

# The First Successful Separation of Conjoined Twins (1689)

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Reports on the first successful separation of conjoined twins in 1689 and especially the publication of this achievement, as late as 1752, in the *Helvetisch-vernünftliche Wehe-Mutter* by Johannes Fatio are discussed in this paper with the intention to correct several historical inaccuracies.

The rare births of conjoined twins have been recorded both in popular treatises and in medical case reports for centuries. Publications regarding the first successful separation of conjoined twins appeared much later. According to Bondeson (1993), the German Dr Koenig operated on a pair of xiphopagus twins, as early as 1689, by tightening ligatures around the connecting band of tissues, with complete success. This successful operation was known to Christell, whose previously un-noted historical case report of thoracopagus / xiphopagus twins, the Strassbourg conjoined twins of 1750, was presented in this journal (Christell, 1751; van der Weiden, 1999).

A detailed description — probably an eyewitness account — of a separation of xiphopagus twins was recently rediscovered in an obstetrical handbook by Johannes Fatio entitled the “*Helvetisch-vernünftliche Wehe-Mutter*” (Fatio, 1762). Four illustrations elucidate the procedure. Fatio died in 1691; the first and only edition of his *Helvetisch-vernünftliche Wehe-Mutter* appeared in 1752, 61 years posthumously! (see Figure 1) This paper intends to save the report by Fatio, almost certainly the first publication of a successful separation of conjoined twins, from oblivion. Several historical inaccuracies are corrected as well.

Fatio described his personal account of the separation in the *Helvetisch-vernünftliche Wehe-Mutter* on pages 211–214 with four illustrations (see Figure 2).

## Delivery and Subsequent Examination of the Twins

The female twin was born in Hüttingen, a village in the neighbourhood of Basel, Switzerland, on November 23, 1689. The name of the father was Martin Deserich; the mother was called Clementia Meijerin. She was 42 years at the time of birth. The first twin was born in an occiput presentation. The second twin was ultimately born in a *conduplicatio corpore* manner (“das eine Kind natürlicher Weise, nemlich mit dem

Hauptlein in die Geburt getreten, dem das andere in einem sehr beschwerlichen und gefährlichen Lager, nemlich mit hindersich gebogenem Hauptlein, Leib und Füßlein gefolget”). Fatio does not mention the attendants at birth, the parity of the mother, the weight of the twins nor their condition at birth (which must have been rather good since both survived). The children were taken to the physician Samuel Braun — “ein wohlerfarener Baselerischer Wund Arzt” — who consulted Johannes Fatio the following day, November 24. Fatio himself consulted the “Baselischen Stadt Arzt” (official physician of the city of Basel) Prof. Nicolaus Eglinger and the medical doctors Zwinger, Plater and Bauhin. The findings on physical examination of the twins are recorded as follows: there was a connecting band of tissues located between the xiphoid bone and the umbilicus. Cartilaginous tissue near the xiphoid bones appeared to be partly fused (“zusammengewachsenen Knorpeln der Brust Beine”). The fused umbilical cords contained 6 (2 × 3) vessels. Some space was left between the fused umbilical cords and the tissue band.

## The Technique Used for Separation

The separation was performed in three stages. First, the umbilical vessels were dissected and ligated with double silk threads. Second, the connecting band of tissues was ligated in both twins by passing a sixfold braided silk cord through the space between the connecting band and the fused umbilical cords as close to both abdomens as possible. The first day the ligatures were only softly tightened but with every change of wound dressing the ligatures were tightened faster. The necrotising tissue band was scarified and treated with an ointment containing alcohol (“Digestiv”) and some alleviating local baths. Milk was fed to the babies during this period. Nine days later, on December 3 1689, the ligated connecting band of tissues separated spontaneously. The stumps were taken care of and debridement was performed with a scalpel. One twin

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was treated by Fatio, the other by Braun. Four oozing vessels were tamponaded with linen and thereafter a strong truss covering a small cushion, soaked in red wine, was placed on the stumps. These procedures were attended by three local authorities of the city of Basel and several anonymous medical doctors and surgeons. The babies were breastfed the following day. The stumps were treated with desiccating medicines and complete healing occurred within 10 days.

## Discussion

Christell described the case report of the Strassburg conjoined twins of 1750 in his thesis of 1751 and referred to a successful separation of conjoined twins in 1689 made public by a certain Dr Koenig: "Gemellas in pago Hüttingen prope Basileam A. 1689 a cartilagine ensiforme usque ad umbilicas, funiculus insuper contortis, coalitas et ligatura separatas profert KOENIG" (Christell, 1751; Van der Weiden, 1999). The same Dr Koenig was put forward by Bondeson as one of the first surgeons who ventured to separate conjoined twins (Bondeson, 1993).

But did Koenig really play such an active role himself or did he merely disseminate this event? The account in Johannes Fatio's *Helvetisch-vernünftliche Wehe-Mutter* published posthumously one year after

Christell's thesis provides a different view of the matter (Fatio, 1752).

The *Helvetisch-vernünftliche Wehe-Mutter* was an obstetrical handbook primarily written for midwives, and in fact rendered out of date at the time of appearance. Besides that, Fatio was probably one of the first surgeons who systematically studied and treated surgical conditions in children and in the fifth and last section of the book (pages 328–468) he described operations for, among others, hypospadias, hydrocolpos and imperforate anus. Because of revolutionary political activity in the city of Basel, Fatio was imprisoned, tortured and executed in 1691. All of his manuscripts except the text of the *Helvetisch-vernünftliche Wehe-Mutter* were burned by the authorities (Morton, 1983). The standard work on the history of obstetrics and gynecology by Fasbender (1906) does not mention Fatio, and Siebold (1845) only mentions the existence of the *Helvetisch-vernünftliche Wehe-Mutter*.

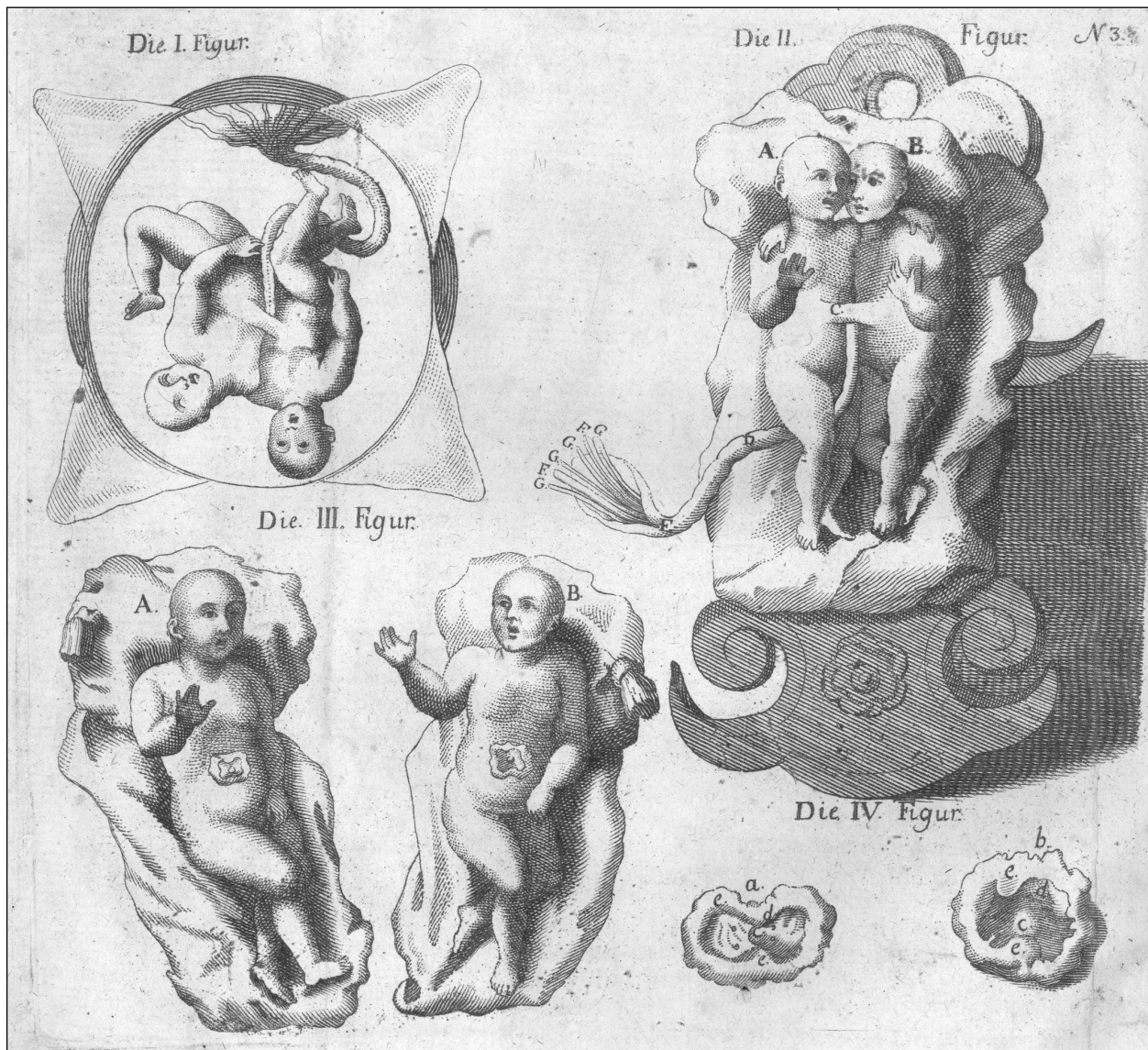
Several facts remain obscure. First, in his eyewitness account Fatio refers to the physician Samuel Braun and to consultation of the medical doctors Eglinger, Zwinger, Plater and Bauhin. Samuel Braun and Nicolaus Eglinger are neither mentioned by Fasbender (1906), Siebold (1845) nor in the main medical bibliographies. Publications on obstetrical subjects by Felix Plater (1536–1614) and Caparus Bauhin (1560–1624) appeared in Basel. Theodor Zwinger (1533–1588) published a work on pediatrics, also in Basel. However, these authors died long before 1689. Perhaps Fatio studied their works and meant their consultation as to that in a figurative manner. Second, Koenig is not mentioned by Fatio but might be one of the anonymous medical doctors present on December 3, 1689. The catalogue of the Wellcome Historical Medical Library (1976) mentions Emanuel Koenig (1658–1731) who published several pharmacological works in Basel and a medical thesaurus: *Thesaurus novus experientiae medicae aureus: oder goldener Arzney-Schatz neuer niemals entdeckter Medicamenten, wider allerhand Leibs-Kranckheiten: in sich haltend nachfolgende herrliche medicinische Tractaten, so zuvor niemahl in Druck kommen* (Basel, 1704). It seems likely that the reference given by Christell in 1751 stems from paragraph IV of this thesaurus: *Experta Basiliensia, das ist, glücklich aussgeschlagene basslerische Arzney-Mittel*. Koenig did not perform the separation of the twins himself, as stated elsewhere (Bondeson, 1993), but made public ("profert KOENIG") the achievement of Fatio. After his violent death in 1691, almost all traces of Fatio were wiped out by the authorities with the exception of the manuscript of the *Helvetisch-vernünftliche Wehe-Mutter* which was printed 61 years later. No names of adaptors or revisers are given in the first and only edition of the *Helvetisch-vernünftliche Wehe-Mutter*. Between 1689 and 1752, the report by Koenig was the only official publication on the first successful separation of conjoined twins.



Figure 1

Title page of the *Helvetisch-Vernünftige Wehe-Mutter*.





**Figure 2**  
Illustration of the conjoined xiphopagus twins before and after separation.

Christell, who undoubtedly referred to the same case report, published his thesis one year before the appearance of the *Helvetisch-vernünftliche Wehe-Mutter* and could not be aware of Fatio's account.

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