

[Cutting from the British medical journal: "A lecture on the psychology of conjoined twins: a study of monsterhood". Daisy and Violet Hilton are shown].

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A Lecture
ON
THE PSYCHOLOGY OF CONJOINED TWINS:

A STUDY OF MONSTERHOOD.

DELIVERED TO THE LEEDS UNIVERSITY MEDICAL SOCIETY,
NOVEMBER 20TH, 1928,

BY
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Women shall bring forth monsters.—II Esdras v, 8.

CONJOINED TWINS, or monsters, which is the vulgar name for these unfortunate human beings, have interested the world for centuries. Anatomists one hundred years ago called them "freaks." In museums of pathology many double fetuses are preserved and shown to visitors as curiosities. This is pardonable because it was impossible to give an explanation of such conditions on account of the ignorance of the prime factors concerned in animal reproduction.

Conjoined twins interest embryologists, doctors, midwives, surgeons, and psychologists.

Embryologists are mainly concerned with their origin. One ovum, as a rule, gives rise to one embryo; not infrequently an ovum may be the source of two embryos; each may be a separate individual, be born, mature, manifest average mental capacity, physical power, and reproductive ability. Mammals are known in which a single ovum may give rise to several embryos. Thus in the nine-banded armadillo, *Tatusia novemcincta*, from one ovum four embryos normally arise (Fig. 1). They are of the same sex. This is called polyembryony.

Embryologists are occupied with the experimental production of double creatures such as starfishes, newts, salamanders, and the like. The eggs of such aquatic forms are large enough to permit of delicate manipulation, and some experimenters are so clever that they can divide the developing ovum, either with an extremely fine needle or a fine sterilized hair, without arresting the growth of the ovum, and then observe the fragments develop into complete individuals, or become monstrous forms. In one lucky instance an embryologist (Clarke), studying the development of the American salamander, noticed something unusual with the anterior extremity of the medullary

fold; he set the egg aside and had the satisfaction of watching the development of a two-headed salamander.

Conjoined twins are common among salmon-fry in hatcheries; they have also been observed in many classes of vertebrate animals—fishes, reptiles, birds, and mammals. Examples are preserved in all well-stocked anatomical museums throughout the world.

Doctors and midwives are concerned in the delivery of twins—especially the birth of monsters, but mainly in regard to the safety of the mother. Judging from the large number of monstrous twins preserved in museums, conjoined twins rarely survive their birth. In some cases Caesarean section is required. In many instances the mothers are multiparous; in some of the best known the reports run: "the twins were born without difficulty." The mother of the Siamese twins Chang—Eng (Fig. 2) stated that the head of one twin was between the legs of the other, and they were born easily. When Laloo (Fig. 3) was born the arms of the parasite were around the neck of the autosite.

In Eastern countries conjoined twins of any kind are regarded as portents. When Chang—Eng were born the King of Siam, conceiving them to be monsters, imagined they portended evil and designed them to be put to death (*Phil. Trans.*, 1830, 177).

Surgeons critically study conjoined twins because they have to exercise their wits as to the possibility of separating them successfully. This matter has received attention in individual cases from surgeons of the highest reputation and skill.

Although the object foremost in my mind in this lecture is to discuss the psychology of these persons who, when inseparable surgically, are condemned to a life of bondage, it will be necessary to describe some examples illustrating the various forms such twins assume.

CONJOINED TWINS.

The best known example of this variety is the Siamese twins Chang—Eng. They were discovered by Captain R. Hunter in 1829; the twins were fishing in the Siam River; they were naked above the waist, and he imagined them to be some rare animal. Hunter ascertained from their mother that they were born without difficulty; he saw them when they were 18 years of age. Sir William Fergusson examined them (1829) in regard to the question of separation, and did not favour operative intervention. The twins were exhibited in New York as Chang and Eng Bunker. They were skilful at battledore and shuttlecock, became affluent, and married two sisters—daughters of a Wesleyan minister. Chang had ten children and Eng twelve. The twins were shown in England in 1869, and



FIG. 1.—Quadruplets of the Nine-banded Armadillo, developed from a single ovum.

were seen again by Fergusson, and he decided against separation. The desire for separation had increased "as each family wanted to have a father all to itself."

Chang—Eng died in 1874 within two hours of each other, aged 63.

PARASITIC TWINS.

In the case of duplex twins, when one of them is incomplete, the well-developed twin is known as the autosite; the imperfectly developed twin is called the parasite. This variety of conjoined twins is called parasitic twins. The parasite assumes various forms; when the head is lacking the parasite is said to be acephalous. In such a condition the anatomical relationship has been graphically described "as if the parasitic twin had plunged its head into the autosite's breast" (Fig. 3).

A good example is Laloo, an intelligent Hindu, who was exhibited in London, aged 17 years. I had an opportunity of thoroughly examining Laloo with the late S. G. Shattock, and drawing up a joint report for the Pathological Society of London. I have seen Laloo many times since. He was shown as "a boy and girl joined together alive." There was no doubt about the sex. They were two males, each with well-developed external genital organs. In conjoined twins the sex is identical. I know of no exception.

A well-known pair exactly like Laloo is the Chinese boy A—Ke. There is a clay model of this boy in the Museum of the Royal College of Surgeons. Our knowledge of the A—Ke pair is based entirely on a description drawn up by J. Livingstone, a surgeon in Hong-Kong, in 1804. At that date A—Ke was aged 16. His mother died from the effects of labour. I have a manuscript copy of Livingstone's description, which contains a brief, but pathetic, report of the domestic relations of this poor lad; also a crayon portrait of him.

Now that the anatomy and relations of parasitic twins are better understood surgeons should be stimulated to remove them, and spare the autosite not only a dreadful life of bondage, but the disgust and ignominy of being exhibited for gain in public shows. That this is possible will be demonstrated in a later section of this lecture. In the case of Laloo we have a lad encumbered with a headless—acephalous—brother. A rarer form is a limbless parasite attached to an otherwise well-formed individual. Such a twin may be conveniently described as *capitate* (Fig. 4).

My knowledge of this rare variety of parasite rests on an engraving which Dr. Dan McKenzie found in a second-hand-book shop and sent to me. I have failed to find a detailed description of this rare example, but there is an engraving of him in the *Gentleman's Magazine*, 1777, xlvii, 424, and it is stated to be from a picture in the museum of Sir Hans Sloane. The *Journal* for the same year also contains, on page 572, an engraving of the conjoined twins Lazarus—Johannes Colloredo. These twins will be considered in a subsequent section.

TERATOID TWINS (TERATOMAS).

In order to emphasize the distinction between a parasitic foetus and a teratoma it may be stated that if the brother of Laloo (Fig. 3) or the limbless brother of James Poro (Fig. 4) were inside the abdomen of the autosite it would be called a teratoid-tumour—shortly, a teratoma. There would be this difference only: the teratoma would be enclosed, or sequestered, in a sac. Twins of this kind are of great interest to surgeons.

In 1808 Dr. G. W. Young described to the Medico-Chirurgical Society, London, "A foetus found in the abdomen of a boy." In this instance a large cyst was

found in the belly of a male infant aged 12 months. A *post-mortem* examination was made, and the cyst, or bag, contained, in addition to a large quantity of fluid, the pelvis, lower limbs, and external genital organs of a foetus (Fig. 5).

The nature of the investment of a teratoma is of interest. Is it a persistent amnion? When an aseptic body, be it animal, vegetable, or metallic, or even a globule of oil, is introduced into the peritoneal cavity it becomes invested with a capsule. This is the most probable explanation of the bag which contained Young's boy. The capsule is adventitious. In recent years several such encysted imperfect foetuses have been removed by surgeons from the abdominal cavity of children and under conditions where the question of extrauterine gestation does not arise.

W. Roger Williams has, with conspicuous literary diligence, collected from current medical literature more than 100 examples of teratoid tumours and analysed them (*Medical Journal and Record*, New York, 1927).

For many years I have collected reliable reports of parasitic twins in order to grade them. What is set down in regard to the abdomen is also true of the head, thorax, and pelvis. There is this disquieting fact in regard to external teratomas of the sacral region—they are liable to be the seat of malignant disease.

One of the surprising specimens in my series is a black pigling, double in everything except its head. On close examination I saw evidence of

reduplication in the maxillae, and hunted around to find the extra mandible. To my astonishment I found it in the pharynx, malformed but containing teeth, and hanging by a stalk from the pharyngeal surface of the sphenoid bone.

The interest of this little pig (which is preserved in the Teratological Gallery of the Royal College of Surgeons) is the support it gives to this opinion—*Pharyngeal teratomas are portions of the cephalic end of an undeveloped individual.*

A LIFE OF BONDAGE.

The psychology of conjoined twins is a curious problem; such couples, as well as individuals so unfortunate as to be hampered with a parasitic twin, should be objects of pity. Most of them are born to parents in poor circumstances, and when they survive their birth are apt to fall into the hands of crafty showmen who exhibit them for gain. Few can hope to be as lucky in respect to money as Chang—Eng.



FIG. 2.—The Siamese Twins Chang—Eng at the age of 18. They were born without difficulty, and died in 1874, aged 63. Chang died first.

They accumulated money, married, and lived comfortably on their farms in America. The Civil War ruined them. They went on show and recouped themselves. On the other



FIG. 3.—Laloo, the Hindu boy, aged 17, with his parasite brother. (Tumours.)

hand, A—Ke's father belonged to the poorest class of Chinese husbandmen, and was content to let his encumbered son "on hire" for exhibition purposes. Ten cash (less than a penny sterling) was the price of admission. In Livingstone's record there is this note: "When A—Ke passes water, the parasite passes it at the same time, whether the urine is voided for necessity or to gratify the curiosity of strangers." In the case of Laloo, his headless and heedless parasitic brother voids his urine independently without warning, and usually over him, causing much discomfort day and night.

SURGERY AND CONJOINED TWINS.

In relation to conjoined twins, the thought uppermost in the minds of the parents is the hope of separating them by a surgical operation. In many instances this is impracticable. In the known instances where it has been carried out the life of one of the twins was sacrificed; and in a recent case (1927) both twins died. Dr. Boehm in 1861 separated conjoined twins—girls—a few days after birth. One died on the fourth day after operation; the other survived.

The Orissa twin sisters Radica—Doodica were shown in London in 1893. At their birth the inhabitants of the village, instigated by Brahmins, put the whole family in prison on the supposition that the twins were the incarnation of the devil. When I saw them they were attractive little children and danced daintily; they had silver bells on their necklaces, bracelets, and anklets. Eight years

later Doodica developed signs of abdominal tuberculosis. Dr. Doyen, a French surgeon, separated them, and Radica survived.

In 1927 a male child, Karamet Hussain, was born in a village near Gujarkhana, India. Attached to the child was an acephalous parasite which, in its mode of attachment to the autosite, was the counterpart of Laloo (Fig. 3). When born the parasite had its arms around its brother's neck, and was born without difficulty. The mother was multiparous, aged 35.



FIG. 5.—Foetus found enclosed in a cyst in the belly of a boy. When removed it was as rosy and as healthy as if alive. This specimen is preserved in the Teratological Collection at the Royal College of Surgeons.

A month after birth the parasite was growing rapidly, "and the parents were afraid that the life of the child would be troublesome," and sought the aid of surgery. Luckily aid was rendered by Captain D. D. Kapur of the I.M.S., and by a clever operation he relieved the child of its parasitic brother. The autosite was one month old at the time of the operation. Five months later the child was reported fit and well and growing nicely.

The leading facts of this case (*Lancet*, 1928, i, 24) should serve as a stimulus to surgeons and encourage them to spare the autosite not only a dreadful life of bondage, but the disgust and ignominy of life in a travelling menagerie.

In many conjoined twins surgical separation is barred by the anatomical conditions. This is the case with Violet—Daisy Hilton, born at Brighton in 1909. These twins were described by Dr. James A. Rooth as being united at the sacrum—pygopagus twins with a single anus. Their mother, panic-stricken when she saw her offspring, forsook them and fled. They were nursed by a foster-mother, who married a showman. They left England when 3 years of age and were exhibited in various countries. As



FIG. 4.—James Poro (born in Genoa, 1686).

the children grew the uniting band, mainly of skin, became flexible and allowed the girls to face each other so that they can "fight, play, or caress each other." One can sleep while the other plays; external genitals complete in each; anus common to both; micturition individual;

surgical separation impracticable. The photograph represents them at the age of 18, and the showman speaks of their "health and beauty." They are intelligent, good musicians, can play the saxophone and other instruments, and they have acquired a comfortable fortune. A report more laconic and quaint would be difficult to conceive. Dr. James Routh has furnished an excellent account of the delivery and infancy of the Brighton twins in the *British Medical Journal*, 1911, ii, 653.

Apart from the many disagreeables incidental to such unions, there is this dominating question: What will happen if one twin dies before the other?

Lazarus—Johannes Baptista Colloredo was born in Genoa in 1617. Each child was christened separately, and when



FIG. 6.—Violet-Daisy Hilton, the Brighton Twins.

they grew up were exhibited all over Europe. They were described by G. Bartholinus, professor of anatomy at Copenhagen. At that date the twins were 28. It is worth notice that Lazarus was of a just stature, courteous in deportment, and gallantly attired. He covered the body of his brother with a cloak, as presaging that when he died, he should also expire with the stink and putrefaction of his body. Lazarus therefore took the greatest care of his smaller brother. This is a good example of kindness for selfish reasons.

It is established that, as a rule, in the case of conjoined twins the death of one is quickly followed by the death of the companion. The fate of the pygopagus twins Rosa—Josepha Blazek, born at Prague and known throughout the world as the Bohemian Twins, is worth recording on account of its pathos. Josepha had pneumonia followed by catarrhal jaundice in Chicago in 1922, aged 44. Rosa

refused to be separated from her sister. Josepha died first; Rosa died fifteen minutes later. Rosa's last wish was that she should be allowed to die with her sister. Rosa's son insisted on his mother's wish being respected, saying he preferred being an orphan to denying his mother's last request. At the age of 32 Rosa fell in love with the showman and conceived. She gave birth to a living child at Prague. The child was in Rosa's womb, but Josepha as well as Rosa had milk in her breasts (see *Tumours*, seventh edition, 1922, p. 502). A curious legal question arose because both women died intestate, and some relations of Josepha, the unmarried twin, claimed part of the estate.

LYMPHADENOID GOITRE AND ITS CLINICAL SIGNIFICANCE.

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WITH

A NOTE ON ITS ETIOLOGY IN RATS

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(With Special Plate.)

WHEN working on the histology of the thyroid in 1925 we found that there were two activities carried on by the normal gland.¹ This conclusion has since been substantiated by evidence drawn from several other sources—biochemical, biological, and clinical.^{2,3} The two functions we refer to are: (1) The production of secretion proper; or what for greater precision may be called "lymphogenic" secretion. This secretion contains no thyroxin. (2) The accumulation of colloid—that is, iodo-colloid, which contains the thyroxin moiety of the thyroid products.

One of the features of the normal secretory process is the conspicuous activity of the reticulo-endothelial cells⁴ with the production of lymphocytes in the interfollicular lymph spaces of the thyroid gland units. It is this latter feature of the secretory process which calls for the specific designation "lymphogenic" secretion.

To the pathologist the knowledge of a specific process in the normal physiology of a gland must lead to search for the corresponding pathological condition in which undue strain falls upon that specific process. This, then, led us to look for a class of thyroid disorder in which the functional imbalance would lie in the over-production of lymphocytes during the secretory process of an otherwise normal thyroid gland. In the course of a review of about 4,000 goitres we were able to separate some glands answering to this description. These, when ranged in sequence, betrayed their own pathological sequelae—fibrosis and atrophy. Thus a pathological condition which had been obscure could now be discerned as a specific progressive disorder often associated with goitre. To this class of enlarged thyroid gland we gave the name "lymphadenoid goitre."⁵

Goitres which essentially belong to the group of lymphadenoid goitres have been called by earlier observers "chronic inflammatory thyroiditis," "granulomatous thyroiditis," "endothelioma," "sarcoma," and also "Riedel's disease" or "woody thyroid," etc. Although these various designations fail to convey the true pathogenesis of this condition they do indicate its most striking features: (1) the lymphocytic activity which is typical of the early or progressive stages of the process, and (2) the fibrosis and atrophy which accompany its later stages.

The lymphocytic infiltration is peculiar in that it picks out the specific thyroid lymph spaces in a most delicate and selective fashion (Figs. 1, 4, and 5). In this manner

* The lymphadenoid process need not cause enlargement of the gland; indeed, it has been found as a progressive condition in senility.