

Birth Abnormalities: Changing Interpretations Across Time

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What is a birth abnormality?

- A **congenital disorder** is an “abnormality of structure, and consequently, function of the human body arising during development”¹
- Described as congenital disorders, birth abnormalities, or birth defects

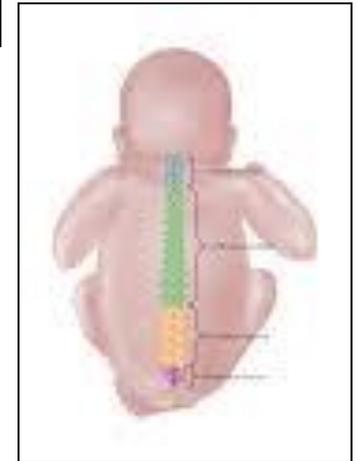
Commonly-known Birth Defects

- Congenital heart defects
- Cleft Lip and Cleft Palate
- Spina Bifida
- Club Foot
- Down Syndrome



Baby with cleft lip

Cleft Lip



Spina Bifida



Club Foot

Less well-known birth defects

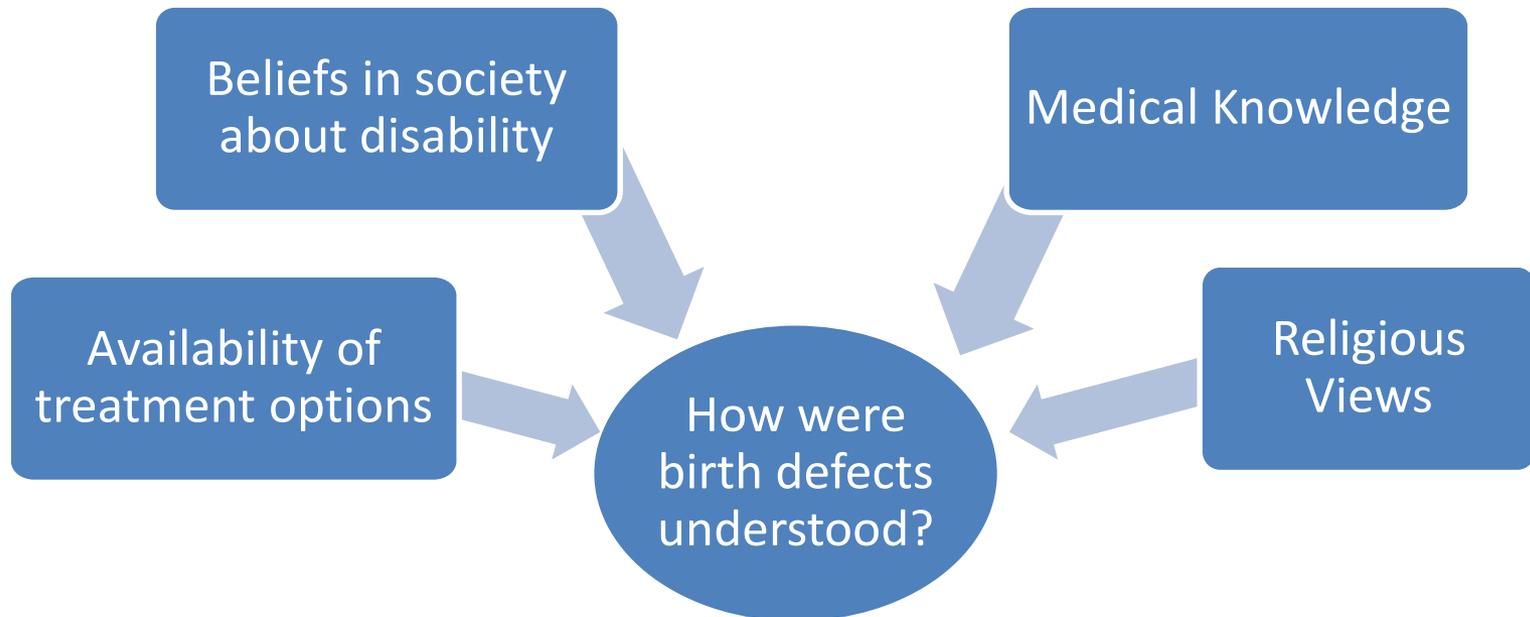
- Anencephaly: Brain fails to develop, resulting in small or missing hemispheres²
 - Hermaphroditism: External genitalia and internal reproductive organs display male and female characteristics³
-
- Conjoined twins
 - There are 7 types of conjoined twins, depending on where the individual bodies are fused

Studying Birth Defects Today

- **Teratology:** the study of malformations or serious deviations from the normal type in developing organisms⁵
- Birth abnormalities are understood, interpreted, and treated in the scientific and medical fields today

Historical Views

- How were birth abnormalities understood in previous societies?
- What can this tell us about societal attitudes and medical knowledge?



Disabilities in the Ancient World

Features in Society:

- Polytheistic (worshipping many gods)
- Paternalistic (father is leader of household)
 - Agriculture is dominant
- The rise of empires: Hittites (1600-1200 BCE), Assyrians (911-612 BCE), Babylonians (626-529 BCE)
- Rise of Greek city-states and the Classical Age (448-404 BCE)
 - The Roman Empire (27 BCE- 476 AD)

What was the cause of deformity?

1) Maternal imagination: Images that the mother views during conception or in the early months of her pregnancy can imprint themselves on the fetus

Example: Galen of Pergamum (129-215 BCE) suggests looking at a portrait of a beautiful child to give birth to an attractive infant⁶

Example: Christian Bible, Genesis 30:39 “And the flocks conceived at the sight of the rods”
Jacob places speckled branches in front of mating sheep in order to produce speckled lambs

2) Conditions during conception and the womb: the temperature and age of the seed, the direction of the wind, and the quality of water⁷

3) The sins of the parents caused the deformity.

- Conceiving after bloodletting or a long journey leads to epilepsy in children
- Union with a woman during her menstruation produces children with abnormalities; Leviticus 18:19 in Christian Bible warns against this⁸

- 4) Children with disabilities are signs and warnings from the gods
- **Teratology** or **fetology** involve interpreting abnormal births for signs of the future¹²
 - Abnormal child seen as sign of conflict, loss of home or land, famine, or a power struggle¹³
 - “Monsters, signs, portents, prodigies are so called because they indicate, show, portent, and predict” - Cicero (106-43 BCE)¹⁴

Reactions in Babylonia

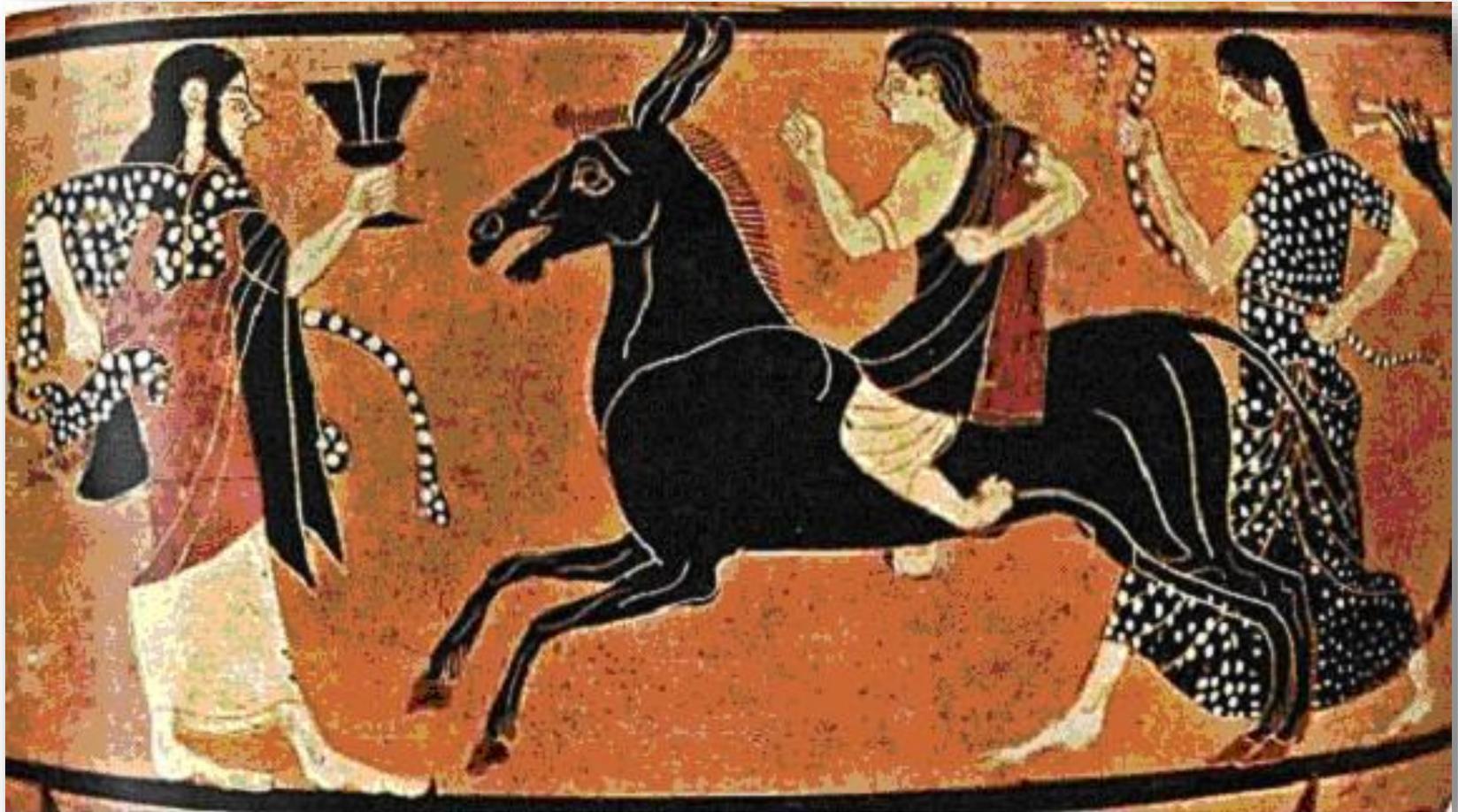
- The head of the household performed a religious ritual to the gods and disposed of the infant in a river

“Šamaš, I have turned to you! Avert from me the evil of this anomaly. May it not reach me. May its evil be far from my person, so that I may daily bless you!”¹⁷

Reactions in Greek City-States

- Lack of medical care meant most children died before or shortly after birth
- Child with abnormalities exposed in remote area to die
- The militaristic city-state Sparta required all deformed children to be abandoned; they would not be fully productive members²⁰

The Greek God Hephaestus



The Greek God Hephaestus is the middle figure in this scene, painted on a Greek amphora. His malformed feet are clearly visible

Reaction in Roman Empire

- Head of family (*paterfamilias*) responsible for disposing of abnormal child, often by throwing in the Tiber River
- In Imperial era, royal and upper class families owned individuals with disabilities for amusement (similar to a side-show)²²
- The *teraton agora*, or monster market, sold slaves with deformities²³
- Individuals with disabilities (particularly hermaphrodites) also the targets of violence from mobs of citizens²⁴

Were these children part of society?

- Although called monsters, prodigies, and portents, children with disabilities **not** seen as supernatural or non-human

St. Augustine (354-430 AD) in *City of God*:

Individuals with disabilities show greatness and
supremacy of God

Demonstrate the beauty of normal humans²⁷

Pre-Modern Europe

Major Events

1060: William the Conqueror invades England

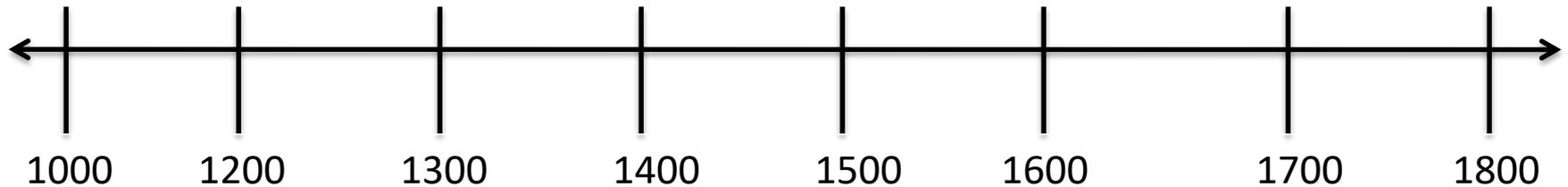
1095: First Crusade

1348-1358: Black Death

1453: Fall of Constantinople

1517: Protestant Reformation

1648: Peace of Westphalia



1543: Vesalius publishes *On the Fabric of the Human Body*

1674: Leeuwenhoek's microscope

1628: Harvey's *An Anatomical Study of the Motion of the Heart*

1796: Edward Jenner experiments with inoculation

1665: Robert Hooke coins the word *cell*

Medical History

Features of European Society

- Monotheistic; Catholic Church holds significant power until challenged by Protestant Reformation
- Constant warfare
- The rise of the sovereign state and the power of the monarchy
- Feudal system dominant until the Black Death (1348-1358), rise of city-states, and merchant class
- International trade increases; discovery of America

Causes of Deformity

From the ancient world:

- Maternal images and imagination
- Unclean intercourse during menstruation
- Punishment for sins of parents
- Warning to present or future society

Advice from this period:

Pregnant women should not gaze at disturbing or unattractive images for the first 30 to 35 days (for a male child) or 40 to 42 days (female child) of their pregnancy²⁹

- Human-animal hybrids existed mainly in legend
- Abnormalities compared with animal features possibly because defied other characterizations

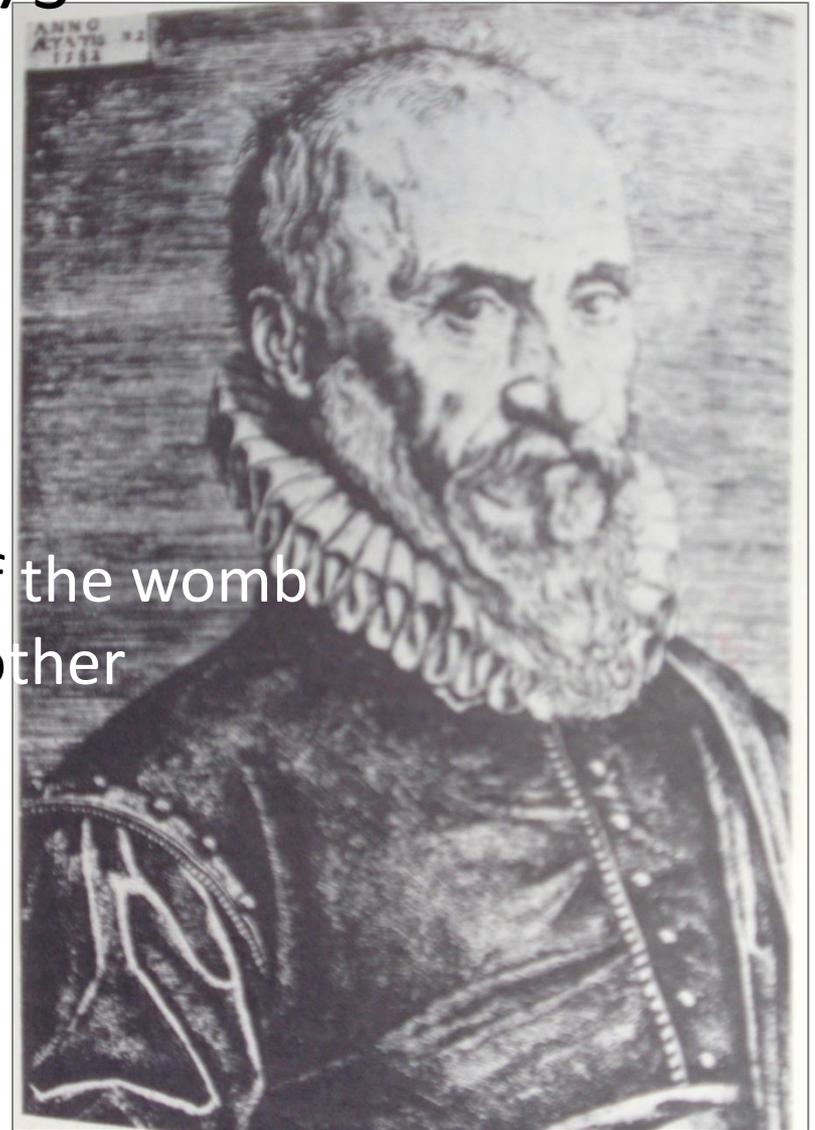
Figure 28. Prodigious figure of a child having the face of a frog
Ambroise Pare , *On Monsters and Marvels*



In pre-modern Europe, a child born with anencephaly was often said to have the face of a frog. The underdeveloped brain and skull created facial qualities that could be compared to a frog

On Monsters and Marvels 1573

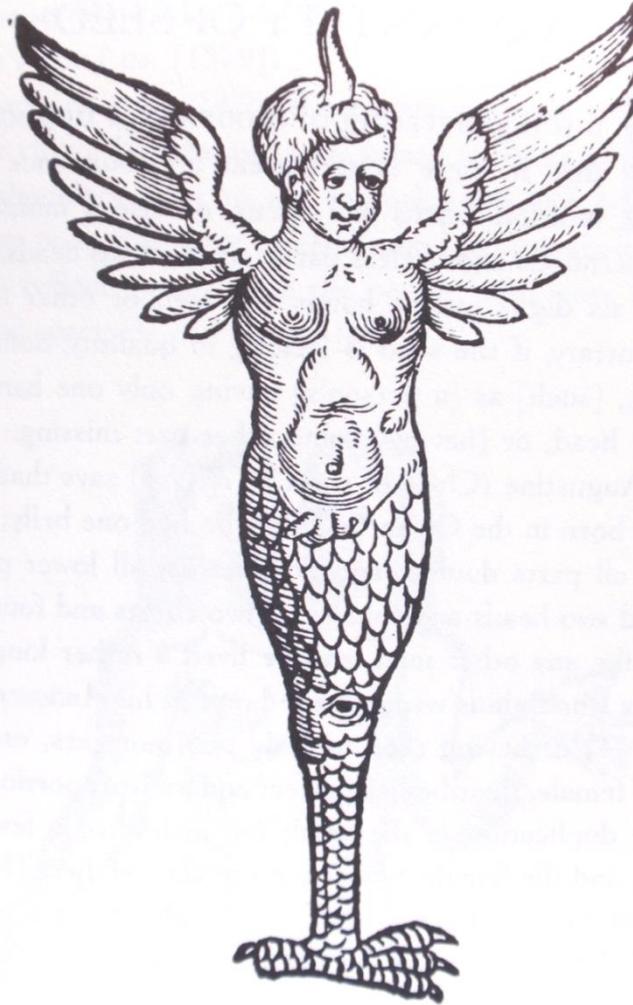
- 1) the glory of God
- 2) his wrath
- 3) too greatly a quantity of seed
- 4) too little a quantity
- 5) the imagination
- 6) the narrowness or smallness of the womb
- 7) the indecent posture of the mother
- 8) fall or blows to the womb
- 9) hereditary or accidental illness
- 10) rotten or corrupt seed
- 11) mixture or mingling of seed
- 12) Artifice of wicked beggars
- 13) through demons and devils



Ambroise Paré, *On Monsters and Marvels*

The Monster of Ravenna

The birth of this malformed child was seen as a sign of the defeat of the Italians at the Battle of Ravenna



2. Figure of a winged monster

“It is evident what evil the monster had meant for them! It seems as if some great misfortune always befalls the city when such things are born.”

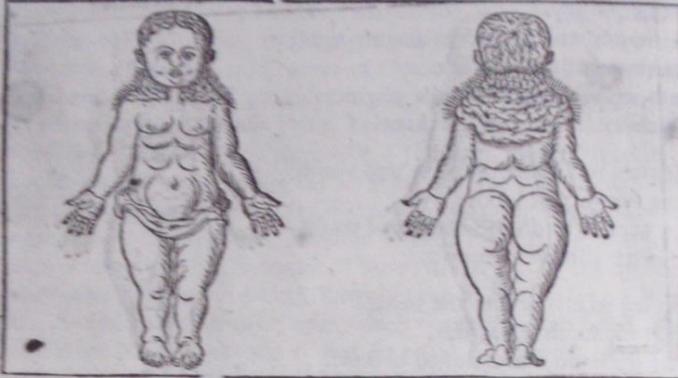
-Lucca Landucci,
(1436-1516)
Florence, Italy

The true discription of a Childe with Ruffles bozrne

in the parish of Wykeham in the Countie of Surry in the yeere of our Lord. M. D. L. LXI,

The face part

and the back part



This child was born of our L^o J^o B. L^o the .xviij. day of June one Yeere in the last of John Jermyn Esq^r dwelling in the parish of Wykeham was delivered of a Woman Child named Childe being otherwise named a female following. That is to say, the face round as of a cherub countenance. The Armes and hands, Legs and feet of right shape, and the body in all other members proportionate according, and proportioned in due forme, as yet, so as it were wonderfully clothed with such a fine fine as the life of any child her forme. For it hath the said ruffles that behinde like unto a p^ortentous growing fringed a weede of the Field, by some the such as it were with many blades let one after another, and being as it were something gathered, ruffe that about an inch wide being growing on the edges of the Armes, as it in Ruffles coming over the Shoulders and covering some part of the Armes, growing on the edges of the neck behinde and almost round about the neck, like as many womens Colours be set close to gather before; but the ruffles being double and as it were a lace white thin shere betweenthe the sides of the ruffles, the said ruffles about the neck being double and as it were a lace gathered, much like unto the Ruffles that many do like to weare about their necks.

This Child behinde the day of the date under written was soe found in Saint Mary in Southwark being alive and a weeks old, and as I hope not to be long.

An admonition unto the Reader,

This picture print in paper white, our Armes both necke: which Armes is drawn by some may be to be betweene James first

By nature's light, which hee I hope both nature and the ruler: for you it is day not I may by whom nature is left.

Whose face is fair, for members all, neither from and place: For yet hee made by nature itself, both such a great disgrace.

His ruffling face is ruffles as white, both face and necke: For we may learn the rule and rule, of a Child's face of face.

What nature's this child by nature's face is left, to be: For by these Ruffles our nature's spark, we might in hope and face.

Our Armes our Armes both set out, this here our Armes both necke: This monstrous monster out of doubt, against in hope and necke.

Our Armes our Armes both set out, this here our Armes both necke: For we may learn the rule and rule, of a Child's face of face.

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F. J. B. L. O. P. E.

Printed at London by John Wolfe and Richard Johnson and are to be sold at the Long Shop adjoining unto St. Dunstons Church in the Strand and at the little Shop adjoining to the Northward more of St. Dunstons Church. Anno Domini. M. D. L. LXI. the .xviij. day of June

In this advertisement, an infant born with 'ruffle-like' skin is seen as a warning against vanity. Ruffles were popular details on clothing at the time. The author of this advertisement viewed the birth as a visual sign of his society's conceit.

The True Discription of a Childe with Ruffles from 1566

Figure 8 From The true discription of a Childe with Ruffles (1566). There is a decided flavour of the fashion plate about this picture. Reproduced by permission of the British Library (Huth Collection 50 (34)).

“Watch! For the Lord our God comes”³³



*A 'manne chylde,
having three armes,
three legges and
very terrible to
beholde.'*

From 1581

Pregnancy and Childbirth in Pre-Modern Europe



The picture of Dorothy, pregnant with many children
Ambroise Pare, *On Monsters and Marvels*

Birth Superstitions

- Legend holds that Countess Margaret gave birth to 365 children in one day³⁵
- A sooterkin was a mole-like creature present in the womb with a child; it acted as a parasite and sucked on the fetus' blood³⁶

Broadsides: To Entertain and Inform



The Form and Shape of a Monstrous Child Borne at Maydstone in Kent From 1568

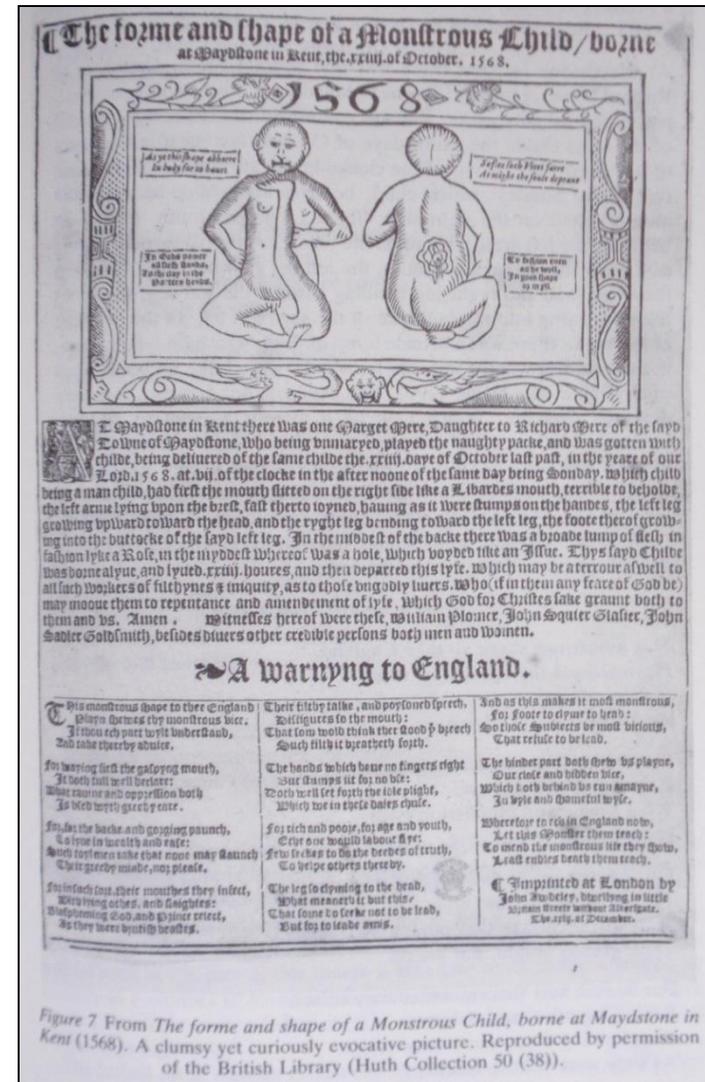


Figure 7 From The forme and shape of a Monstrous Child, borne at Maydstone in Kent (1568). A clumsy yet curiously evocative picture. Reproduced by permission of the British Library (Huth Collection 50 (38)).



Lazarus Colloredo and his twin

The two inseparable brothers.
O R
A true and strange description of a Gentleman (an Italian by birth) about seventeene yeeres of age, who hath an imperfect (yet living) Brother growing out of his side, having a head, two armes, and one leg, all perfectly to be seen. They were both baptizd together; the imperfect is called *Isha Baptist*, and the other *Lazarus*. Admire the Creator in his Creatures.
To the tune of The wandring Jewes Chronicle.

**England lately neemes is come,
 In which many parts of Christendome
 Good experiences found
 To be the strangest and most rare,
 And when he speaks the world declare,
 Since man first walkt on th' ground.**

**In many Kingdoms have bene,
 Creatures that have preposterous bene,
 In nature in their birth,
 Nothing a thing as this may beare,
 For all the rest seeme but a heare,
 As like was nere on earth.**

**A Gentleman well on all side,
 Doth beare his brother at his side,
 Inseparably knit,
 As in this figure you may see,
 And both together living be,
 The world admires at it.**

**In Italy this youth was borne,
 Whose nature is my discomfite,
 With three and twelviz' one,
 The other men in each respect,**

**This young man doth compleatly walke,
 He can both read, write, sing, or talke,
 Without paine or detraction,
 And when he speaks the other beare,
 Doth move the lips both stily red,
 Not speaking but in action.**

**This head and face is rightly seem'd,
 As in every part that can be nam'd,
 Eares, eyes, lips, nose, and chin,
 His upper lip hath some beard on't,
 Which he who beares him yet doth want,
 This in any much wonder win.**

**One armes about his brother call,
 That doth embrace his body fast,
 The other hangeth by,
 These armes have hands with fingers all,
 Yet as a childes they are but small,
 Pinch any part he'll cry.**

**Onely one legge with foot and toes
 Is to be seene, and some suppose,
 The other is contain'd
 Within his brothers boore, yet
 It seems both of a nature**

A broadside advertising Colloredo



- Images of the Gonzales family, who suffered from congenital hypertrichosis, extreme hairiness.
- Although originally from the Canary Islands, the family was relocated to Europe

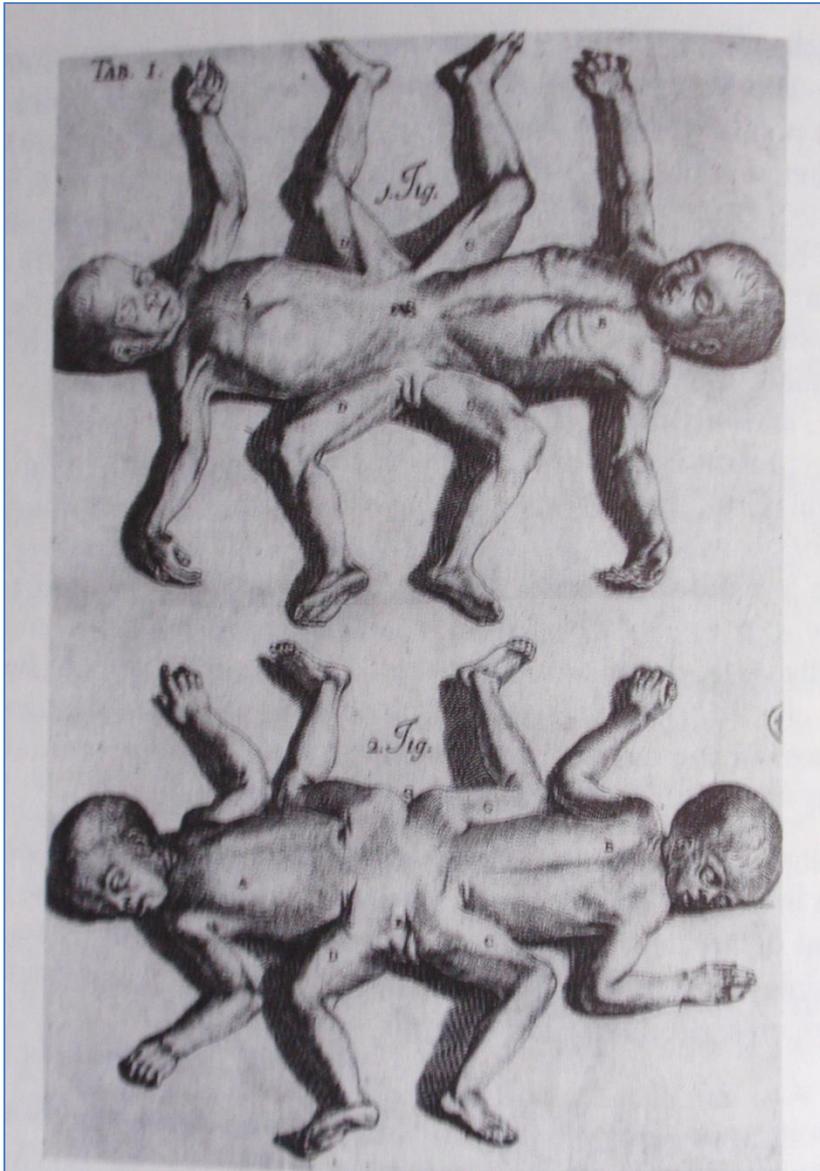


Their fashionable clothing shows that the family lived in comfortable surroundings



The Scientific Revolution

- Occurred from approximately 1543 to the 18th century
- Ancient and medieval theories replaced with new ideas
- Fields of anatomy and biology expanded
- Dissection more acceptable for physicians

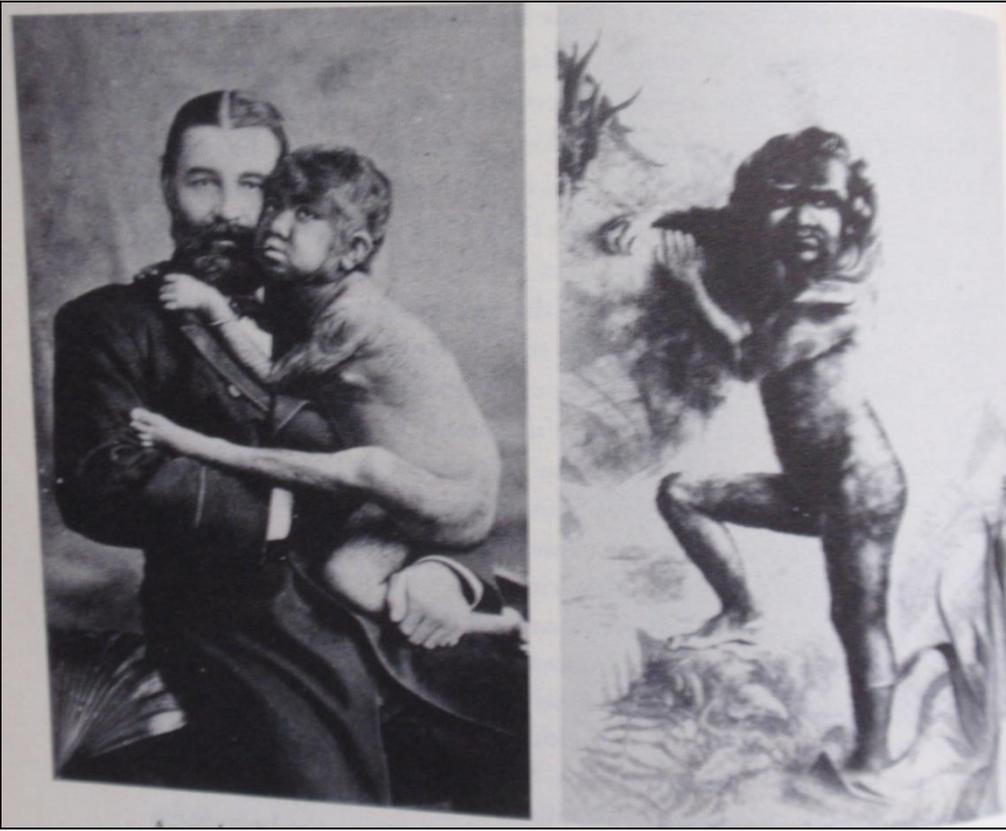


A more scientific illustration from 1708

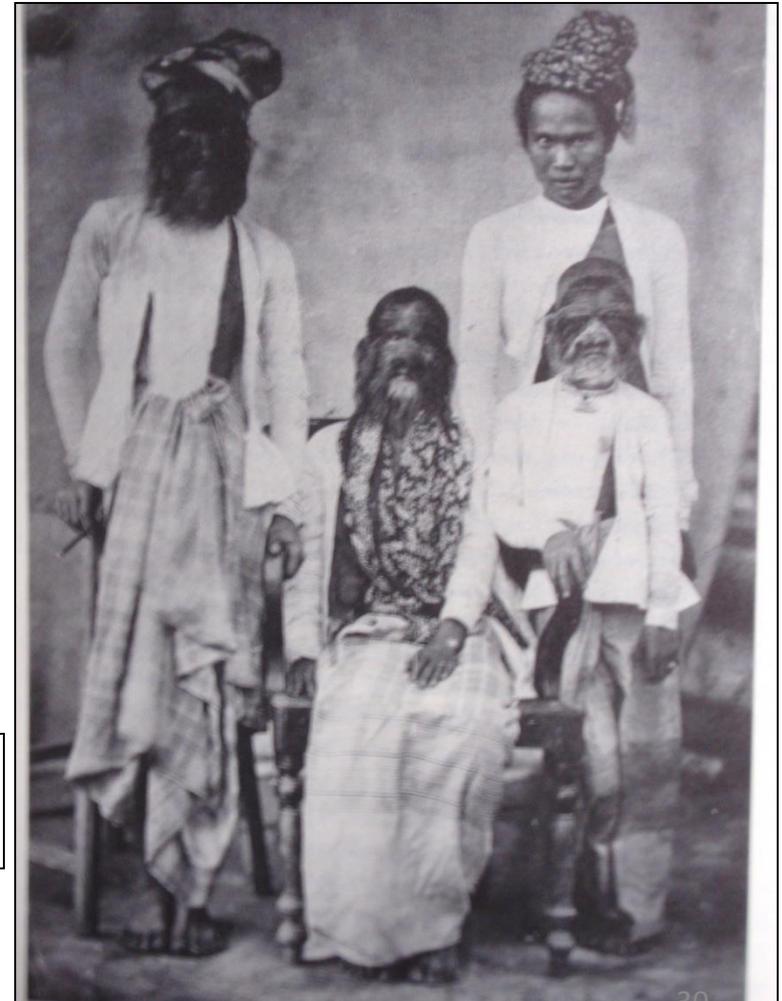
Rise of the Sideshow



This man was nicknamed “Lionel the Lion-man” by Barnum and Bailey Circus



Krao with a European gentleman and a sideshow poster featuring Krao.



1872: The Burmese family of MOUNG-PHOSET, MAPHOON, MAH-ME, and a nonhairy relative.

Abnormalities in the Modern World

- Medical advances have improved treatment options and quality of life for infants with abnormalities
- Fetal and infant surgery can correct abnormalities, including cleft lip, cleft palate, and many heart defects
- Many conditions can be diagnosed in the womb
- Research into the human genome has helped parents predict if they will pass a genetic condition to their child

Abnormalities in the Modern World

“My husband and I felt so devastated and guilty and alone. How could this have happened? We did all the right things. I took care of myself and followed the doctor’s instructions during my pregnancy. There was no one else in our families that had been born with this birth defect. I felt lost”⁴⁸

Living with Abnormalities

Children born with abnormalities may need:

- Medical equipment
 - Specialized care
- Frequent doctor's visits

Arrangements for health insurance and education can be time-consuming and difficult

Thalidomide

- Thalidomide was meant as a sleeping aid but prescribed to pregnant women to treat anxiety and nausea
- The drug caused serious birth abnormalities for hundreds of children⁵⁰
- Mothers of thalidomide babies felt responsible for the conditions of their children
- Thalidomide led to stricter tests to determine a drug's impact on a fetus



An infant with birth abnormalities from thalidomide

Americans with Disabilities Act 1990



President Bush signing the Americans with Disabilities Act into law, 1990
Amsvans.com

Discrimination in the 20th Century

- Sideshows remained popular until late 1930s
- During the Holocaust in Nazi Germany (1939-1945) as many as 200,000 individuals with disabilities were killed at Hadamar Concentration Camp⁵²
- Forced sterilization policies were carried out against individuals with disabilities in many countries

Contemporary Beliefs

- Belief in material imagination can be compared to playing classical music for the fetus⁵⁵
- In 1958, a publication still argued that emotional distress to the mother could negatively affect the fetus⁵⁶
- In 2010, a video circulating on the Internet claimed that “Cat Gives Birth to Puppy”⁵⁸

Contemporary Concerns

- Ethical and legal issues exist around infants with birth abnormalities and their projected quality of life
- Does our current medical knowledge focus more on diagnosis than treatment?
- Do our methods of handling birth deformities add more difficulties to individuals?

The Future

“We no longer gawk at the handicapped, disfigured, or mentally ill in freak shows, but do we regard them as equals, or as friends?”⁶²

- How can we better predict and prevent birth abnormalities?
- How can we ensure that individuals with these abnormalities receive proper care and lead productive lives in society?