two livers, the spleens, and the stomachs. This last law, however, is not so invariable as the other two.

Regarding the theory of maternal mental impressions, it is sophistical to attempt to explain with it those anomalies of organization, because corresponding malformations, in every respect identical in character, occur in animals of the lower order—such as birds, reptiles, and fishes—and, going still further, we find analogous malformations in the vegetable kingdom, where single or double monsters also abound, due, most probably, to defective or excessive formative power.

Three separations of human double monsters by surgical means are on record: One is mentioned by Ambrose Paré (*Surgery*, Book xxv., Chaps. 13 and 14, 1579); another is reported by König, in 1689, and the other by Boehm,<sup>1</sup> who performed the operation on his own twin daughters at the time of their birth in 1861; one of them died after three days, and the other was living at the time of the report, five years afterward. Yet in these cases the connecting band consisted only of skin and subcutaneous tissue. In the celebrated case of the Siamese twins, whose trustworthy birth-history is unknown, the autopsy, performed by Dr. Harrison Allen, of Philadelphia, demonstrated that the two livers were located in close proximity to the bond of union, and joined to each other by small bloodvessels, which were lined with a thin layer of genuine liver tissue. There was also a process of peritoneum extending through the pedicle from one abdominal cavity to the other.<sup>2</sup>

Little is to be found in text-books on obstetrics about the mechanism and management of labor in cases of double monsters. Few indeed will be the number of accoucheurs who have had twice in their life an experience of this kind—for they occur, according to Braun, quoted by Zweifel, once in 90,000 labors—and the writers of those cases reported in our periodical literature pay more attention to the anatomical description of the fœtuses than to the mechanism of their delivery. I myself candidly confess that I did not remember the mode in which former cases of this

<sup>1</sup> Virchow's Archiv., 1866.

<sup>2</sup> Trans. Coll. of Phys. of Philadelphia, 3d series, vol. i., 1875.

nature had been managed, and trusted, when I discovered what I had before me, to the inspiration of the moment.

As a fitting remark on this particular point, I consider worth quoting what Fanzago,<sup>1</sup> who had a case similar to mine, says:

“It was a happy circumstance for the mother that she was not under the charge of a practitioner with his head full of the doctrines of the surgeon on the subject; otherwise, he, probably, would have performed some severe and dangerous operation, mutilating the children with the view of aiding delivery.”

Of the nineteen cases of delivery of double monsters united in front to a varying extent by the thorax or abdomen, collected by Prof. W. S. Playfair, of London, in the appendix to his valuable memoir on the mechanism and management of such cases,<sup>2</sup> fourteen were delivered without using any instrument, one died undelivered, in another case the body of the anterior fœtus was amputated, and in the other three the forceps were employed. With the very limited resources at my disposition I have been able to add only five cases (mine included) to those nineteen, all of them except one (Dr. Marcy's case) delivered with but a slight assistance to Nature's efforts.

Veit, in his excellent monograph<sup>3</sup> on the management of delivery in cases of double monstrosity, says he found in 129 instances of monstrosities *per excessum, coalitionem, et implantationem*, only eighteen required instrumental aid. Hoht has made a similar statement.<sup>4</sup> In no other difficult labor more forcibly than in this variety, therefore, the old maxim that “meddlesome midwifery is bad” holds to be so good.

The great difficulty in all cases of division A is in the delivery of the two heads. When the four feet present spontaneously, the bodies pass through the pelvis parallel to each other with comparative ease; but when only three feet appear, as happened in my case, the natural inference is, of course, that the extra foot ought to be pushed out of the way to avoid head-locking. Had I known at that time that the two bodies were united into one, I would have searched for and brought out the other foot. When one of the heads presents, the more common way of delivery is for it to pass out, expelled by Nature's efforts as far as below the shoulders, if the union of the two bodies is lower than that point, or as far as the neck if the fusion is at the upper part of the sternum, the head of the second child following afterward the same way, and the rest of the body born without difficulty as in footling presentations. Exceptionally, both heads appear—one of them fitted into the cavity formed by the neck of the opposite child. Bakrow relates a case of this type

<sup>1</sup> Storia del mostro di due corpe. Padua, 1802.

<sup>2</sup> London Obstet. Soc. Trans., vol. viii.

<sup>3</sup> Die Geburten missgestalterer, kranker und todter Kinder. Halle, 1850.

<sup>4</sup> See article of Dr. Parvin in vol. i. of Hirst's System of Obstetrics. Philadelphia, 1889.

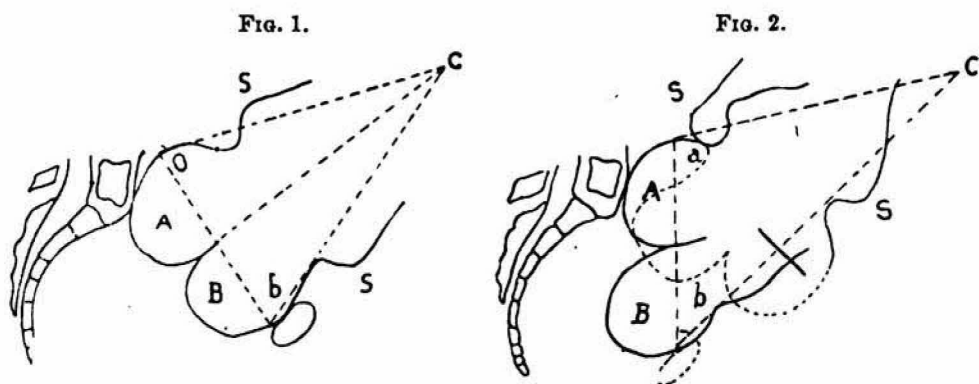
delivered by the forceps,<sup>1</sup> and two similar instances are recorded in the London *Obstetrical Transactions*, volumes third and sixth.

In the case of feet presentation recorded by Huron,<sup>2</sup> the two bodies were born as far as the thorax, and finding it impossible to deliver the heads, amputation of all that part of the anterior fœtus was performed. Speaking about this example Playfair says:

"The body was removed *en masse* by a circular incision as far as it had been expelled, which allowed the remaining portion, consisting of the head and shoulders, to reënter the uterus; after this the posterior child was easily extracted, and the mutilated fœtus followed without difficulty."

I cannot see why the same thing could not have happened without recourse to the knife. There was no embarrassment in the birth of all that part of the two bodies already out of the pelvic cavity, and the difficulty was in the delivery of the heads; therefore, if they were of sufficient size to pass the brim after the mutilation, they could also have crossed it before by appropriate manipulation. In my trial the same thing occurred after the second foot of the second child came out, for then the two bodies passed through the pelvis parallel to each other, driven by the natural powers, as far as the thorax. I noticed the screw-movement they performed in their egress, and this inspired me to turn the bodies over the abdomen of the mother.

These two diagrams<sup>3</sup> represent what I believe happened in my case. After the birth of the bodies as far as the thorax, the two heads (A, B, Fig. 1) squeezed together, with a combined transverse diameter of nearly



seven inches ( $3\frac{1}{4}$  and  $3\frac{1}{2}$ ), could not, of course, pass the brim. In Fig. 2 it is seen that the head (B) of the posterior child was somewhat displaced by (A) that of the anterior body, and become well advanced in the pelvis, the angle *a* gradually becoming more and more obtuse as the other

<sup>1</sup> De Monstrum Animalium Duplicitate.

<sup>2</sup> Archives Générales de Médecine, 1847.

<sup>3</sup> Taken from the Edinburgh Medical Journal, January, 1858, and modified by the author to adapt them to this case.

head (A) advanced, while the angle  $b$  became more acute, and finally (B) emerged from the vulvar orifice immediately followed by the head of the anterior child.

In class B of the division of Playfair—that is, when the children are united back to back by the sacrum—the labor is easier than in class A, because the two bodies are so joined that it is not necessary they should be born parallel to each other when the head presents. In podalic presentation the mechanism of delivery is the same as in class A. To this type belongs the famous Hungarian sisters, Judith and Héléne, who lived to the age of twenty-two years (1701–1723). Héléne preceded, with presentation of the head, and was delivered as far as the umbilicus; after three hours the breech first and the legs afterward descended, and then Judith was born, her feet coming out foremost. To the same kind of *pygopagus* appertain also the celebrated sisters, Millie and Christina, known as the “two-headed nightingale,” two dark mulattoes born in North Carolina in 1851, and still living, and the more recent case of the Bohemian twins, Rosalie and Josepha.

Double monsters of class C, in which there is a single body with two heads, are delivered very much like those of class A. “If the head presents,” says Playfair, “and the nature of the monstrosity can be recognized, turning should be resorted to, and the feet of both children brought down into the pelvis.” When by appropriate manipulation the heads cannot be made to pass the pelvic cavity, decapitation of one of them may be performed, since from their anatomical peculiarities it is extremely rare that such a monster could live. Two indisputable instances only, out of a large number of this kind of births, are recorded: Rita-Christina, who was born in Sardinia, March 3, 1829, and died in Paris November 23 of the same year, had two heads, two necks, and four arms, but a single body from the waist down; the other case is mentioned by Buchanan in his *History of Scotland* (1582), in which he says the monster was born in that country in the fifteenth century, received a liberal education at the expense of King James III., and lived to the age of twenty-eight years.

The most uncommon of all are the double monsters of class D, in which the heads are more or less fused together, and the rest of the two bodies entirely separate. Playfair says he could find the description of their delivery in only two instances: one gave rise to great difficulty, and in the other the labor was easy. Craniotomy or perforation should be performed when it is impossible to deliver the voluminous compound-headed monstrosity (*craniopagus*). Veit refers to a case in which the two children (*girls*) were united at the foreheads, and lived until they were ten years old. When the vertex of one head is merged with that of the other, the double monster is called a *metopagus*, and the mechanism of delivery offers no difficulty if the heads are of normal size.



My case is a true *thoracopagus tetrabrachius*, or, according to the classification proposed by Fisher, an *omphalopagus thoraco-symmetros*, and resembles very much the case of Dr. Henry O. Marcy, of Boston.<sup>1</sup>

In conformity with the authorities consulted, I find that the four practical deductions in the management of all cases of double monsters formed by the union of two bodies at the thorax or abdomen are the following:

1. The less interference with Nature's efforts the better.
2. If the heads present, and the monstrosity can be diagnosed in time, turning should be resorted to, and the feet of both children brought down into the pelvis.
3. In podalic presentation the bodies can generally be extracted without much difficulty by direct traction, until the shoulders and four arms are reached. In doing this the backs of the foetuses, if not already placed in the oblique diameter by spontaneous evolution, should be made to assume that position, and the bodies then turned over the abdomen of the mother, so as to cause the posterior head to pass first into the cavity of the pelvis.
4. In vertex presentation, if the diagnosis cannot be made out, the body corresponding to the first-born head may be expelled by the natural powers, or the second head may be born with its occiput fitting into the cavity formed by the neck of the first child. If neither of these two manners of delivery takes place, and turning cannot be performed, craniotomy or decapitation will be required.