Emblematic Monsters: the Description and Interpretation of Human Birth Defects in Europe, 1500-1700

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A tin-glazed earthenware bowl, Italian c. 1515, depicting female conjoined twins
Human birth defects - 'monstrous births' - were described in sixteenth and seventeenth century Europe in popular prints, in books of wonders and of natural philosophy, and, towards the end of this period, in the journals of learned societies. Many descriptions emphasised the ambiguous status of monstrous births with respect to categories such as male/female, single/twin, and animal/human. They were 'unnatural' occurrences in the sense that they were outside the normal course of nature, and as such they were considered to be evidence of divine intervention in natural processes. Monstrous births were linked with contemporaneous events - of which they were held to be signs - but they were not used to portend the future, as they had been in the classical world. Their links with divine providence and their ambiguous form made them suitable emblems for theological instruction - both monsters and emblems could, almost by definition, be interpreted in more than one way. Protestants used monstrous births as signs of 'Gods handiwork in wonders' and Catholics saw them as emblematic of a creation that was 'good, common, regular and orderly'.

The reintroduction by Fortunio Liceti and others of the classical idea of monstrous births as slips of nature undermined both their place in arguments for divine intervention and their use as moralising emblems. The monster as a mistake was reinterpreted as a defect or malformation - something that was not as it ought to be. The collecting of cases (both in museums and in case reports) also 'naturalised' monstrous births - no phenomenon subjected to the attentions of so many observers could retain its attributes of rarity and wonder. The concept that nature could fail to achieve its ends found expression in new theories that non-human offspring could arise from human semen or foetuses through degeneration.
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**Abbreviations**

BL  British Library  
NBG  Nouvelle Biographie Générale  
OED  Oxford English Dictionary
My decision to restrict this study to Europe has excluded a few cases reported by settlers in the New World, only one of which seemed to me to provide significant extra information, and for which I have made an exception. For the rest of the world, I can only say that I have been unable to locate descriptions of monstrous births from the sixteenth and seventeenth centuries outside Europe and that colleagues from the Middle East, India, the West Indies and South-East Asia have not been aware of any such reports in the literature of their own countries. It remains to be seen whether the reporting of monstrous births was truly a Western phenomenon.

The current preoccupation with euphemistic terminology (well illustrated by a recent legal case in which the same judgement objected to use of the term ‘monstrous birth,’ while finding that individuals with congenital malformations have less right to life than do their normal counterparts) makes it necessary to iterate that neither monster nor monstrous carries a pejorative meaning. Modern alternatives such as malformation and birth defect are equally subject to misinterpretation as well as being anachronistic and, in the context of discussions of the interpretation of congenital malformations, misleading as they imply a failure of development that monster does not.

In quotations the use of u, v, i and j has been modernised and some contractions expanded in the interests of readability. Place names and countries have been modernised according to the Times Atlas.

It is my pleasure to thank Professors Christopher Lawrence and Harold Cook of the Wellcome Institute for accepting me as a student and for their very learned and sympathetic advice in guiding me through the writing of this thesis. Thanks are also due to the staff of the Wellcome Library, the Library of the Royal Society of Medicine, and the Bavarian State Library. The British Library kindly provided photocopies for Figures 1, 2, 3, 4, 7, 9, 11, 16, 17, 22, 23 and 24. Figures 12, 18 and 26 appear by kind permission of the Royal Society of Medicine, London. The Royal London Hospital granted study leave. My wife provided information on monstrous births in Vietnam, some of which has been incorporated into the text, as well as much encouragement in the writing of this thesis, and in everything else.

In festo S. Mathaei
London
The ancients concealed the secrets of nature not only in writings but also with various pictures, characters, ciphers, monsters and animals diversely depicted and transformed; and within their palaces and temples they painted these poetical fables, the planets and the celestial signs, with many other signs, monsters and animals; and they were not understood by anyone except by those who had knowledge of those secrets.¹

The sixteenth and seventeenth centuries have been seen as a 'golden age' of birth defects.² Books by physicians and natural philosophers dealing with the topic were widely read and went through many editions. A significant proportion of popular ballads and, later, contributions to journals of medicine and natural philosophy were on the subject of monstrous births. This thesis is concerned with documentary and artistic records of human birth defects in Europe between 1500 and 1700. The starting date of 1500 enables all but a few of the very earliest printed descriptions to be included. By the end of the seventeenth century accounts of monstrous births were a regular feature of scholarly journals but the 'flowering of the learned societies' and the scholarly controversies that attended monstrous births in the eighteenth century had yet to begin.³ In Chapters 2 to 4, three types of literature on monstrous births – broadsides, books and journals – are discussed. Although their common subject matter, literary borrowings and overlapping readership bring these different genres into close contact, there is not in my opinion a single corpus of 'monster literature.' If we set aside the motive of selling publications, the author of a ballad did not write about monstrous births for the same reasons as a Jesuit scholar or a provincial German physician. One common feature however is that monstrous births were not for the most part presented as isolated curiosities but were assigned a place in the wider scheme of things. I shall argue that the seemingly excessive interest in monstrous births in the early modern period can be understood in terms of the hidden, emblematic meanings attributed to them. The early modern reader, I suggest, did not take these descriptions at face value, but expected to find in accounts of monstrous births emblems of a theological and moralising kind.

The interest shown in congenital malformations in the early modern period is striking both in the quantity of published literature and the frequency with which bodies were dissected and specimens exhibited. It seems that neither the public nor medical practitioners tired of

² A phrase originally used by Jean Céard in La Nature et les Prodiges (Geneva, Droz, 1977).
³ For an overview of monstrous births in Europe from Medieval times to the present see: Dudley Wilson, Signs and Portents. Monstrous births from the Middle Ages to the Enlightenment (London, Routledge, 1993).
fresh accounts of well-known abnormalities. There is something anomalous in the detail and earnestness with which commentators discussed the possibility of hybrids between humans and animals, and between humans and demons, and in the fervour with which the question of whether and how to baptise these types of monstrous births was discussed, though in practice all were baptised – as though the writers were testing the boundaries of humanity. Monstrous births could not be predicted, prevented, or treated. They were not thought to reveal anything about foetal development, and not even the simplest of experiments to explain their origin was tried. Although experimentation on human material was neither technically feasible nor ethically acceptable, animal experimentation would have been a real possibility. At a time when maternal impressions were generally accepted as an explanation for congenital abnormalities it would have been feasible to test the theory on animals: there was even the biblical story of Laban’s sheep to point the way. Yet monsters were a recognised subject for study in universities and by learned societies, and, embalmed, were valuable objects, sought after by scholars and wealthy collectors. Monstrous births were a popular subject for thesis writers. The public delivery of a thesis was a requirement for a doctoral degree which was a licence to teach and those scholars who went on to take up a chair presumably thought that the description of a case of congenital malformation would make a favourable impression on the medical faculty that they were about to join. This implies that monstrous births were seen as a mainstream topic in seventeenth century academic medicine. The extent of the early modern literature on monstrous births, certainly as large as that on surgery or midwifery in the same period, seems to call for explanation and raises the question: to what use was the information gathered about monstrous births put?

Doubts about the value of early modern descriptions of human birth defects as a contribution to knowledge are as old as the descriptions themselves: contemporaries described Ambroise Paré’s (c. 1510-1590) compendium of monstrous births as ‘fit for amusing little children’⁴. At first sight, many accounts of monstrous births seem incredible: conjoined twins of different sexes, human/animal composites, and infants with wings.

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⁴ Genesis 30, 35-43.
⁵ A possible exception is suggested by Zakiya Hanafi who proposes that Giambattista della Porta’s (1535-1615) *Magia Naturalis* (1558) was intended as a practical manual for experimentation. This book contained chapters on ‘interspecies conception’ and ‘sundry copulations, whereby a man gender with sundry kinds of Beasts’ in order to ‘produce new and strange Monsters.’ See: The Monster in the Machine: magic, medicine and the marvellous in the time of the scientific revolution (Durham, Duke University Press, 2000), pp. 41-5.
tails, horns and talons apparently violate our knowledge of what is anatomically possible. Early modern authors were aware of the apparent improbability of their descriptions: 'the which albeit may seeme but jestes or fables, if the authoritie and truth of those which write them, was not their sufficient warrant.' I shall argue that observers described monstrous births in the early modern period in formalised ways in order to emphasise attributes that they considered characteristic of monsters.

Writers of accounts of monstrous births were aware that they were often difficult to believe. Accuracy and credibility were important considerations in the popular literature, and the titles of broadsides stressed that the reader was offered 'the true report,' the 'Vray pourtraict,' the 'perfect description,' 'creditably reported' by 'divers,' 'honest' and 'religious' witnesses: 'a reverend divine,' a 'gentleman,' a 'person of worth.' The use of witnesses was a significant methodological difference from the reliance of book writers on textual authorities and as we shall see was later favoured by learned societies. In the eighteenth century there was vigorous debate over the comparative values of textual and eyewitness authority in medicine. In 1727, for example, James Blondell ridiculed the reliance on ancient authority shown by supporters of the theory of maternal impressions. He argued that cases had to be supported by direct (eye-witness) evidence, and that credit given to earlier accounts should therefore diminish 'In Proportion of the Distance of Places and Times' of the occurrence. Daniel Turner responded to Blondell with the argument that written authorities, like gentlemen of his own time, were to be taken on the 'credit' of their word. If one slavishly followed Blondell's approach, he argued, one would credit nothing that one had not seen: if the conjoined twins then being exhibited in London had been 'presented one hundred Years past, it [would]... have been reckoned by Dr. B[londel] as a fiction.' Part of the difficulty was to determine who was 'reliable,' and there seems to have been a shift in the seventeenth century towards a requirement for specialist knowledge, so that a monstrous birth 'had' to be seen by a physician or natural philosopher.

Some twentieth-century interpreters, following the same line of reasoning as Blondell, chose to disregard earlier reports of extraordinary congenital malformations if they could not find modern counterparts. Malgaigne for example considered Paré's illustration of a man with a supernumerary head in his epigastrium to be fanciful, though it may have been

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7 Edward Fentzon, Certaine secret wonders of Nature, containing a description of sundry strange things, seeming monstrous... Gathered out of divers learned authors as well Greeke as Latine, etc (London, H. Bynneman, 1569), fol. 13r.
9 See Steven Shapin, A Social History of Truth (Chicago, University of Chicago Press, 1994) for a discussion of the significance of social status as a guarantee of probity.
an extreme and unusual example of parasitic twinning. While it is not possible to render definitive diagnoses based on surviving descriptions, an analysis of these cases in Chapter 7 allows most to be allocated a tentative place in the modern classification. I argue that the resemblance of descriptions and illustrations from the sixteenth and seventeenth centuries to cases encountered today is sufficiently good to support the contention that the early modern reports are descriptions of individual cases, and I have included descriptions of birth defects from 1500 to 1700 (Appendix 1) in an attempt to facilitate continued reference to this literature. I have attempted to include information on all human major terata born between 1500 and 1700 that were reported in the contemporary European literature (Appendix 1). This list of cases is unavoidably incomplete: the English literature is well represented, as is that of France, largely owing to the important recent work of Wilson\(^1\) in this area. Hollander reviewed the German literature in the 1920s but it has been rather neglected since. Italy too is almost certainly incompletely represented, though the early fifteenth century has been recently researched by Niccoli.\(^1\) Cases from other areas are represented largely owing to their having been reported as news items in one of the aforementioned countries soon after they occurred. Every student of human teratology is indebted to the work of Gould and Pyle in the preparation of the index to the library of the Surgeon General (and, as a by-product, *Anomalies and Curiosities of Medicine*). I have omitted cases that could not be assigned (at least approximately) to a date and have excluded non-human monstrous births, even if contemporary writers had regarded them as human, as these require knowledge of veterinary pathology for their full interpretation.

Readings of the early modern literature as a relentless progress towards scientific teratology tend to neglect the motives behind descriptions of monstrous births, as well as suggesting that published descriptions from before the advent of learned societies and their journals were in some ways inadequate or incomplete. Wilson, for example, implies that there was a natural progress, towards a modern science of teratology and away from superstition, in descriptions of monstrous births in the sixteenth and seventeenth centuries.\(^1\) In a number of works, Daston and Park have used monstrous births as an example of increasing divergence between popular and scholarly culture – at the beginning of the early modern period monstrous births were generally accepted as signs, whereas this aspect was, by the end of the seventeenth century, only to be found in ‘popular’

11 Dudley Wilson, op. cit.
13 op. cit., pp. 172-4: ‘Perhaps the main advance was the increasingly professional nature of the approach,’ while he considers Etienne Geoffroy St Hillaire’s classification of birth defects as: ‘not much better than the displaying of monsters in cabinets of curiosities.’
This supposed decline in the importance of the 'supernatural' in accounts of monstrous births has been presented as a progress from 'superstition' to 'science,' the fall in portentous and symbolic uses of monsters coinciding with an increase in descriptive natural philosophical accounts, a change of emphasis which, it has been suggested, may have been brought about by a 'conspiracy' of social and intellectual élites to diminish the portentous aspects of monsters because they were increasingly disapproved of:

'[d]isorderly nature could be used by disorderly people... In this thesis I will describe changing interpretations in terms of 'natural' and 'unnatural' events, as explanations based on divine intervention were replaced by the concept of monsters as slips of nature. I do not see portents or supernatural interpretations as significant features of the popular or scholarly literature. Religion rather than superstition seems to have influenced approaches to monstrous births and I will examine the use of classifications of monstrous births to support theological positions on matters such as divine intervention, order, and pantheism. Early modern theological approaches to birth defects have received little attention, but can now be seen as a significant contribution to an understanding of the ethical and legal status of children with birth defects, a topic that has recently undergone re-examination.

Probably we do not need to look beyond the availability of printing for an explanation of the apparent upsurge of interest in monstrous births at the beginning of the sixteenth century. For the first time, it was possible to disseminate written accounts of monstrous births quickly enough and in sufficient numbers that readers could hope to go and see the monster for themselves. Monstrous births were news, and they featured in ballads and canards, sermons and theses as well as in books of prodigies and wonders. These reports contain dates, locations, descriptions, pictures and supplementary material that shows how contemporary observers reported monstrous births and how the public reacted to them. Popular (as distinct from scholarly) accounts of monstrous births from the early sixteenth century differed from the book literature on monsters in that they referred to specific cases, the monster being particularised in time and/or place. Printing had made this both possible, because the delay between the birth of a monster and publication was short, and desirable, because printed reports acted as advertisements. 

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15 Daston and Park, op. cit., p. 208.

monsters that were still to be seen indicate a publication time of only a few weeks.\textsuperscript{17} It has been suggested that the increase in reports of monstrous births in the sixteenth century was due to interpretations of these births as signs.\textsuperscript{18} This link can however be turned around: only because monsters could be reported promptly and relatively widely was it feasible to use them as signs of the times. Interest in monstrous births may have grown \textit{because} printed accounts of them were more readily available.\textsuperscript{19} The monster, promptly reported, assigned to a time and place, became a chronological marker-post (everyone remembered things that happened at the time the monster was born) as well as a sign of divine intervention in the affairs of the world.

The 'ephemeral' or 'popular' literature of broadsides, ballads and canards in some respects resembles and anticipates case reports in scholarly journals. Prompt reporting and reliance on eyewitnesses (rather than established authorities) as guarantors of truthfulness were characteristics of both, as were injunctions to see for oneself.\textsuperscript{20} By comparison the book literature, composed as it was largely of multiply repeated cases derived from earlier written authorities (popular literature was often the unacknowledged primary source of cases in the book literature) appears relatively intellectually stagnant. Books and theses differed from other literature in having a stronger analytical/synthetic component and classifications of birth defects were mostly the work of book writers. Books were less concerned with individual cases – and therefore with signs, which are by their nature particularised – and gave more emphasis to the totality of cases, thereby favouring emblematic interpretations that required only general statements about monsters for their effect. Ulisse Aldrovandi (1522-1605; Fig. 1) and his contemporaries presented a mass of information, which they invited the reader to assimilate into a complete picture. This contrasts with the approach of learned societies, which presented discrete units of verifiable and pertinent information ('observations') selected by the reporter. Aldrovandi's treatise on birds described the moral lessons to be drawn from them, as well as their uses in food, hunting and heraldy. He filled eighty pages with stories and fables about eagles before beginning a description of the eagle itself (but to Aldrovandi and his readers the fables were part of the description). Monstrous births were not alone in being employed emblematically, but were perhaps, like animals, particularly suited to such treatment.

\textsuperscript{17} Some foetuses and neonates had their utility as an exhibit extended by artificial preservation, see Chapter 6, p. 140.
\textsuperscript{18} 'Documentary evidence is biased to the Sixteenth Century, when such birth defects were recorded solely as a warning against immorality': T. Anderson, 'Documentary and artistic evidence for conjoined twins from sixteenth century England' \textit{American Journal of Medical Genetics} vol. 109 (2002), pp. 155-9: 158.
\textsuperscript{19} My personal view is that the availability of print and the rise in interest in monstrous births were interrelated in this way, but the alternative, that increased survival of printed compared with manuscript accounts does not represent a true increase in interest, remains open.
\textsuperscript{20} Suggesting that the social status of the writer was less important than whether they were eyewitnesses. See Shapin, \textit{op. cit.} for a contrary view.
In chapter 5 on the classification of monsters, I will argue that the publication of \textit{De Monstrorum} in 1616 marked a shift in approach to the interpretation of birth defects. The Catholic Liceti, one of 'the last true supporters of the ancient theories,'\textsuperscript{21} who had almost no practical experience of the malformations of which he wrote, contributed to a conceptual change in what monsters signified or represented (and how they could be used). His intellectually conservative approach helped to reassert the classical and medieval idea of the monster as a mistake (\textit{peccata naturae}), in place of the largely Protestant 'wonder book' use of monsters as evidence of divine intervention. This interpretation of birth defects as natural errors eventually became the standard 'reading' of monsters, and this was ultimately recognised by a terminological shift from 'monster' to 'malformation' or 'defect.'

The question of what constituted, to the early modern audience, a monstrous happening is central to the interpretation of monstrous births. The 'monstrous' nature of birth defects has been explained by historians in terms of the position (or the lack of a position) of the monster in the scheme of things: the suggestion that the monstrous was that which defied classification was an important one.\textsuperscript{22} Once one is aware of this argument, examples of monstrous births that resist normal categorisation are readily found: for every apparent dichotomy – male/female, human/animal, single/twin – there are monstrous births that seem to possess both elements together. Nor were ambiguities and the crossing of boundaries limited to their form: monstrous births were frequently associated with the transgression of religious and societal norms, the breaching of moral boundaries. Parents who behaved too much like animals and failed to exercise the proper control over their sexual behaviour that was thought particular to humanity, or Christians who strayed into heresy were all associated with monstrous births.

Although the monster can be seen as not being part of the normal course of nature (so it was said to be unnatural) and was associated with impropriety, immorality, and irreligion, it did fit into the greater scheme of things. It was part of the divine plan and as such it showed (\textit{prostrat}, from which the word \textit{monster} was derived) the unseen hand of God, the Potter who had power over the clay,\textsuperscript{23} and who formed the human body normally or abnormally as He chose. The diversity of creation that was manifest in monstrous bodies


\textsuperscript{22} See Park and Daston, \textit{op. cit.}, p. 25, who suggested that monstrous births 'straddled the boundaries' between the natural and supernatural.

\textsuperscript{23} Romans 9, 21, a popular text in accounts on monstrous births, see p. 82.
actually gave greater glory to the Creator. In a system in which God was seen as the direct cause of everything, monstrous births were not a problem to be explained: the more diverse the creation, the more admirable the creator, and descriptions of monstrous births, from the early broadsides to a scholarly journal at the end of the seventeenth century, often included the phrase ‘blessed be God in His works.’

In chapter 6, I offer a re-interpretation of the rôle of human monstrous births in early modern society. This is an area in which, perhaps, modern value judgements have been too unsparingly applied. A recent book review summarises some of the attitudes that have developed:

Many of these persons would have faced a daily barrage of insults, ridicule and rejection... An insight into their faith in God would have been particularly interesting as the early church did not offer emotional support and sometimes openly condemned the physically deformed persons as acts of the Devil. These were fellow human beings who were crudely classified by their societies as a wonder of nature, a monstrosity, prodigy, or freak.

This is the popular view of the monster as an outsider, an object of ridicule, rejected by society and the Church. In fact they were often lionised: praised, wondered at and highly valued (financially, even after their death), although there could be a high price to pay for these attentions. Their classification, far from crude, was exhaustive. Much scholarly effort was devoted to the description and classification of monstrous births and this included the detailed examination of the monstrous anatomy by means of the autopsy. The Church actively encouraged such anatomies, and made a public show of the baptism of children with birth defects as a sign of inclusivity.

Signs and symbols

From the earliest times monstrous births were regarded as signs or portents, an interpretation responsible in no small part for the care with which they were recorded. They were studied (in considerable anatomical detail) for their prophetic significance in ancient Babylonia and it has been argued that the belief in monstrous births as portents was still in existence in Europe, at least among the uneducated, as late as the 19th century. Other anatomical peculiarities were also regarded as portents in the ancient world and haruspicy, the complex Etruscan discipline of divination by means of entrails,

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survived in the Roman Empire until the sixth century. Teratoscopy (or fœtoscopy), the belief that the future could be foretold through monsters, helped to make them worthy of record even if the malformations present were not novel. In south east Asia, monstrous births have retained this reputation until the present day; as one observer, who remembers large numbers of people visiting a Vietnamese hospital to see a case of sirenomelia, put it: 'God does not allow such things to happen unless there is going to be a disastrous time ahead.'

Belief in portents has been considered to be widespread in early modern times: 'From the Dissolution of the Monasteries to the Revolution of 1688 there was scarcely any important event which educated men did not believe to have been presaged by some occurrence in the natural world.' In Protestant societies, which denied the possibility of purgatory and the efficacy of intercession for the dead, it may even have been theologically required for God to warn men of their impending damnation – as the puritan William Greenhill wrote: 'God doth premonish before he doth punish.' Comets and meteorological phenomena had particularly strong reputations as auguries of the (usually calamitous) future. Although interpretation of an event as a portent often implied that it was a divinely provided warning, it did not entail an assumption that the portent was caused by particular divine intervention: 'I am not ignorant that such meteors proceed from natural causes,' wrote the antiquary Ralph Thoresby in 1682, yet [they] are frequently also the presages of imminent calamities.' The power of God could manifest itself through natural happenings, because 'nature is God's minister.'

A portent, from *pro tendere*, to stretch forth, is a prediction of the future, and to portend something is to 'point to or indicate beforehand.' The portentous use of natural phenomena is rooted in an assumption that *if* a particular thing is observed *then* a certain event will happen in the future: if we pass a sign pointing to a place, then we shall eventually arrive there. I argue that the use of monsters as portents in this sense had all but ceased by the sixteenth century. The monster was a sign of the times rather than a portent of the future. The portentous interpretation of monstrous births was regarded as a historical curiosity when Edward Fenton wrote in 1569: 'The auncients of olde

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27 An Phan, in conversation with the author, 11 June, 2002. These events took place just before the communist takeover of South Vietnam.
29 *ibid.*
30 From the dedicatory epistle to Conrad Lycothenes' *Chronicon*, quoted by Daston and Park, *op. cit.*, p. 183. The meaning of 'natural' in the early modern period is discussed in Chapter 5, pp. 92-3.
31 OED.
time... judged it [a monstrous birth] to be the foreknowledge of their misfortune. In not a single case from 1500 to 1700 was the arrival of a monstrous child used to predict the future. They were signs of another kind, in that they coincided with, and so drew attention to (or, one might say, pointed to) important contemporary events. Monsters (for example the Ravenna monster, see below) were often reported after the event of which they were supposed to be a sign and could not possibly have been said to predict it. There is a further analogy between a sign of this type and a signpost, as both must have a specific location and appearance in order to be useful. For a monstrous birth to function as a sign it was necessary for the reader to know when and where it was seen and what form it took, information that printed accounts usually provided.

Images such as the pictorial device on a banner or the board outside an inn were also ‘signs’ (signa, a mark or token), an example of how a sign might not only physically point out where something was but also represent it symbolically (symbol, from the Greek, also means a sign or token). The archetypal symbol was the creed; the ‘mark’ or ‘sign’ of a Christian, and the term was later applied to the Eucharistic elements. Underlying these signs were acts of a miraculous nature that served to demonstrate divine authority – Moses was seen to be trustworthy because he had received the power to ‘do signs.’ Later we shall see examples of monstrous births that were taken as signs of specific events with which they coincided in time (a famine or a battle, for example) but many others were symbols (‘outward and visible signs’ like the Eucharist and other sacraments) of the workings of the Creator behind the scenes.

Theologians and moralisers used the symbolic value of monsters to construct emblems. Although the terms symbol and emblem were not distinct in early modern usage – emblems were sometimes known as symbolon (and sometimes as device, impressa, hieroglyphs, icon or posies) it is convenient to adopt the modern distinction between a symbol – ‘a material object representing or taken to represent something material or abstract’ – and an emblem. Although an emblem is difficult to define, a typical ‘emblem’ consisted of a title, epigram, and picture. It has been estimated that, between 1531 and 1700, over 1,000 emblem books by more than 600 authors, and containing over 1,000,000 emblems of this

32 Fenton, op. cit., fol. 14. Caspar Peucer’s (1525-1602, Professor of Medicine at Wittenberg) Commentarius de Proxepis Divinationum Generibus... (Wittenberg, 1553) dealt with divination by means of monstrous births as well as by the stars, weather, fossils and other phenomena. It is perhaps the most overtly esoteric of the monster books and was dedicated to Edward VI.

33 According to St Cyprian, Bishop of Carthage (c 250 AD).

34 Exodus 4, 17.

35 OED.

type, were published.\textsuperscript{37} Emblems emerged as a literary form early in the sixteenth century\textsuperscript{38} probably, I suggest, for the same reason that monsters did, as it became technically feasible to produce illustrated books in relatively large numbers. In these emblem books, each image was accompanied by a motto and was intended to have a self-contained meaning. They were meant to entertain and instruct: '[a]t least half the point, if not the pleasure, of emblem books was puzzling through the cunning (or plodding) analogies between the exterior world and their meanings for the interior life of the spirit.'\textsuperscript{39} Emblematic images also accompanied more substantial texts, such as works on alchemy. They did not merely illustrate the text, but were interpretable apart from it, as 'an independent pictorial language.'\textsuperscript{40} Emblems did not have to include pictures; there was also emblematic language. Skill in this sort of elaborate play on words (known as emblematics) was a desirable attribute in polite society, and courtiers would amuse themselves with these verbal conceits: 'often "emblems" as we nowadays call them, were devised; in which discussions a marvellous pleasure was had.'\textsuperscript{41}

The emblematic message conveyed by monstrous births was often more like a cryptogram than a telegram, and scholarly writers supplied interpretations for those less learned than themselves. Martin Luther's pamphlet describing a 'monk-calf'\textsuperscript{42} is one of the best-known examples of a (non-human) monster used to convey a theological message (Fig. 2). The birth of a malformed calf that resembled a monk was presented as an emblem of the supposed corruption of the monasteries. The purpose of such tracts was to use the monster to convey a theological or moral message, not to use theology to explain a monster. Writers such as Luther invested monstrous births - popular curiosities - with emblematic meanings in order to convey moral and theological arguments effectively:\textsuperscript{43} people who would not read a theological tract might have read an account of a monster. While physical 'causes' of monstrous births such as excess of formative material or heredity were recognised both by writers of popular literature and by natural philosophical authors such as Ambroise Paré (among the other 'causes' of animal-human intermediates

\textsuperscript{37} Peter Daly, quoted by Michael Bath, 'Recent developments in emblem studies' \textit{Bulletin of the Society for Renaissance Studies} vol. 6, part 1 (1998), pp. 15-20, comments that the emblem 'helped to shape virtually every form of verbal and visual communication during the sixteenth and seventeenth centuries. The emblem is consequently a cultural phenomenon of major significance.'

\textsuperscript{38} Manning, op. cit., p. 14.


\textsuperscript{40} Klossouski de Rola, op. cit., p. 8.


\textsuperscript{42} Philip Melanchthon and Martin Luther, \textit{Deutung der zwei greulichen Figuren, Bapstesels zu Rom und Munchhulbs zu freyheug in Meyssen fundes} (Wittenburg, 1523).

\textsuperscript{43} The symbolism in Luther's tract seems to be at odds with his statements about the unambiguity of divine revelation, for example: 'the Holy Spirit... cannot have more than one most simple sense' - see Thomas H. Luxon, "Not I, but Christ": allegory and the puritan self \textit{ELH} vol. 60 (1993), pp. 899-937 - however it is perhaps unreasonable to expect Luther to have presented a single coherent view.
recognised by early modern writers were, for example, bestiality, maternal impressions, degeneration of the seed in utero, and co-incident resemblance), they were not emphasised, because the emblematic value of the monster was seen as more important than knowledge of its causes: 'monstrous births might mean many things, but they could not be allowed to mean nothing.' Even the humble placenta could be part of the language of emblems: the engraved additional title leaf from Johan von Hoorn's *Jont-Giert* depicted a placenta as (we are told in the accompanying verse) the rose of Jericho, a plant thought to expedite parturition (Fig. 3).

**Collecting and classifying**

Collecting and classification are often seen as means of imposing order. Findlen for example regarded collecting as part of 'a broad cultural trend to normalise the marvellous.' Classification will be dealt with at length in Chapter 5 where I shall examine its influence on intellectual approaches to monstrous births as well as the apparent conflict between the theory that monsters were things that defied classification and the development of many and varied classifications of monsters. Classifications were either ontological or morphological, and the need to fit birth defects into a classification carried with it a requirement to understand either the cause or form of birth defects with ever-greater precision, as classifications became more exacting. Seventeenth century museums commonly displayed preserved foetal material (although, so far as I am aware, there is no surviving example of a foetus with congenital malformations from before the eighteenth century) but the case report proved a more durable form of collecting. Seventeenth century physicians and natural philosophers chose to report cases of monstrous births not for the clinical or natural philosophical inferences that could be drawn from them (the interpretative element was still very minor, though by the very end of the seventeenth century there are some signs that birth defects were being studied as 'natural experiments') but as part of the wider process of collecting nature.

It is apparent that the only way reliably to categorise dysmorphic infants (at least without the benefit of cytogenetics) is to have examined a large number of cases. Dysmorphology is a good example of the diagnostic value of accumulating units of knowledge, so beloved

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of seventeenth century collectors and so derided as ‘stamp collecting’ later on. 48 Collecting (both physically and in the sense of adding a case to the literature) monstrous births was in some ways comparable to the taxonomic work that was being undertaken on animals and plants. Classification in teratology appears superficially analogous to animal and plant taxonomy (some authors such as Bauhin and Aldrovandi worked in both areas) and classifications of monstrous births were presented as though whole races rather than isolated examples were being described. 49 One important distinction is that there is a permanent (if one ignores evolution and extinction) and collectable population of animal and plant species on which the taxonomist can draw, whereas the dysmorphologist must await his chance to encounter a new case. If a dysmorphic child is not preserved either physically or as a written account its perhaps unique features are lost forever. Museums and publication were prerequisites for the modern discipline of dysmorphology to emerge.

It was the form or structure of a monster that made it monstrous, and the analysis of form was the common denominator of all accounts of monstrous births. The anatomical examination of foetuses was closely linked to the study of monstrous births: the bodies of children with major birth defects were commonly dissected, and their internal anatomy was published along with details of their external features, behaviour and background as part of the overall description. Perinatal autopsies were performed, both in universities and by physicians in practice, on children who had died of congenital malformations. These autopsies could be very detailed, and probably differed little in technique from dissections performed for anatomical teaching. 50 In the literature of the sixteenth and seventeenth centuries there appears to be no example of a paediatric autopsy performed to determine the cause of death. Most were carried out on conjoined twins, and were intended to determine whether the birth represented one or two individuals. A smaller number were performed to study the morphology of other types of malformations. Towards the end of the seventeenth century, with the rise of the learned societies, information from autopsies began to be more widely published and was just beginning to be seen as a means to elucidate normal mechanisms of embryonic development.

48 This derogatory term may have originated with the physicist Lord Rutherford, who described taxonomists as ‘stamp collectors.’ Luis Alvarez used the same term to describe palaeontologists (Purcell and Gould, op. cit., p. 46).

49 An observation first made by G.J. Fisher, ‘Diploteratology’ Transactions of the Medical Society of the State of New York (1866), pp. 207-96: 208: ‘The grand objection to a strictly scientific classification of compound monsters is found in the fact that they cannot be continued by natural propagation... yet it cannot be denied that there are certain well determined facts, constant and definite characters, upon which orders, genera, and species may be founded...’

50 An example is shown in Jan van Neck’s painting The Anatomy Lesson of Dr Frederik Rusch.
One-in-two

Conjoined twins are by far the most common type of birth defect described in the sixteenth and seventeenth centuries – they account for just over a third of all cases – yet they are rare among congenital malformations. These rare abnormalities were favoured for publication over other types of birth defect: indeed they were the archetypal ‘monstrous birth’ (the illustrator of a ballad that mentioned monstrous births without describing them drew conjoined twins). The interest in and tendency to ‘over report’ conjoined twins has continued to the present day:

Still, most people have an emotional reaction of either attraction or repulsion. Laymen ask questions about its cause; physicians tend to report every case, sometimes more than once; members of the news media frantically cover the event; and parents often wish to conceal the occurrence. Our state of enlightenment may not be as far from that of the fifteenth century as one would wish.

In both popular and scholarly writings a common subject of discussion was whether conjoined twins represented one or two individuals. This question had practical implications when liveborn twins were to be baptised (as baptism ought not to be repeated unnecessarily) and extensive theological discussion took place on this subject, though in practice conjoined twins were almost always baptised separately, regardless of the mode of union, even if one was ‘parasitic.’ The perinatal autopsy developed as a mode of investigation of conjoined twins largely because it was hoped to obtain from their structure information that was of use in deciding whether such twins had separate ‘souls.’

The status of monstrous births as intermediates – transgressors of boundaries such as animal/human, male/female, and single/twin – is perhaps a property most clearly seen in conjoined twins. Twins are special cases biologically (dizygotic twins excepted – they are no more alike than any siblings are, although this distinction was not generally made in Early Modern Europe) and socially. Anthropological studies also show the special properties attributed to twins: the Nuer people of Southern Sudan treated twins as one social person:

Like a historical event [my italics], their birth is a sign of the intervention of Kwoh (spirit). Because of this, and to distinguish them from ordinary men, Nuer call human...

51 In modern times, conjoined twins occur with a frequency of approximately 1 in 50,000 to 1 in 100,000 births and there is no reason to believe that their incidence has changed substantially.
twins birds, because birds are the creatures closest to the primary abode of Spirit, which is the sky.54

These anthropological observations have several parallels in the interpretation of twin births in the sixteenth century. Firstly, twins – especially conjoined twins – were signs of supernatural (or divine) intervention and secondly they were historical events because there was assumed to be a reason why they occurred at a particular time. Timing was an important feature of sixteenth century ‘wonder books’ such as Lycosthenes’ *Prodigiones ac Ostentomen Chronicon* (1557), which was arranged in chronological order and included blank pages for the reader to add further significant events as they occurred.55

In his studies of the Nuer, Sir Edward Evans-Pritchard speculated on why twin births were seen as a special revelation of spirit, concluding that it was because they were unusual events.56 The Nuer did not compare twins to birds, they called them birds, a practice that puzzled anthropologists and which is curiously similar to some animal/human comparisons found in the literature of monstrous births. The explanation that monstrous births attract attention because of their rarity was current in the seventeenth century.57 While it undoubtedly explains some of the interest in monstrous births, it is not the whole story, as there are many rare but unregarded phenomena. Willis58 proposed that twins were ambiguous – two and yet one. This is especially applicable to conjoined twins, which continue to provoke debate over their individuality, and can be applied to monstrous births in general. Because they defy normal categorization, they are not only unusual (rather a circular argument) but also unnatural.59 Their ambiguous status as one-in-two made them monstrous and, seen as being outside the natural order of things, they were interpreted as evidence of supernatural or divine intervention.60 They also possessed an emblematic significance: conjoined twins were, like emblems, inherently ambiguous.

Twins other than conjoined twins are one of the few types of ‘abnormality’ where the monstrous nature of the birth was in doubt. For Pliny the elder (23-79), it had been simply a question of number: multiple births were not monstrous unless four or more were born at once.61 But even simple twin births threatened the boundary between animals and humans, because animals frequently give birth to twins. This link between twins and

55 see Daston and Park, op. cit., p. 187.
56 Willis, op. cit., p. 55.
57 In the work of Liceti, for example. See p. 99.
58 op. cit., p. 55.
59 The meanings of these terms are considered in Chapter 5.
60 Park and Daston, op. cit., p. 34.
animals is also found in anthropological studies: ‘[m]en who have begotten twins are held to have an intimate connection with animals (who also reproduce by multiple births)’\textsuperscript{62} and there is an association between multiple births and congenital malformations, of which Aristotle wrote: ‘...in man monstrosities occur more often in regions where women give birth to more than one at a time...’\textsuperscript{63}

Human/animal intermediates are a common theme in the literature on monstrous births. In particular, human/animal hybrids and the prospect of the formation of animals from the ‘degeneration’ of human ‘semen’ preoccupied early modern commentators. There was of course a longstanding unease over anything that blurred the distinction between humans and animals. In fifth-century Britain, rituals that involved men pretending to be animals, by putting on skins and masks, were considered ‘devilish.’ Christian writers found it difficult to believe that men created in the image of God would want to make themselves resemble beasts: ‘Is there any sensible man,’ wrote St Caesarius of Arles (470-542), ‘who could ever believe that there are actually rational individuals willing to put on the appearance of a stag and to transform themselves into wild beasts?’\textsuperscript{64} Gerald of Wales reported the supposed offspring of a bitch and a monkey that were killed because ‘their deformed and hybrid bodies revolted this country bumpkin’\textsuperscript{65} Even Paré, usually eager to tell a good story, balked at illustrating or even describing supposed human/animal hybrids:

Now I shall refrain from writing here about several other monsters engendered from such grist, together with their portraits, which are so hideous and abominable, not only to see but also to hear tell of, that, due to their great loathsomeness I have neither wanted to relate them nor to have them portrayed\textsuperscript{66}

One explanation for the unease is that human/animal mixtures are, like other monstrosities, intermediates. Salisbury suggested that ‘Humans are uncomfortable with ambiguity,’ citing the disgust often felt about bats, which are ‘neither bird nor beast.’\textsuperscript{67} The Mosaic laws offered a scriptural foundation for the dislike of intermediates in general: allowing cattle to mate with different breeds, and even sowing a field with mingled seed were forbidden.\textsuperscript{68} Even the biblical text ‘He made him male and female’ was being misunderstood:

\begin{itemize}
\item\textsuperscript{63} The Generation of Animals, book 4, ch. 4.
\item\textsuperscript{64} Quoted in Montague Summers, \textit{The Geography of Witchcraft} (London, Routledge & Kegan Paul, 1927), p. 69.
\item\textsuperscript{65} Joyce E. Salisbury, \textit{The beast within: animals in the Middle Ages} (New York, Routledge, 1994), p. 140, her translation.
\item\textsuperscript{66} Paré, op. cit., p. 73.
\item\textsuperscript{67} Salisbury, op. cit., p. 139.
\item\textsuperscript{68} Leviticus 19, 19.
\end{itemize}
... for some have feared to say, He made him male and female, lest something monstrous, as it were, should be understood, as are those whom they call hermaphrodites, although even so both might be understood not falsely in the singular number, on account of that which is said, 'Two in one flesh.'

Human/animal intermediates were not necessarily hybrids: they could be seen as examples of continuity, creatures that fitted into more than one overlapping category, just as Aristotle considered seals, bats and sponges (zoophytes) to belong to two categories at the same time. Intermediates of this type were part of the fullness of creation – in which every possible creature was represented.

Nevertheless, there seems to have been a growing distaste for human/animal intermediates in the early modern period, which may have been linked to fears of 'degeneration' of humans into animals. For humans to give birth to animals was seen as a real possibility, and while theories of degeneration may have excused the parents of animal-like offspring from the charge of bestiality, the idea of the beast within was deeply troubling.

Against nature

'Hideous' monsters are found among us, wrote Cornelius Gemma (1535-1577) in 1575, 'now that the rules of justice are trampled underfoot, all humanity flouted, and all religion torn to bits.' Monstrous births transgressed not only anatomical or natural boundaries but also moral and legal ones, and much of the sixteenth century popular literature on monsters linked them to sinful acts. Either their parents had sinned, or society in general was sinful (the latter explanation was used for non-human monsters). Monsters could be portrayed as punishments or warnings for sinners, or as the direct consequence of transgressions of the 'law of nature.' The two were not incompatible: according to St Augustine every sin was against nature and Paré argued that God's punishment for sinners consisted in His permitting unnatural sexual unions to be fertile, so that the sinner was punished by the natural results of his transgressions:

'It is certain that most often these monstrous and marvellous creatures proceed from the judgement of God, who permits fathers and mothers to produce such abominations from the disorder that they make in copulation, like brutish beasts, in

70 See Lovejoy, *op. cit.*, pp. 56-7. The ape, for example, was considered as 'participating in the nature of both man and quadrupeds.'
71 Quoted in Daston and Park, *op. cit.*, p. 175, their translation.
which their appetite guides them, without respecting the time, or other laws ordained by God and Nature. 

Religious, human, and natural laws formed a mutually supportive structure: bestiality was at the same time a sin, a crime, and 'against nature.' Legalistic approaches to monsters are particularly to be found in the witchcraft literature, where extensive discussions of the rôle of evil spirits in the generation of monsters contrast with a paucity of cases. Difficult-to-categorise individuals such as hermaphrodites could also find themselves on the wrong side of the law:

Both the ancient and modern laws have obliged and still oblige these latter [with well-formed genitalia of both types] to choose which sex organs they wish to use, and they are forbidden on pain of death to use any but these...

Had they truly combined male and female natures in equal parts they might have been blameless, but it was believed that one sex was always preferred, so that the presence of the other was unnatural: 'No hermaphrodites ever used both sexes perfectly, but at least one of them weakly and abusively; and consequently, they are justly punished by the Laws.'

Punitive or warning interpretations of monstrous births may not have been as alarming as is sometimes suggested. Monsters as signs of divine intervention could be used to show that every birth was dependent upon divine providence. The occasional monstrous birth was a reminder that God was always active behind the scenes. The author of the ballad description of a 'Childe with Ruffes' reproved himself for the suggestion that the child was a sport of nature:

By nature's spite, what do I say?  
Doth nature rule the roost?  
Nay God it is say well I may

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72 Paré, op. cit., p. 5.  
73 Barbara J. Shapiro, *Probability and certainty in seventeenth-century England: a study of the relationships between natural science, religion, history, law, and literature* (Princeton, NJ, Princeton University Press, 1983), pp 164-6. In the sixteenth century, an increasingly historical approach to law was adopted in Europe, partly as an appeal to the Renaissance ideal of an 'ancient constitution,' and partly because of the growing requirement to establish the reliability of documents and witnesses: because of population growth and social changes, juries could no longer be relied upon to have first hand knowledge of the circumstances of a case. As Shapiro observes, both law and 'science' shared similar ideas of credibility and concern for truth: Bacon for example claimed that the proper method of obtaining knowledge was the same in both spheres of enquiry. Both canon and civil laws were concerned with monstrous births, as shown by debates concerning their baptism.  
74 Paré, op. cit., p. 27.  
By whom nature is tost

The classical and patristic idea of the monster as a mistake or slip of nature (peccata naturae, which might also be translated as sins of nature) was superseded by the perception that all births, monstrous or otherwise, were part of God’s plan, in which monsters were emblems, perhaps, of human sin. What was unnatural in men’s eyes was not so to God:

All things are natural to God on hye,
But here below in every mortal thing,
Gains't nature's lore some wonder forth doth snyng... 77

In the seventeenth century interest in monsters as slips of nature was revived. Liceti addressed the problem of how nature could be said to make a slip by referring to the idea of a ‘secondary plan’ of nature. He emphasised ‘natural causes’ while rejecting the ‘vulgar’ concept that nature simply made a mistake. Liceti’s interpretation of the role of nature in monstrous births was carefully expressed: he used the Latin word error (going astray) to describe the process (‘nature produces monsters in error…’) but denied that nature sinned (peccat).

Reading the monster of Ravenna
Perhaps the best known of all monstrous births is the monster of Ravenna. Drawings of it are reproduced on the covers of books and in articles dealing with monstrous births and the history of teratology (Fig. 4). The Ravenna monster, which at first sight appears fanciful, illustrates some approaches and difficulties to reading early modern accounts77 in which the emblematic image can ‘almost by definition, be interpreted in more than one way.’ According to an early source, this monster was born at Bologna on 22nd March 1512. News of it soon spread by letters, broadsides and pictures; the Florentine apothecary Luca Landucci saw a painting of it and wrote a description in his diary81 and it was also illustrated in a woodcut of 1513.82 A German broadside of 1512 depicted the same monster, but stated that it was born in Florence on 27th February. Niccoli suggests that these illustrations had a common source, now lost, perhaps a monster born in Florence in 1506. The monster was presented as a portent of the battle of Ravenna83 but a poem on the battle described a different monster, which had two heads.

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77 Batman, op. cit., fol. vv.
78 Daston and Park, op. cit., p. 200.
79 For a meticulous analysis of its history the reader is referred to Niccoli, op. cit., pp. 35-51.
81 Daston and Park, op. cit., p. 177
82 Niccoli, op. cit., p. 39.
83 11th April 1512.
Clearly the description had become corrupted, perhaps by initial exaggeration to emphasise its deformity, or by descriptions of genuine malformations becoming exaggerated or conflated as the tale was passed around. The variety of illustrations as artists attempted to match the text, or copied and embellished earlier images, acquired a life of their own, distinct from the prose descriptions. By 1557, the monster illustrated by Lycosthenes had one leg rather than two and bird's wings rather than bat's wings. This one-legged monster became usual in later literature. Modern interpreters have risen to the challenge and ascribed the case to various combinations of sirenomelia, cyclopia, and hemiamelia, while ignoring elements that do not 'fit.' Most attempts to diagnose 'the monster of Ravenna' have used illustrations based on those of Lycosthenes although these differ from earlier two-legged versions (Fig. 4). Most commentators have concluded that the monster represents an actual case, but if so, it does not truly correspond to any recognisable condition.

The rôle of the Ravenna monster as a portent changed over the years, according to the requirements and opinions of those describing it. The text of two early woodcuts stated that it was born in a Florentine convent to a nun impregnated by the Pope, but by 1512 its birthplace had been re-located to Ravenna on the eve of Louis XII's victory over Julius II. The contemporary French chronicler Joannes Multivallis and many later writers treated the anatomy of the monster as emblematic of the sin purported to have given rise to it. The illustrations draw on a tradition of human/animal mixtures: images of a monstrous human figure with wings and bird's feet predate the monster of Ravenna (Niccoli, 1990) and have a very long history. The goddess Lilith - who enjoyed something of a renaissance as the serpent/devil in paintings of the temptation of Adam and Eve - is traditionally depicted with wings and owl's feet (Fig. 5).

84 Daston and Park (op. cit., p. 179) have observed that the monster resembles composite 'memory images' that were used to help learn texts. Eugen Holländer, *Wunder Wundergeburt und Wundergestalt in einblattdrucken des fünfzehnten bis achtzehnten jahrhunderts. Kulturhistorische studie* (Stuttgart, Ferdinand Enke, 1921), pp. 314, 317-9 reproduces various illustrations from 1506, 1512, and 1514.

85 The most outstanding example of confident diagnosis is that of M.T. Walton et al., 'Of monsters and prodigies: the interpretation of birth defects in the sixteenth century' *American Journal of Medical Genetics* vol. 47 (1993), pp. 7-13: 12: 'It [the Ravenna monster] appears to be an example of the sirenomelia sequence: severe caudal "regression," fusion of the lower limbs, hydrocephalus with bulging of the anterior fontanelle, upper limb deficiencies, and pterygium.'


88 Daston and Park, op. cit., p. 181.
Some later illustrations of the monster show it as an hermaphrodite (with male and female external genitalia side by side). The prevalence of hermaphrodites amongst cases of monstrous births is, I propose, in the most part due to children described as ‘sexum utroque’ being equated with hermaphroditism instead of the sexual indifference that, as miscarriages in the first trimester, many monsters would have shown: hermaphrodites were conventionally depicted not as sexually indifferent but with both male and female genitalia. By transforming the monster of Ravenna into an hermaphrodite, commentators ensured that it was seen to show the ambiguous duality that characterised monsters:

Natural Reason admits not Hermaphrodites... for Nature having never put into the same subject an internal and radical principle of two contrary desires, as that of man is to that of woman, (the one consisting in action, the other in passion; the one in giving, the other in receiving) they cannot belong to one single individual... a thing cannot be and not be at the same time.*

Unlike the majority of cases in this study, the Ravenna monster is described in a large number of primary sources, which have been extensively studied. Variations in dates and locations of the monster may reflect a desire to provide a sign for a specific occasion. Illustrations varied in technical competence and were sometimes drawn from the text description, or plagiarised. The written text and the illustration evolved in parallel. Descriptions from the sixteenth and seventeenth centuries used stock phrases that can appear very misleading if interpreted literally. Descriptions such as “birds’ wings” were, I suggest, no more intended to be taken literally than ‘hare lip.’ Illustrators of the monster of Ravenna drew feathers to show a bird-like wing, but I suggest that the comparison was intended to be with the wing of a plucked bird. This was exactly how the arms of the eighteenth century foetus known as the ‘chicken man’ were described in 1737. Feet described as being like those of birds or animals were usually depicted as such and could be read as a lobster-claw deformity, with missing digit(s) and deep clefting, giving a superficial resemblance to a bird’s foot, were it not for the frequency with which this deformity occurred: Schott devoted an entire category to monsters with the feet of ‘evil beasts’ (lobster-claw type deformities of the feet are very unusual). Talipes is a common deformation that may account for some of these cases.

Illustrations were broadly of three kinds. Book illustrations were often decorative figures added to the text. In Batman’s Doome, for example, the same woodcuts appear more than once on different pages: the text describing a monstrous birth is accompanied by a picture

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89 Renaudot, op. cit, p. 578.
of a monster, any monster, to draw the reader’s eye to it. At the other extreme were illustrations made from life by artists who visited the case. Occasionally there is documentary evidence of this mode of working but usually it has to be inferred from the result. Most illustrations lay between these extremes: a particular case was represented, but not in a naturalistic way. These illustrations may have emphasised the monstrous nature of the children depicted by exaggerating their intermediate or dual state. I do not believe that unrealistic illustrations of this kind were the product of artistic laziness or error. They were not passed off as illustrations from life, but were depicted in a non-realistic way in order to indicate their status as emblems. Newborn babies or stillbirths (their ages were given in the text) shown alive, older than their actual years and standing or walking and monsters depicted with, for example, feathered wings or an animal’s head invited emblematic interpretation.

Perry Long wrote of the monster of Ravenna:

...to a large extent the reading creates the monster. A “normal” body would simply enter at birth into an already established system of meaning known as culture. A monstrous body remains outside any such system, being exceptional, and must have a new system created in order to be read into the established culture... The narrative thus becomes a means of eliminating that which is unusual and therefore unreadable and unacceptable. The hermaphroditic/monstrous body is simply forced to fit...91

I argue that, rather than being made to fit in, monsters in the sixteenth and seventeenth centuries were made to stand out, as monsters were seen as outside the normal course of nature and they were therefore not neatly classifiable. Monsters, almost by definition, did not fit into existing structures (cultural, linguistic, or philosophical). They were unnatural, due to their falling between supposed dichotomies such as male/female human/animal, or single/twin. Their presence in a morphological or conceptual grey area, their resistance to categorisation, made them monstrous. Ambiguities of gender and species were emphasised in order to make them special cases. Thus hermaphroditism was imposed upon the monster of Ravenna in order to confirm its place outside the range of normality, and when a pair of female conjoined twins was born in 1655 (see Appendix 1) the midwife had been obliged to describe them as being of different sexes as the accepted belief was that conjoined twins were hermaphrodites.

In his consideration of the relationship of animals to human society, Man and Beast, Roy Willis concludes that the dualistic nature of animals, as fellow-creatures yet outside

humanity, is the key to their profound significance. Animals that defied classification acquired a particular importance: "There is an animal, half-bird, half-animal, the flying squirrel or scaly tail, which seems to the Lele uncanny because it defies normal classification, and so this too is avoided by women because... they are not sure what it is, bird or animal." Daston and Park make this claim about 'wonders' in general, of which monstrous births are the prime example: '[a]s theorized by medieval and early modern intellectuals, wonder was a cognitive passion, as much about knowing as about feeling. To register wonder was to register a breached boundary, a classification subverted. Clearly, there has to be a classification for a creature to subvert it. Any attempt at categorisation creates monsters in the gaps between established categories:

No doubt the first essential procedure for understanding one's environment is to introduce order into apparent chaos by classifying. But, under any very simple scheme of classification, certain creatures seem to be anomalous. Their irregular behaviour is not merely puzzling but even offensive to the dignity of human reason. We find this attitude in our own spontaneous reaction to 'monstrosities' of all kinds.

Responses to plant/human resemblances also reveal a fascination with intermediates. Plants that mimic the human form, for example ginseng and mandrake roots, have acquired an extensive mythology. A radish in the shape of a child's hand, found in New England in the early eighteenth century, was taken to the local magistrate, 'who order'd it to be put into some Spirits to preserve it... and abundance of People resort Daily to see it.'

Daston and Park refer to 'horror' of monsters and even 'repugnance.' The former includes moral as well as aesthetic outrage: '[t]he horror did not spring simply from the confusion of categories - animal and human, for example, or male and female - that anthropologists have placed at the heart of ideas of pollution; its roots lay rather in the perceived violation of moral norms.' One explanation for the attention given to monstrous births is that they horrified the onlooker by subverting normal categories. Some of the stories told about them seem to support this view: the Spartans loathed hermaphrodites and left them to die, and a rustic killed a monstrous animal that looked too like a human child. Of course, there are other possibilities than a strong emotional reaction to explain

92 Willis, op. cit., p. 9.
93 ibid., p. 15.
94 ibid., p. 30.
96 Douglas, op. cit., p. 32.
97 James Paris Du Plessis, A Short History of Human Prodigious & Monstrous Births of Dwarfes, Sleeper, Giants, Strong Men, Hermaphrodies, Numerous Births, and Extreme Old Age &c (1730), pp. 159-160. A description of the radish was sent to England, and Du Plessis included it in his essay on 'monsters.'
98 Daston and Park, op. cit.
this type of behaviour. The killing of abnormal infants may have been regarded as euthanasia, or as the equivalent of 'therapeutic' abortion, as they placed too great a burden on society. Throughout the early modern period, monsters were routinely exhibited in the public view and were seldom killed or concealed. Unless we suppose that observers enjoyed being horrified and wanted opportunities to show their disgust — and there is no evidence for behaviour of this kind — other explanations for why people were prepared to travel, pay money to see, and buy and keep images of monstrous births must be sought. I suggest that the reaction to intermediates was more complex than terms such as 'horror' and 'repugnance' suggest. Attitudes to monsters were as ambivalent as the monsters themselves. Intermediacy between human and animal, intersex, and physical deformities are all characteristics that have been revered as well as tabooed.99 'One-in-two' was 'scandalous, unthinkable, and much to be desired.'

**Truth under the veil**

The ambiguity of monsters suited them to use in emblems: a use that would have been readily appreciated at a time when emblem books and visual allegories were commonplace. The use of monstrous births as emblems does not imply that the monsters themselves were inventions. In his study of seventeenth century imagery, Praz has emphasised that emblems (for which he uses the term 'devices') were expected to utilise genuine properties of their constituent elements: '[o]ne would, however, be mistaken in thinking that the device-writers were ready to take up any fable; on the contrary they insist upon the exclusion of the fabulous.' He quotes from the Italian scholar Scipione Bargagli:

> In the main subject of the devices there can be no room, according to my firm belief, for mere fictions; since we must deal with real things and we have to explain and prove them... those will be rightly blamed who have made and will continue to make use of the false properties of things universally known to be false.

The pelican feeding its brood with its own blood is a valid emblem only if this is, or is believed to be, what a pelican actually does.

An important early text in Renaissance emblematics was Horus Apollo's *Hieroglyphica*, a work purporting to explain Egyptian hieroglyphs, discovered in 1419 by a Florentine

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99 Sir James George Fraser noted that some animals were regarded as both 'unclean' and 'divine': *The Golden Bough: A study in Magic and religion* (London, Macmillan, 1913), part 5, vol. 2, p. 24.


102 (d. 1612) whom Praz regarded as 'one of the chief authorities on devices' in sixteenth century Italy. The quotation is from his *Delle Imprese* (Sienna, 1578).
monk and circulated in manuscript before being printed in 1505 by Aldus. Hieroglyphs appealed to the Renaissance love of codes, hidden messages and secrets, as well as to the interest in ‘arcana,’ the wisdom of the ancients. This work was translated into many languages and, it has been suggested, inspired other emblematic works such as the *Hypnerotomachia Poliphili* by Fra Francesco Colonna.\(^\text{103}\) In a 1600 edition of this work under the title of *Le Tableau des Riches*... François Beroalde wrote:

> this Author... follows the manner of the Ancients who veiled any kind of philosophical truth with certain agreeable figures which attracted mens hearts, either to detain them upon the husk of what offered itself, or to strive to open that which hid the inner beauty in order to enjoy it, thus both pleasing the vulgar and satisfying those desirous of perfection.\(^\text{104}\)

Monstrous births undoubtedly pleased the vulgar. Some explanations for the changing iconography of the monster of Ravenna have already been offered, and the final, ‘standard’ image of this monster seems to invite an emblematic interpretation, not least because characters and symbols have been added to it – one way of creating emblems from pictures. Almost any existing picture could be adapted for use as an emblem in this manner: Goosen van Vreeswijk (1626-c.1689) provided emblems for his alchemical work by adding symbols to existing and unrelated illustrations.

The hermetic tradition provides alternative readings of the hermaphrodite. The Greek god Hermes (Mercury, who holds the Caduceus)\(^\text{105}\) united with Aphrodite, the goddess of femininity, who bore the man-woman Hermaphrodite. Alchemists represented the union of masculine and feminine by the so-called hermetic androgene or rebis. The *Rosarium Philosophorum* of 1550 illustrated the androgene, the product of the union of sol and luna (sulphur and mercury), as a dicephalic human body with concealed, and therefore ambiguous, genitalia. This image would have been as familiar as the depictions of conjoined twins of opposite sexes, which were also hermaphrodites. A later alchemical work, *Atlanta Fugiens* (Maier, 1618, emblem 33) depicted the hermaphrodite as a dicephalic twin with one male and one female head and male and female external genitalia. Nature could imitate art:

> [a]nd though 'tis a fiction of the Poets that the son begotten of the Adultery of Mercury and Venus was both male and female... yet we see in Nature some truth

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103 Published by Aldus in 1499.
105 The snake is another symbol of duality; see the discussion of dualistic animal symbols in: Christopher Lawrence, *The healing serpent – the snake in medical iconography* *Ulster Medical Journal* vol. 47 (1978), pp. 134-140: 138-40.

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under the veil of these Fables. For the greatest part of insects and many perfect animals have the use of either sex.\textsuperscript{106}

In \textit{Symbola Aureae Mensae} (Maier, 1617) the androgene holds the letter Y, a sign that: "[t]he androgene or Rebis (the double thing) results from the conjunction of the twin Principles, obtained with the help of the double saline mediator of which the Y is a symbol."\textsuperscript{107} This Y also appears on the breast of the Ravenna monster, where it acquired another meaning: "by this figure Y, & the crosse, they were two figures of salvation, for \textit{Ypsilon} signifieth vertue: the Crosse sheweth that all those... wil returne to Jesus Christ..."\textsuperscript{108}

Accounts of monsters were intended to present them as emblems of the combination of two natures. Anencephalics were described as having the head of a frog, a creature that, being amphibious, combined elements of earth and water (the Egyptian god Nau, represented as frog-headed, was also androgynous, shown sometimes as male and sometimes as female).\textsuperscript{109} A child with a facial cleft was said to have a leopard's head. This unusual choice of comparison with an animal that most readers would never have seen (why not a cat?) may be explained by the hybrid nature of the leopard (leo-pardus, a hybrid between a lion and a panther):

> Amongst beasts, Leopards, Mules, Doggs, and many others, partake of two different natures; the Bat is between a beast and a bird, as Frogs, Ducks, and other amphibious creatures, partly fish, and partly Terrestial Animals. The Bouaretz is a plant and an animal; the Mushrome is between earth and a plant.\textsuperscript{110}

Descriptions of monstrous births drew attention to their dual nature both anatomically, for example through emphasis on shared organs in conjoined twins, and emblematically, through the use of symbols of duality from the world of alchemy or by the suggestion of human/animal intermediates.

Early modern writers made the distinction between actual cases and stories, or 'poetical' accounts:

... there was a mayden childe borne, having foure legs, foure armes, two bellies, proportionable joyned to one back, one head with two faces, the one before, & the

\begin{itemize}
  \item \textsuperscript{106} Renaudot, \textit{op. cit.}, p. 578.
  \item \textsuperscript{107} Klossouski de Rola, \textit{op. cit.}, p. 114.
  \item \textsuperscript{108} Fenton, \textit{op. cit.}, fol. 139r.
  \item \textsuperscript{109} Ad de Vries, \textit{Dictionary of Symbols and Imagery} (Amsterdam, North-Holland, 1984), pp. 204-5.
  \item \textsuperscript{110} Renaudot, \textit{op. cit.}, p. 578.
\end{itemize}
other behind, like to the picture of Janus: the like of this with two several faces under one scull, I never read before in any Chronicle, except by way of a Poeticall report.  

Although they do not fulfil the expectation that emblems used real objects, the emblematic use of monstrous births is however especially well seen in these rare poetical accounts, which were created especially to serve as emblems. The following example, from Batman's *The Doome Warning All Men to the Judgement*... is, like all visual emblems, not an attempt to deceive, but an invitation to discover a hidden meaning, and the account opens with improbable details that signal immediately its 'poetical' nature:

...a maid named *Ida*, about the age of 77 yeares, never suspected by the inhabitantes for any stayne or dishonestye, she was at this age married to one *George*, of the age of 60 yeres. Being married aboute 12 moneths, shee was found with child to the great admiration of many: at the laste shee was delivered of a manne chylde, having three armes, three legges and very terrible to beholde, he hadde three faces, as it were in one head, and in the one of his hands a bloody crosse: In the night tyme there was a shyning lighte aboute the Childe, and aboute his heade a bloodye Sunne and a half moone. There resorted to see this straunge Chylde a verye greate multitude, among whiche pressed a blynde Mayde of the age of fifteene yeres, that was borne blind, who by the touching of this sayd monster was presentlye healed, and hadde her perfecte sighte: and another that was born dumme, at the sighte of the Chylde was restored to hys speeche. Some sayde it was an illusion of the Devill: some sayde it was done by sorcerye or witchcrafte. The Chylde at the laste opened hys mouth and sayde: *You unbelievers greate plagues shall fall on you all, O wo that you received life.* He sayde moreover that in the yere one thousand five hundred eightie and eight the worlde shall stand in so extreme a state, that the people which live in those dayes shall tremble and quake for feare, and having ended these wordes he departed and spued forth flames of fyre, in so muche that the standers by were hurte and scorched therewith, whereupon ensued such a pestilence, that in three dayes there died 8 of the beholders: they carying the Child to the burial, it sodainly vanished from them, no man knew which way.

The monster is depicted with three faces, surrounded by an aureole of the sun's rays (Fig. 6). The symbolic sun and moon on either side of its head, sol and luna, recall the imagery of the hermetic androgyne. The monstrous child has a threefold anatomy suggesting the Trinity, and its very presence is sufficient to work miracles (a good reason for going to see it). A person born blind is healed (recalling John 9, 1-3 – a key text in interpretations of monstrous births)\(^\text{112}\) and a final fiery assumption and vanishing away (as on the road to Emmaus) point even the least perceptive of readers to the monster as an emblem of Christ.

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112 See Chapter 2, p. 46.
Some lowzy ballad? I cannot choose but laugh
At these poor squitter pulps.¹

The literature describing birth defects in early modern Europe can be divided into scholarly publications such as books, theses and sermons, and popular literature such as broadside ballads, canards and advertisements. These two categories are by no means independent as they have a shared content and, potentially, a common readership: many cases in the ephemeral literature subsequently appeared in books, and students of birth defects probably acquired some of their material directly from the popular literature. Although readers of ballads were assumed by some later commentators to have been poorly educated, the audience for ‘popular’ literature of the period is far from clear, and the concept of ‘popular’ and ‘elite’ cultures has been criticised for ignoring the multi-stratified nature of society, with its large numbers of middling groups, and for making the assumption that particular types of culture necessarily correspond to particular social groups.² Popular culture is perhaps best defined simply as being open to everybody³ and the potential readership for ballads was probably quite wide. Publication was rapid: a ballad printed on 5th November described conjoined twins born on 26th October (Appendix 1, 1664b). These ephemeral publications demonstrate two uses of monstrous births, as historical examples of divine intervention and as morality emblems.

**Broadsides**

Ballads or broadsides, so called because they were printed on only one side of the paper, came into existence around the end of the fifteenth century, perhaps as a development from bulls and other official notices which were cheaply printed and widely disseminated. In England itinerant ballad-mongers sold their wares at a halfpenny or a penny a sheet, attracting a crowd by singing their ballads to popular tunes. Broadsides had a variety of formats but the usual layout included a large woodcut illustration with subjoined verses and/or prose text. Some of the verses had suggested song tunes but it is difficult to imagine anyone singing those dealing with monstrous births, although the seller may have declaimed them dramatically to attract customers. Readers probably expected a familiar format and the rhyming and scanning verse could have helped them to follow the text. Broadsides first appeared in Europe around the

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beginning of the sixteenth century, in Germany⁴ and Italy,⁵ and monstrous births formed the subject matter of some of the earliest of these publications. In England, the earliest broadsides, possibly derived from French chapbooks,⁶ did not appear until the 1540s and the first to describe a monstrous birth was in 1552. France was producing ballads of birth defects from the 1570s.⁷

Broadsides were not publications to cherish: some are now represented by a single copy and many others failed to survive. Evidence from England gives some idea of the relative importance of monstrous births compared with other subject matter. From 1557, ballads printed in London had to be registered with the Stationers' Company. These registers provide a complete list of the titles of registered ballads:⁸ seventeen out of 3,081 described monstrous births, mostly born in Britain, with a few European cases also included. The overall range of subject matter was broad, including stories, true crime, and religious controversy:⁹ there was no common theme but the subject had to be sufficiently arresting to persuade passers-by that the broadside was worth their time and money. None of the ballads on the Stationers' register dealt with illness, accidents or other medical matters, so it was not as examples of disease that monstrous births were chosen for publication. One thing that set them apart was their congenital nature.¹⁰ There are also no accounts of the giants, dwarfs, or other 'freaks,' in the ballad literature, although they featured in later advertisements such as those for London fairs. The lack of ballads on these subjects supports a view that the interest in monsters lay in their potential for interpretation as emblems rather than simply as medical curiosities. Ballads about monstrous births could be expected to sell not only because monsters were intrinsically interesting (although they may have been), but also because they carried a message for the reader, a hidden meaning that had to be puzzled out with the writer's help. Writers did not leave the reader in doubt of what was required: the monsters were 'tokens true and manifest,'

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⁴ See Eugen Holländer, Wunder Wundergeburt und Wundergestalt in einblattdrucken des fünfzehnten bis achtehten Jahrhunderts. Kulturhistorische Studie (Stuttgart, Ferdinand Enke, 1921).
⁷ Dudley Wilson, Signs and portents. Monstrous births from the Middle Ages to the Enlightenment (London, Routledge, 1993) gives the most extensive account of the French literature pertaining to monsters.
⁸ I have used the edition by H.E. Rollins, 'An analytical index to the ballad-entries (1557-1709) in the register of the Company of Stationers of London' Studies in Philology vol. 21 (1924), pp. 1-324.
¹⁰ A few cases of deformities in adults were not truly congenital, for example lymphœdema (see Holländer, op. cit., pp. 144-5), but they were probably thought to be.
'signes and tokens strange,' ‘wonderful tokens’ and ‘lessons’ that the reader was enjoined to
‘consider right’ and ‘beh[o]ld with inward eyes.’

Most of the ballads on the Stationers’ register, or in the Harleian Miscellany, survive in name only, and a mere 250 out of thousands of English ballads survive as black-letter copies. Watt, who made a thorough study of English ballads from the period 1550-1640, considered that the apparent glut of ballads dealing with birth defects between 1561 and 1571 probably reflected the survival of a particular collection and argued that such ballads are likely to have been a staple product of presses throughout the 16th and 17th centuries. The evidence from the Stationers’ registers does not however suggest that ballads on monstrous births published during this decade survived preferentially; there seems to have been a genuine upsurge of publication at around this time (this was perceived at the time – 1562 was a year ‘fertile in monsters’ and 1556 ‘so fertile in prodigious accidents’). For the most part broadsides were anonymous: the writers were named in a few cases but none was a well-known literary figure. They were probably town-based professional writers, who often may not have seen the monstrous birth they were describing. For the most part they seem to have been competent craftsmen who could turn a verse or provide a satisfactory description, and whatever their literary merits, ballads offered eye-catching material and were presumably successful in holding their purchasers’ attention.

Although the intellectual level of the readers of broadsides is sometimes assumed to have been low, careful reading does not suggest that those describing monstrous births were aimed at the ‘credulous and ill-educated individual,’ as has been supposed. Ballad-writers took pains to provide supporting details to convince sceptical readers, and the playful use of language seems to have aimed at a readership who, though perhaps ignorant of obstetrics, were no strangers to the printed word:

And monster caused of want or too[o] much store
Of matter, shewes the sea of sinne: whose storm
Oreflowes and whelmes vertues barren shore.

11 Anon., The description of a monstrous Pig... (London, Alexander Lacy for Garat Dewes, 1562).
14 Watt, op. cit., p. 145.
15 According to the chronicles of Hollinshed and Stow; see Philobiblon Society, op. cit., p. xvii and Edward Fenton, Certaine secret wonders of Nature... (London, H. Bynneman, 1569), fol. 148r.
16 Wilson, op. cit., p. 32, quotes Thomas Bodley’s description of them as ‘riffe raffe bookees.’
Faultye alike in ebbe and eke in flowd,
Like distant both from meane, both like extreames.
Yet great excess the want of meane doth shrowde
And want of means excess from vertues meanes.
So contraryest extreames consent in sinne...  18

One of the first printed broadsides to describe a monstrous birth, published in Germany in 1511, illustrated a pair of female omphalopagus conjoined twins and had a Latin text, 19 whereas later broadsides of this type almost all appeared in the vernacular. An early French description of a monstrous birth 20 is also unusual in having the text partly in Latin, suggesting that the publishers, as in Germany, expected a learned audience for these publications but found them also to be of interest to those unable to read Latin. The reader likely to buy a ballad describing a monstrous birth, though perhaps of moderate education, was probably sufficiently well read to appreciate a verse, with a natural curiosity about monsters, and an interest in theological speculation, such as any thoughtful churchgoer might derive from weekly sermons. Perhaps he also relished a respectable excuse to read of 'incestuous copulation' and the like. Ballad-writers, and their male readers, had probably never seen a normal childbirth. It is not surprising under such circumstances that a morphologically normal, though macerated, baby (Fig. 7), was taken by readers, and probably the publisher too, to be a monster, and that a man who had seen the baby and the writer of the broadside both failed to identify the umbilical cord as a normal structure. 21

Often, the prose text of a broadside contained the description and background of a case while the verses offered an interpretation. Sometimes there was no prose text and the verse made no specific mention of the case, the illustration alone serving to particularise it. The illustrations often contain information not found in the text and so the whole was intended to be interpreted together, as were emblems in emblem books. Most ballads began with a large (even life-sized in the case of a foetus), figure of the monster being described. Little is known about the illustrators of ballads but their mode of working can sometimes be inferred from the results: in one early German broadside 22 a pair of conjoined twins (recognisable as parapagus tetrabrachius dipus type) appear to have been realistically drawn from life (or rather, from death, as they look recognisably dead), while in

18 Anon., *The true reporte of the forme and shape of a monstros Childe borne at Muche Horkesley...* (London, Thomas Marshe, 1562), one of the better written English ballads.
22 Anon., *Am XXIII Tag des Mai, also am Sankt-Urbans Tag, zwischen fünf und sechs vormittags, hat eine siebennundzwanzigjährige Frau in der stadt Landshut an der Donau in Beyern...* (n.p., c. 1517), see Holländer, *op. cit.*, p. 65.
another (Appendix 1, 1511b) the artist relied on his imagination to fit the description, and located the limbs in impossible positions (Fig. 8). Rarely, the artist is named; *A true report of a strange and monstrous Child, born at Aberwrick* was illustrated 'by Raphe Cooke, Paynter, of Berwick upon Tweed.'

Amongst those drawn from life are the superb illustrations in *The description of a monstrous pig...* 23 and probably those of *A discription of a monstrous chylde...* 24 in which the illustration shows skin slippage and deformity due to overlapping of the bones of the cranial vault, indicating that the child had been dead for some days *in utero* (Fig. 7). Even quite poorly-drawn representations such as the *fetus acardius* in *The true description of a mons terous chylde...* 25 may have been drawn from the specimen by a poor artist, or from a description of the case by an eye witness (the text does not contain a description): this condition was not recognised at the time and it is not likely that the artist relied on his imagination. Although the text and illustration were intended to compliment one another, artists and writers worked independently: Thomas Bedford’s text of 1635 makes it clear that he has not seen the illustration to which he directs the reader’s attention:

> Not the mere fiction of an over-daring picturer dost thou here behold, but, if he hath done his part, the true portraiture of the work of God, presented to the world to be seen and admired.26

Occasionally the illustrators of books or ballads, who were probably familiar with earlier works with similar themes, provided a picture of a standard type of monster if the text was not sufficiently detailed to serve as a model. A headless monster with a face in its chest, or conjoined twins, were particularly popular in this respect, presumably because these types of monster were well known, and were used where the text gave no clue to the monster’s appearance.27 The illustration of Magdalena Emohre, a woman without arms described in a broadside of 1596, bears a striking resemblance to that of a similar case described in 161628:

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23 Anon. 1562, *op. cit.*
24 D., *op. cit.*
26 Thomas Bedford, *A true and certain relation of a strange birth, which was born at Stonehouse, in the parish of Plymouth, the 20th of Oct. 1635; together with the notes of a sermon preached, Oct. 23d, in the church of Plymouth, at the interring of the said birth* (London, Anne Griffin, 1635).
both are using a key to open a chest, with three books in the background. The illustrator seems to have derived his inspiration from the earlier picture but the cases are presumably different. Re-use of blocks was another labour-saving device, an example being the absurdly small normal twin in a case of *fetus acardius*. Copying and re-use of blocks, the true incidence of which cannot be known as so many publications are now lost, are additional reasons to interpret illustrations of monsters cautiously as they may be standard types rather than specific representations.

The places of publication of ballads on monstrous births were often centres of Protestant scholarship: Germany (especially Wittenberg), Switzerland, and Elizabethan England. There appears to be an association between reports of monstrous births and radical thought: there was something subversive about monsters. The presentation of monsters in the ephemeral literature from a theological viewpoint was partly an extension of the link between religion and secular news that pre-dated printing, when sermons would have been used to give out news to the congregation. Thomas Bedford’s sermon, published in 1635, shows that even the seventeenth century clergyman could be expected to preach on a monstrous birth in his parish.

*Resembling sins – monstrous births as moralising emblems*

The rôle of monsters as signs goes back to the root of the word monster, so-called because it showed (monstrat) God’s will. In classical and mediaeval traditions the birth of a monster was said to precede or to coincide with a significant social upheaval; as Cicero succinctly put it: ‘monsters, signs, portents, prodigies are so called because they indicate, show, portend and predict.’ The well-known English conjoined twins the Biddenden maids were said to have been born in 1100, thus coinciding with the death of William II: although their actual year of birth may have differed from this, it was arranged, like the Ravenna monster, to coincide with an important event. Since these births were presented after the events with which they were

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29 Reproduced in Holländer, *op. cit.*, pp. 123, 126.
30 Barkar, *op. cit.*
31 Bedford, *op. cit.*
associated, they were clearly not used to foretell the future, but were intended as signs to show (in retrospect) that something important had occurred, a sign of the times rather than a signpost to the future. In the sixteenth century these signs became emblems of divine dissatisfaction with human actions. In the book literature individual cases were subservient to general concepts (see Chapter 3), whereas in the popular literature the singularity of cases was emphasised, partly because the value of a monster as a sign lay in its particularity. Monsters had been produced over thousands of years in many places, but the appearance of a monster at a specific time and place was interpretable as evidence of specific divine intervention: 'this monstrous shape to thee England'\(^4\) was a place-specific manifestation of God. The greater incidence of monstrous births at the edges of the known world was accounted for by their peoples’ disorderly conduct, a path that even the English were being tempted towards:

I read how Affrique land was fraught,
For their most filthy life,
With monstrous shapes confuzedly,
That therein wer full rife.

But England now pursues their vyle
And detestable path
Embracyng eke all mischeefs greet,
That moves Gods mightie wrath.\(^5\)

It has become commonplace to describe popular reports of monstrous births in the early modern period as ‘God’s punishment for the wickedness of the parents,’\(^6\) however, as monstrous births were rare and sin common, the relationship was more subtle than this. A monstrous birth was not a warning of what would happen if one sinned – daily observation would have shown that adulterers, fornicators, heretics and blasphemers did not give birth to monsters – but a warning that God was watching from behind the scenes, to discover ‘our false dissembling’ and ‘our secret sins.’\(^7\) It was the reader, not the child’s parents, to whom the ballad addressed its moral warning. These warnings were ‘the anger of God,’ the second of the causes of monsters given by Paré,\(^8\) which was sometimes employed to frighten the reader into the path of virtue: ‘The sayde childe was borne alyve, and lyved xxiiiij houres, and then

\(^{34}\) Anon., *The forme and shape of a Monstrous Child, borne at Maidstone in Kent, the .xxiiiij. of October, 1568* (London, John Awdeley, 1568).


\(^{37}\) Mellys, *op. cit.*

departed this lyfe, - which may be a terror as well to all such workers of filthyness and iniquity...

Ballads on the birth of monsters whose parents were said to have been guilty of sexual misconduct, usually for producing illegitimate offspring, or for incest, contained an indirect message for the reader, who could apply the story to his own morals. Other monstrous births were allegedly provoked by a rash expression of religious dissent by the mother during her labour: one English mother who stated that she would rather her baby had no head than that it be baptised was surprised when it suffered just such a deformity, and in Catholic France an impious woman cried that she would rather give birth to a calf than pray to St Margaret, again with predictable results. These may represent actual cases to which the details of the mothers’ conduct were added after the event in order to enable the monsters to form part of a moral tale. In other examples the form of the monstrous birth indicated the sins with which it was associated: the monster of Ravenna not only looked in some illustrations like an angel but fulfilled the same role, the message being read from the emblematic interpretation of its form, so that the horn represented pride, the wings, inconsistency, the eye on the knee, worldliness, and the bird’s foot, rapacity. In a society capable of interpreting almost everything as a symbol of something else, the form of a monster could even be used to express puritan disapproval of the fashion for wearing ruffs. The accompanying verses made the connection between deformity, showy costume and vanity: ‘Deformed are the things we were [wear] / Deformed is our hart / The Lord is wroth with all this geere / Repent for fere of smarte.’

The ready availability of printing by the early sixteenth century that made it possible for monsters to be reported quickly and accurately had also facilitated dissent on an unprecedented scale (Lutheranism has been described as the child of the printed book) and it was not long before monsters were recruited for propaganda. In general, interpretations of monstrous births as signs of divine intervention were most often associated with religious reformers, although Catholic writers also used monstrous births as religious emblems, albeit in a more subtle way. Luther intended his description of a monstrous ‘monk-calf’ (he is the only

39 Anon., The forme and shape of a Monstrous Child... (1568).
40 Locke, op. cit.
41 Anon., Histoire miraculeuse, avue en la ville de Geneue... (Lyon, C. Farine, 1609).
well-known theologian to have reported a monstrous birth) to put his message across to readers whose primary interest was in a piece of unusual news. The consensus of modern opinion is that while the ‘popish ass,’ allegedly fished out of the Tiber in 1496 and described by Philipp Melanchthon in an accompanying tract, was a fictitious monster, Luther’s monk-calf was based on a real case: a date of birth was given, and the creature has been interpreted as showing anencephaly with a posterior encephalocele or nuchal edema. It has been suggested that Rueff later attempted to portray this case as human, though his account of it does not seem to me to bear this interpretation, and it is the original report which tends to humanise the monster, which is depicted standing in a landscape on its hind legs in a very human posture. Luther’s account makes some heavy-handed references to the bestial nature of religious orders but however severe his view of the monasteries (the Catholic Rueff wryly commented that the calf symbolised Luther’s own monastic career) it is difficult to imagine that Luther thought the message would be apparent to anyone who saw the calf. His interpretation was required to point them in the right direction and the emblematic reading of the monk-calf was spelled out so that no one could have overlooked it. This was more than just consideration for the reader: Protestant theology required that monstrous births – sent to warn men of their imminent damnation – conveyed their message plainly. There was no room for ‘allegorical fancies’: the Holy Spirit was ‘the very simplest writer and speaker there is,’ and so men should ‘have but one sense and meaning in their minds.’ But no effort could render an emblem unambiguous, because an emblem, ‘almost by definition’ can ‘be interpreted in more than one way’; ironically, stories of Luther’s demonic parentage would make him into a kind of monstrous birth himself, and the monk-calf was used to represent him, at the root of a tree of Protestant heresies.

Watt estimated that some 30% of ballads in the Stationers’ Company’s registers were of a ‘religious’ or ‘moralising’ type, but this excluded accounts of ‘deformed babies,’ which she placed in the secular category, associated with a humble readership. However, these accounts are better seen as religious emblems (the English ones seem to be specifically Protestant in nature – I am not aware of any printed during the reign of Mary I), requiring a degree of

46 Ibid.
49 Shown in an anonymous woodcut in the Ashmolean Museum; reproduced in Watt, op. cit., p. 155. On Luther’s demonic parentage see, for example, Francesco Maria Guazzo, Compendium Maleficarum (Secaucus, NJ, University Books, 1974), p. 31
interpretation on the part of their readership. In Protestant England ballads reporting and interpreting birth defects offered, it has been suggested, exegetical models for the masses, in which monstrous births were used as figurative expressions of human sinfulness: as John Barkar wrote in *The true description of a monstorous Childe...* 'Let it to you a preaching be... ' The anatomy of a monstrous birth gave substance to the abstract concept of sin, 'brassed out' in human form.

The creator himself was the architect of these monsters and the words: 'In Gods power all flesh stands,/As the clay in the potters hands,/To fashion even as he will,/In good shape or in yll' that accompanied one description were a paraphrase of Romans 9, 21: 'Hath not the potter power over the clay, of the same lump to make one vessel unto honour, and another unto dishonour?' a text, preceded as it was by the words: 'Shall the thing formed say to him that formed it, Why hast thou made me thus?' that signified the popular acceptance of monstrous births as part of a divinely-ordered system. Tracts describing monstrous animals show that monstrous births were not causally attributed to parental sin. Non-human monstrous births were presented as a call to moral self-examination amongst those who witnessed them: 'Our filthy lives in Piggges are showed.'

A few lines in *The true reporte of the forme and shape of a monstorous childe, borne at Muche Horkesleye,* succinctly indicate that (1) monsters were used as general warnings against sin rather than being associated with a single sinful act, and (2) the different physical causes of monsters were considered irrelevant to their interpretation:

And loke what great deformitie,  
In bodies ye beholde:  
Much more is in our mindes truly,  
an hundredth thousande folde.  

I meane not this as though deformed shape  
Were always linked with fraughted mind with vice  
But that in nature god such daughters doth shape  
Resembling sinnes that so bin had in price,  
So grossest faultes brast out in bodyes forme

52 Anon., *op. cit.*, see note 34.
53 H.B., *op. cit*.
And monster caused of want or too much store
Of matter, shewes the sea of sinne...

The monstrous birth described in *The forme and shape of a monstrous Child, borne at Maydstone in Kent...* was interpreted both as a place-specific sign of divine intervention ('This monstrous shape to thee England...' suggests that it might have appeared elsewhere had the English not been so corrupt) and emblematically according to its form, each defect being interpreted as representative of a particular type of sin, so that the gaping mouth denotes 'poisoned speech,' the misshapen hands idleness, the distorted legs refusal to be led, and the caudal neural tube defect, sodomy.\(^5\)

Monstrous births in Protestant literature were convenient emblems for moral/theological instruction, but it may also be that the need for tangible signs of religious experience, previously centred on sacraments and ceremonies often proscribed under the new order, led to religious significance being sought in other, less likely places. Perhaps broadsides describing monsters bear comparison with the sensational accounts of miracles that had been published to raise money for the crusades.\(^5\) Even in a society where emblems were fashionable and where the interpreting of such devices gave a 'wonderful pleasure,' the idea of using birth defects to inculcate morality still seems curiously oblique, suggesting that this approach may have been adopted because there were good reasons to avoid a more straightforward message. Before the Reformation, one of the most popular forms of printed material had been devotional images, many of which were burned by the reformers. Thereafter the permissibility of religious images was a complex issue, but the prospect of seeing their stock go up in smoke may have made printers reluctant to use overtly religious illustrations in case they were misinterpreted as icons. Under these restrictions, emblems came into their own. Christ who could no longer be depicted plainly was present in emblems: the letters chi-rho in the reredos above the Creed, walnuts and cheeses in Dutch still lifes,\(^5\) and monstrous births. A handicap for Protestant commentators was that the scriptures made no mention of monstrous births.\(^5\)

The nearest thing was the story in St John's gospel of the man born blind 'that the works of

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55 1568.
56 As McKeown (*op. cit.*, p. 36) points out.
58 Cheese was an emblem of the Transubstantiated Body of Christ, and walnuts represented His dual nature (God and man = flesh and shell). Nuts also symbolised Christ's flesh (kernel) and the wood of the cross (shell). These perhaps overenthusiastic interpretations are discussed by Simon Schama in his *The Embarrassment of Riches: An Interpretation of Dutch Culture in the Golden Age* (Bath, Fontana, 1987), p. 161. Piero Camporesi devotes a chapter to the symbolism of cheese in *Anatomy of the Senses* (Cambridge, Polity Press, 1994), pp. 37-63.
59 Protestants did not accept the books of Esdras as canonical.
God should be made manifest in him; this was a useful example of a congenital condition apparently produced for the edification of witnesses and was often referred to in ballads describing monstrous births. The popular literature of Catholic countries displayed a different attitude towards the monster’s position in the theological scheme of things; it could be a direct consequence of unnatural behaviour, as in the case of a supposed half-human half-monkey and consequently the birth of a monster could result in the mother’s execution for bestiality, or even, at least in fictional works, sorcery.

Because the value of a sign lies in its appearance at a specific time and place – and also to give their account veracity – broadside writers usually took pains to give details of the date and place of birth of a monster, often so accurately as to include the time of birth or the name of an inn:

one Marget Mere, daughter to Richard Mere, of the sayd towne of Maydstone, who, being unmaried, played the naughty packe, and was gotten with childe, being delivered of the same childe the xxvijd daye of Octobere last past, in the yeare of our Lorde 1568, at vij of the clocke in the afternone of the same day, being Sunday...

Sufficient description was then included for the reader to understand what features of the birth justified its being considered monstrous. These descriptions were usually brief, but a few were quite detailed. Both as signs and emblems, monstrous births were expected to be based on actual events: a list of witnesses might be given, to show ‘that it is a Truth and no Fable, But a warninge of God...’ Concerns over the ‘truth’ of these accounts are as old as the ballads themselves, and contemporary writing such as Day’s Parliament of Bees indicates the low standing in which ballads were held. Mopsa asks about the accuracy of a ballad in The Winter’s Tale and receives a deliberately misleading response from Autolycus. Titles sometimes included stock phrases such as ‘the true report’, emphasising the genuine nature of the case.

60 John 9, 1-3: ‘And as Jesus passed by, he saw a man which was blind from his birth. And his disciples asked him, saying, Master, who did sin, this man, or his parents, that he was born blind? Jesus answered, Neither hath this man sinned, nor his parents: but that the works of God should be made manifest in him.’ The man subsequently undergoes a miraculous cure. The story is referred to in the popular literature, for example by Mellys (op. cit.), and was identified as one of three key scriptural passages in the monster literature by Wilson (op. cit., pp. 27-8).

61 Anon., Discours prodigieux et veritable, d’une fille de chambre, laquelle a produit un monstre... (Paris, F. Bourriquant, c. 1600).

62 For example the anonymous Traite merveilleux d’un monstre engendre dans le corps d’un homme... (Rouen, J. Petit, 1606) is a fanciful account of a man giving birth to a monster: see Wilson, op. cit., pp. 58-60.

63 Anon., op. cit. See note 34.

64 Anon., The true forme and shape of a monstrous Child, Which was born in Stony Stratford, in North Hampshir. The yeare of our Lord, M.OCCCCLXV (London, 1565).

65 V, ii, 24: see Wilson, op. cit., p. 40.
Usually there is no corroborative evidence for these cases — the existence of different reports
of the same monster, or their subsequent appearance in textbooks is of little value in this
respect as these accounts are as likely to have been plagiarised as written independently — and
so their accuracy must be estimated from their content. The details of time and place and lists
of witnesses are also unhelpful as an invented or exaggerated account might well make use of
real places and people, though some broadsides can be corroborated by reference to registers
of births and deaths. The strongest evidence for a reasonable level of accuracy of the
descriptions is that they usually correspond with abnormalities that do occur. Impossibilities
such as a boy with seven heads and seven arms, which occasionally found their way into the
books of more scholarly authors, seldom occur in broadsides. Nor do cases appear to have
been adapted from scholarly works: the flow of information, where it occurred, was in the
reverse direction. Another point in favour of accuracy is that some of the monsters are not
especially interesting: anyone wishing to invent a monster would have surely come up with
something more remarkable than the macerated baby of Much Horkesley.

A rare example of a clearly invented case is a Scottish monster which allegedly had two heads,
one hairy, one ‘effeminate,’ (another example of hermaphroditic imagery) each possessed of a
single eye, long ears like an ass’s, a body like a barrel, and long, thin arms growing from
‘several places.’ It was said to have been born alive and to have uttered the words, ‘I am thus
deformed for the sins of my parents.’ The illustration, a child-like outline of a doubly smiling
monster and the mother’s elaborate confession (she had allegedly desired ‘the utter ruin and
subversion of all church and state government,’ though it is not clear how she intended to
bring about this lofty objective) signal the ‘poetical’ nature of this contribution to the
literature. A few writings mentioned monsters but made no attempt at description. The
Ranters Monster, for example, is a pamphlet that tells the story of one May Adams, a member
of a minority sect who went about calling herself the Virgin Mary. The account of her
becoming mad, developing boils and scabs, giving birth to a monster (of unspecified type) and
finally killing herself is meant to reflect the writers view of her deserved fate rather than an
actual sequence of events: it is a morality play in which a monster is one of the actors. Although the monster was not described, the minister, churchwardens, constable and other
worthies were named in order to attest to the truth of the story, and the pregnancy may well
have had an abnormal outcome.

67 Anon., Strange news from Scotland... (London, E.P. for W. Lee, 1647).
68 see McKeown, op. cit., pp. 67-9. It was illustrated without a head and with a face in its chest.
The great majority of monsters described in the popular literature can be assigned at least a tentative place in a modern classification of birth defects. On occasion, the popular literature contains what may be the earliest published description of a particular condition, for example trisomy 13 in an English ballad of 1568,\(^{69}\) Bartsocas-Papas syndrome in 1600\(^{70}\) and craniopagus parasiticus in a Hungarian ballad of 1620.\(^{71}\) Conjoined twins are the commonest malformation described in ballads, and the relative rarity of this condition\(^{72}\) indicates how selective reporting of cases was. In many of these reports the twins are described as being of opposite sexes. Male and female conjoined twins, which are biologically impossible, were intended to show the union of male and female natures, a characteristic associated with the monstrous.\(^{73}\) Some interpreted conjoined twins as being of opposite sexes though they looked the same. In 1655 the midwife Jane Cockerell refers to a 'supposed manchild'\(^{74}\) in an otherwise clear description of twins only three weeks short of term: clearly the child did not look male, but she made her account conform to the perceived wisdom that the twins must have been of different sexes. In England, it seems to have been traditional to name one John and the other Joan.\(^{75}\) Conjoined twins born at Salisbury (Appendix 1, 1664b) were baptised Marthe and Marie according to a letter in the Journal des Savans, but in a ballad for the English market they became Martin and Mary, of opposite sexes, as convention required.

The closest modern parallel to the popular literature on monsters is the case report: the title of a broadside provides a short introduction, the illustration and prose text the case report, and the verse the discussion. The nature of the discussion varied according to the writer and the intended audience. While scholarly authors discussed cases in general terms of theories of causation, from a natural philosophical or medical viewpoint, pamphleteers treated them individually and employed them as emblems through which to convey a theological or moral point to the reader. The monster can seem no more than a peg on which to hang the required theological discussion. Nevertheless, the writers of broadsides were not ignorant of the physical causes of monsters; the first two lines of the Much Horkesleye extract above describe excess or deficiency of matter as causes of monsters. This level of causation would not have

\(^{69}\) Bates, op. cit.


\(^{71}\) J. Bondeson and E. Allen, 'Craniopagus parasiticus. Everard Home's two-headed boy of Bengal and some other cases' Surgical Neurology vol. 31 (1989), pp. 426-34.

\(^{72}\) 1 in 50,000 to 100,000 live births.

\(^{73}\) As a type of monozygotic (identical) twin, they ought of course always be of the same sex, as all of the cases reported in modern times have been; or almost all: S. Milham, 'Symmetrical conjoined twins: an analysis of the birth records of twenty-two sets' Journal of Pediatrics vol. 69 (1966), pp. 643-7, describes a possible exception.

\(^{74}\) Anon., Thou shalt understand, Chrysten Reader... (London, 1552); Mdlys, op cit.
interested a general readership and so the discussion centres on higher causes. Park and Daston argue that initially, enquiry into the physical causes of monsters was perceived as a waste of time if 'nature was merely a cipher, a mirror of God's will,'\(^7^5\) and that this attitude persisted in popular culture.

In the sixteenth and seventeenth centuries, textbook writers were not particularly concerned with collecting new cases and had to rely primarily on the existing, often classical, literature for examples of monsters: they preferred to cite each other and rarely quoted ballad literature, and consequently their pool of monsters was rather stagnant. Broadsides depended for sales on the reader believing the account to be true and new, indeed 'true' is a favourite word in their titles, and they often are at pains to provide details which lend the account immediacy and verisimilitude. If the monster is false then the reader might suppose the theological point the writer is making to be false also. Eyewitnesses formed the base of these truth claims. Attempts at accurate description, though couched in stereotyped terminology and emblematic images, were usual in the popular literature, rather than exceptional as Hole has suggested.\(^7^6\) Scholarly writers had less reason to worry about the accuracy of individual cases: firstly, books of monsters were, like textbooks, intended to give an overall account of the subject which did not depend on the authenticity of each individual case, and book writers tended, at least overtly, to credit cases that were already in the book literature. Also, the point has been made that academic texts of the period often attempted to convey the overall impression of a subject by including fictional and interpretative material rather than just a collection of facts.\(^7^7\)

Accounts of monstrous births in early modern Europe were predominantly a basis for religious or moral discourse that employed the monster as an emblem for the writer's concerns. I suggest that, paradoxically, the use of monsters as signs or emblems in ephemeral literature required a greater emphasis on the individual case than did medical or natural philosophical interpretations, which tended to generalise. If it was to act as a sign, the monster had to have a particular location and meaning, while an emblem had to possess a distinctive form. The popular literature provides a source of individual cases and can be seen as a forerunner of the scientific case reports that appeared in journals towards the end of the seventeenth century, from which time the value of the ephemeral literature as a primary source of material for scholars declined.


\(^7^6\) op. cit.

Chapter 3 - Books

...in Olaus Magnus, and Aldrovandus, and Conrad Lycosthenes, with his magnificent Prodigiorum ac Ostentorum Chronicon... facts are either kept in their proper subordinate position, or else entirely excluded on the general ground of dullness.¹

In this chapter, both wonder books and medical/natural philosophical books on monsters are considered as they share common elements, particularly scholarly authors and readers, although there was also a market amongst the less learned that was served by translations of many key works into the vernacular. Division of books into wonder books and natural philosophical or medical works emphasises their differences: for example, natural philosophers classified monstrous births by form or cause, while writers of wonder books listed them chronologically. Although books of prodigies invite emblematic interpretation in a way that medical books do not, both are capable of being interpreted on more than one level. It is also possible to divide the book literature according to religious allegiances, with Protestants emphasising divine intervention, signs and morality and Catholics tidying everything away into categories, which were themselves emblematic of an orderly created world. Wonder books were generally written by Protestants of various persuasions whereas most of the writers who dealt with the natural properties and classification of monsters were Catholics. Monstrous births were presented by book writers with different emphases in order to provide emblems suited to their patrons:² Boiastuau travelled to England to present his monstrous images of the ire of God – specially illustrated for the occasion – to Elizabeth I, while Aldrovandi’s works of classification earned him the patronage of three popes.³ Both wonder books and natural philosophical works made emblematic use of monsters, though in the natural philosophical group this was less overt (and will be considered again in the discussion of learned societies in the following chapter). However disparate the book literature on monstrous births appears one thing distinguishes it from both popular publications and scholarly periodicals – books relied on textual rather than eyewitness authority.

Books of wonders

‘Wonder’ books were compendia of (mostly) natural phenomena of general interest for their rarity as well as for their value as signs or emblems. The first to contain new material

1 Oscar Wilde, The Decay of Lying
2 This idea was particularly suggested by Mario Biagioli’s thesis that Galileo’s astronomical discoveries supplied emblems of the power of his Medici patrons. See Mario Biagioli, ‘Galileo the emblem maker’ Isis vol. 81 (1990), pp. 230-58.
3 Aldrovandi enjoyed the patronage of Popes Gregory XIII and Sixtus V, and of Cardinal Montalto (later Urban VIII). He was buried in the church of St. Stephen at Bologna, and his epitaph written by Cardinal Barberini.
collected after 1500 was the work of Conrad Lycosthenes (the pseudonym of Conrad Wolffhart, 1518-1561). In 1552, Lycosthenes had published an edition of Julius Obsequens’ *Prodigionem liber*, a late classical list of prodigies that derived much of its information from Livy. Obsequens’ (*fl.* 2nd century A.D.) work consisted of chronological tables of prodigies, of which only those for 190-12 B.C. survive. Lycosthenes supplemented these, adding prodigies from the foundation of Rome to the beginning of Obsequens’ compilation. *Prodigionem liber* enjoyed considerable popularity in the sixteenth century: the 1720 edition listed some 18 previous editions between 1508 and 1703, of which Lycosthenes’ is the best known.

In 1557, Lycosthenes published his own work, *Prodigionem ac Ostentorum Chronicon*, bringing Obsequens up to date with descriptions of monsters and other phenomena up to the time of publication. The work was a collection of ‘all the strange prodigies hapned in the Worlde,’ which apart from monstrous births included other natural phenomena such as earthquakes and meteorites, descriptions of animals and people from distant lands, and a history of the world presented as a sequence of key events from classical Rome to the sixteenth century. A passage chosen more-or-less at random illustrates its style, which sacrificed strict accuracy for a sense of historical immediacy:

Charles the great first king of France & after emperor of the Romanes, as saith our histories, was seemly of body, fierce in countenance, his stature was 8 of his feete in length, which was very large, nere to 11 foote of our measure, brode backed, clean bellied, big armes & thigges, he was a fierce & skilful souldier, & very strong in al his lims, his face 18 inches compas breadth & length, his nose half a foote long, his foreheade a foote brode, his eyes were like a lions, round & sparkling, so y on whome he frowned he greatly feared.

The book is a history of the unusual, told anecdotally, and while it adheres to an relatively strict chronology there is no attempt to identify underlying trends, draw conclusions, or even to compare similar incidents that occur in the course of the work. Nevertheless, it generally succeeds in depicting its subjects vividly. It is certainly not a book of monstrous births, which represent only a small part of the whole: they are not discussed or compared one with another, and their inclusion is due to their being interesting, and datable, phenomena.

4 Nothing is known of Obsequens apart from this work, the dating of which rests solely on textual grounds.
5 Lycosthenes’ Latin text was translated into Italian in 1554 and French the following year: see Dudley Wilson, *Signs and portents. Monstrous births from the Middle Ages to the Enlightenment* (London, Routledge, 1993), pp. 63-7.
In the threefold tradition, postulated by Park and Daston, of ‘scientific,’ ‘cosmographical,’ and ‘portentous’ interpretations of monsters, Lycosthenes’ work sits most appropriately in the last group, although it also has affinities with cosmographical works such as Münster’s Cosmographia. Some of the events described in Prodigiorum ac Osentorum Chronicon were interpreted as portents but certainly not all, including monstrous births, were of a portentous character. I prefer to describe this group as ‘wonders’ rather than ‘portents’ as, even if some had at one time been seen as portents, this was not why accounts of monstrous births were read in the sixteenth century. The common theme of the diverse elements was that all were deemed unusual. The Latin text was translated and sold to a general (though presumably wealthy and relatively well-educated) audience without any significant alterations. Even today, it is easy to read (in translation), and one can imagine Wilde browsing through it in the Bodleian in preference to the less exciting texts set for Greats. The book has over 1,500 woodcuts (including some repeats), three or more to a page, making it one of the best illustrated books of its time. For Lycosthenes it was a considerable achievement of scholarship, to which all subsequent writers on monsters for the next century or more would be indebted. The list of sources, mostly classical, occupied five pages of six-point type. The results of this extensive research were placed in meticulous chronological order and vividly recounted: Batman’s corrigenda for his translation show that he too took the trouble to ensure textual accuracy and made a point of showing this. Lycosthenes appears to have been highly selective in his choice of material, admitting only that which he thought especially noteworthy, but once admitted each piece of information was treated at face value. Lycosthenes’ overblown style is apparent in his descriptions of monsters; for example a child born in Saxony:

with a grisly looke, having a whole body and well compacte, but all his limmes were brused, torne and loose, saving that his head was copped like a sugarloaf, and as it were set out with a Turkish cap 8

or this from Damenwald, whose

body was of a bright Bay, his heade had homes, his eyes were greate and hanging out, he had no nose, his mouth broade a span long... a white tong... no neck... all his body was puffed up, and full of wrinkles, hys armes did sticke in his loynes... from his Nauill there hung down to his feete a kinde of loose bowel... 9

in which the features of maceration are vividly described. A proper consideration of the historical accuracy of monsters described by Lycosthenes would require detailed study of

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8 Batman, op. cit., p. 339.
9 ibid., p. 356.
his sources, which may have included German ephemeral literature from the early sixteenth century. In the absence of such comparison, the extent to which Lycosthenes attempted accurately to describe cases, rather than to use them as types of monster in general remains unclear. Nevertheless, most correspond to malformations recognised today. Some thirty-five monstrous births from after 1500 are described and these are listed in Appendix 4.

Lycosthenes was on the look out for monsters: 'I saw also the like monster in Bavaria' he says of a dicephalic woman. At a time when many people wanted their own or their children's deformities to be seen, in order to provide an income, it would not have been too difficult for someone writing a book on monsters to see a few examples for himself. Paré wrote that this was the same monster seen by Caelius Rhodiginus (the Italian philologist Lodovico Ricchieri, 1469-1525) and described in his Antiquamn lectionem commentarios reparatus. This would have been possible if the woman had lived for at least 20 years, perhaps making a living by begging door-to-door, in which case many thousands of people might have seen her as she travelled around either in search of charity or because, as Lycosthenes related of her experiences in Bavaria, she was moved on by authorities fearful of further monstrous births being engendered by maternal impressions. Lycosthenes did not cite Rhodiginus and it is possible that he plagiarised the story.

Lycosthenes received his MA from the University of Heidelberg in 1539 and became Professor of grammar and rhetoric at Basle and deacon of the church of St Leonard. Some of his published work was condemned by the Council of Trent, and his religious views found expression in Prodigionem, which depicted the Catholic Church, and especially the papacy, in an unflattering light. His approach to history, as to religion, was based on textual authority – a characteristic of the book literature on monsters, the truth claims of which rested on written authority, particularly that of classical authors, rather than direct experience. Consequently, there was a lack of distinction between fable, anecdote, and widely agreed 'truths.' By contrast, ephemeral publications and journals emphasised particular observations, supported by 'reliable' witnesses. Obviously, Lycosthenes' principal source was Obsequens. He gave a detailed list of additional Greek and Roman classical sources and added scores of more recent ones such as Stow's annals and the 'chronicles' of Meissen, Polen, Brabant, Saxony, and other parts of Germany. A source of illustrative material was Münster, with whom, as Wilson pointed out, Lycosthenes shared a publisher.

10 Venice, Aldus, 1516.
12 Sebastian Münster (1488-1552) German cosmographer, mathematician and Hebrew scholar. He taught at Basle, Switzerland, where, in 1540, the first edition of his Cosmographia was published.
Of the thirty-five sixteenth-century cases, twenty-one had occurred within the ten years prior to the book's publication: most were from Germany, and a few from Switzerland and Italy. It appears, not surprisingly, that it was easier for Lycosthenes to locate recent and relatively local cases. Because Lycosthenes' work is one of the earliest, he is often apparently the first to describe a case. Some monsters were not provided with a source reference and it may be that he drew these from popular German literature which he did not cite either because he disdained such sources or because he considered it pointless to cite ephemera which his readers had little hope of consulting. Had he seen them himself he would presumably have said so, as he did in the case of the woman in Bavaria, but it is also possible that he obtained accounts, at first, second, or third hand, from witnesses. It would probably not have been difficult to meet a few people of reasonable education who had seen a monster themselves, or knew of one. There are no references to specific works published in German, however the number of cases given without reference to existing 'scholarly' literature suggests that Lycosthenes did draw on ephemeral literature, as Park and Daston claim (Batman's additions to Lycosthenes drew on the English ballad literature, though he also does not acknowledge his sources). A proper assessment of sources would require detailed study of the German broadside literature of the period.

Excessive reliance on written sources – of which Bacon was the great critic14 – particularly classical ones (the texts of which were often corrupt), had its disadvantages:

But the mortallest enem y unto Knowledge, and that which hath done the greatest execution upon Truth, hath bee ne a peremptory adhesion unto Authority, and more especially, the establishing of our believe upon the dictates of Antiquity. For (as every capacity may observe) most men of Ages present, so superstitiously do look on Ages past, that the Authorities of the one, exceed the reasons of the other. Whose persons indeed being farre removed from our times, their works which seldome with us passe uncontrouled, either by contemporaries or immediate successors, are now become out of the distance of envies: And the farther removed from present times, are conceived to approach the nearer unto truth it selfe.15

In the ephemeral literature, the opposite situation obtained: monsters were always described as if at first hand, and their credibility depended on eyewitnesses. But for scholarly writers these homespun accounts, with their lists of local worthies, were not

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13 See for example Appendix 1, 1576a.
14 In *The Great Instauration* (1620) he wrote that he would accept nothing 'but on the faith of my eyes': see Francis Bacon, *The Great Instauration* in: James Spedding, Robert Leslie Ellis and Douglas Dendron Heath (eds), *The Works of Francis Bacon* (London, Longman, 1857-1874) 14 vols, vol. 4, p. 30. As we have seen, readers of the ephemeral monster literature were of the same opinion, as, later, were the learned societies.
considered suitable evidence. A factor in the appeal of printed sources as authorities was undoubtedly the social standing of their authors, who were likely to be from the higher social groups and were often affiliated with the academic or ecclesiastical establishment, forming part of a tradition of gentlemen ‘truth-tellers.’ The ballad literature, with its dependence on the reliability of witnesses, has therefore some affinity with the publications of learned societies, and can be seen as a precursor of the scientific case report as a means of description.

*Stephen Batman’s Doome*

When Stephen Bat[e]man came to prepare *Prodigionum ac Ostentorum Chronicon* for translation he updated the work, principally with cases from his native England. He drew some of these from broadsides, suggesting either that he had been collecting cases in anticipation of his work, or that he had access to an archive of broadside ballads (comparison with the ballads listed in the Stationers’ Company records – see Chapter 2 – shows that he missed some interesting cases). Batman was a prolific author, and I have used his translation of Lycosthenes’ text in the above quotations from *Prodigionum ac Ostentorum Chronicon*. This translated work was not intended for scholars, who could have read the original, but for interested readers who had not had a university education. Wonder books would have been read for pleasure, and the appearance of vernacular literature represented, it has been claimed, a ‘secularization’ of the subject of monsters. I do not think that this was the case, for in fact Batman was more concerned with the theological undertones of his subject than was Lycosthenes. The purpose of the work was indicated by its new title, *The Doome Warning All Men to the Judgement*, which intimated that the phenomena described were to be regarded as signs of divine dissatisfaction.

Batman, or Bateman\(^{18}\) (d. 1584) seems to have appreciated the potential theological use of the material he translated. He dedicated *The Doome* to the Lord Chancellor, Sir Thomas Bromley: it was an opportunity to show that his doctrinal, moral and political views were those of the Elizabethan establishment and his modestly successful career (DD and chaplain to Archbishop Parker) probably owed more to conformity than to any very penetrating intellectual insight. Batman’s work provides us with an example of how the same material could be given a different emphasis to suit its audience. What Lycosthenes had written was an encyclopaedia of curiosities aimed at an educated audience who believed that prodigies of various kinds were an instructive part of the historical record. Batman’s title indicated that he wanted readers to see the material as an apocalyptical warning, the sheer weight of examples overwhelming the reader with the notion that the

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17 Park and Daston, *op. cit.*
18 A prefatory poem punning on the word *bat* suggests that the former pronunciation was used.
established order was fragile and liable at any moment to descend into chaos. Indeed the excess of cases close to the publication date (albeit explicable by the recent literature being the most accessible) did give an impression of increasing divine intervention in the affairs of the world.

Everyone reading the book would have known that a doom was a representation of the day of judgement, traditionally placed prominently on the wall of a church as a *memento mori* to the congregation. Most did not survive the reformation, but Lycosthenes’ collection of monstrosities was another kind of doom, the contemplation of which offered a glimpse of the order of this world dissolving in the *dies irae*. However, Batman faced a problem: the original was a collection of separate incidents, and far from conveying an impression of a breakdown of the natural order, it showed that prodigies have been always with us. This being far from the desired effect, Batman used the opportunity of updating the work to include (and to invent) a succession of striking cases to conclude it. He added thirteen cases from between 1562 and 1580, mostly from England but also some from Germany and elsewhere, including at least one that was not intended to represent an actual case. The sins for which these monsters acted as warnings were shown by the behaviour ascribed to their parents, so for example one monster was illegitimate, while the father of another was ‘a lewd minstrel or idle vagabond’ (synonyms rather than alternatives), perhaps the sort who sold ballads. Batman used his monstrous characters as mouthpieces (some literally had words put into their mouths but all ‘spoke’ in a metaphorical sense) for theological discourse.

The most striking example of Batman’s emblematic use of a monstrous birth is the triple monster described in chapter 1 of this thesis. The monster was an emblem of Christ, and Batman’s account of its brief existence reads like a bizarre parody of the gospels, culminating in a curious Ascension. Of course there could have been no intention of parody on Batman’s part. The monster as Christ had been foreshadowed throughout the work in the causal link postulated between human sin and divine intervention in the form of monstrous births, for without sin, there would have been no Incarnation (‘O happy fault which merited such and so great a Redeemer’ as the Catholic liturgy put it). The concepts of ‘happy fault’ and ‘necessary sin’ had been expunged from Protestant liturgies and images of sin and salvation fitting together in a unified whole were superseded by a more alarming eschatology. Towards the end of the book (if not the end of the world) Alice Perin, a 60-year-old from Yorkshire, gives birth to creature:

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19 pp. 33-4.
20 ‘O felix culpa, quae talem ac tantum meruit habere Redemptorem’: from the office for Holy Saturday.
...whose head was like to a sallet or head piece, the face somewhat small, onely the mouth long as a Rat, the fore parte of the body like unto a man, having eight legges, and the one not like the other, a tayle in length half a yard, like to the tayle of a Rat.\textsuperscript{21}

This belonged in the tradition of the sooterkin\textsuperscript{22} and was not an example of a human malformation. Lycosthenes had related a similar tale: ‘In a farme of Thuring by Unster a woman brought forth a toade with a tayle long and strange to behold.'\textsuperscript{23} Even more alarming was Batman’s ‘uggly monster’ born at Arnheim:

the woman very unadvisedly said, I woulde I might beare a Divell, so should I once be rid of this wo and misery, &c. not long after she broughte forth a wonderfull Monster. As soone as the neighbours and Midwife were come, she began for very gret pains to cry out fearfully, & not long after was delivered, but sodainley the Monster ranne under the bed. The proportion of his body and lims was as followeth, being scene of many both men and women: a rough bodie hairie and blacke, except his belly which was like a swan, the two feeete like Peacockes, clawed, his eyes shined like fire and were very great, he had a mouth like to a Storke or Crane, blacke, a tayle like an Oxe, two bending homes on his heade, in steade of handes clawes like a Hauke. After this hideous Monster was thus seene, to the greate feare of manye, among them it was smothered to deathe betweene two beddes.\textsuperscript{24}

Stories of this kind are very different from Lycosthenes’ selection. The tale was a morality play, in which the woman’s impious utterance characteristically sealed her fate. The description and illustration of the monster was similar to many contemporaneous images of devils.\textsuperscript{25} John R. McNair, in his introduction to the 1984 reprint of \textit{The Doome}, suggested that Batman’s work was a topical attack on Elizabeth I’s proposed ‘French marriage.’ While this may well have been on his mind, the apocalyptic style of his work is firmly in the tradition of the monster literature in ballads of the period, with which Batman was familiar. Like Luther, he used monstrous births to present reformed theology to a wider audience.

\textit{The divine works of God}

The period of the Reformation saw a striking rise in book production: between 1436 and 1536 an average of 420 new titles had appeared each year, but between 1536 and 1636 this increased to 5,750.\textsuperscript{26} Though expensive, printed books were more affordable than manuscripts, and were aimed at an increasingly wide readership. The inclusion of monsters in wonder books is explicable in the same terms as their popularity in ephemeral literature:

\begin{itemize}
\item \textsuperscript{21} Batman, \textit{op. cit.}, p. 412.
\item \textsuperscript{22} see Chapter 6.
\item \textsuperscript{23} Batman’s translation, p. 363.
\item \textsuperscript{24} Batman, \textit{op. cit.}, p. 401.
\item \textsuperscript{25} For example the woodcuts illustrating Francesco Maria Guazzo's \textit{Compendium Maleficarum} (Secaucus, NJ, University Books, 1974), first published in 1608.
\item \textsuperscript{26} Gabriel Peignot, \textit{Manuel du Bibilophile} (Dijon, V. Legier, 1823).
\end{itemize}
they are intrinsically interesting, susceptible to interpretation as signs, and suitable emblems with which to illustrate a theological discussion. Publishers would have known from ballad sales that monsters were popular with readers. The bathetic example from Lycosthenes of a monstrous birth associated with a change in the price of wheat indicates the mundane uses to which the monster could be put as a sign of the times. The form of the monster and its use as an emblem was becoming more interesting than the historical events to which it pointed.

An early reader noted in the margin of Batman’s *Doome* ‘multa vera, multa falsa, sed omnia vere utilia.’ As wonder books employed monsters as emblems rather than as signs the accuracy of individual cases became less important and could consequently be neglected; monsters began to serve not as historical markers but as generalized examples of their kind. The natural philosophical literature on monsters would attempt to impose an almost taxonomic order, but in wonder books the monster remained extraordinary. Order is now a familiar basis for scientific and theological arguments, and exceptions are as problematic: evolutionists had to explain the peacock’s tail, and creationists explained antediluvian animals. Wonder books were composed entirely of exceptions and, although on the lowest level these would have entertained the curious they were also an attempt to use diversity and unpredictability as an indication of continuous supernatural control of worldly affairs. They proclaimed that the world is more complex than it looks, and that this complexity was a sign of God, to be documented and celebrated, but never fully comprehended. Curiosities were important things to discover, as greater complexity in created things argued greater glory for their creator. The ballad *Gods Handy-Workes in Wonders* had reminded the reader that monsters were not to be viewed as if God were ‘a bungler in some common trade’, but ‘the great master, in whose hand it lies to make a beggar or a king, a beautiful body or a monstrous’. The monster was a messenger, but needed to bring ‘into the world no other news, but an admiration of the devine works of God.’

Lycosthenes’ *Chronicon* was the basis for another Protestant wonder book, Pierre Boaistuau’s *Histoires Prodigieuses...* of 1560. This too proved popular and updated editions by Claude de Tesserant (d. 1575), François de Belleforest (1530-1585) and Rod. Hoyer, augmented by additional woodcuts, appeared in 1566, 1571, 1574, 1576, 1594, and 1598. In all, there were more than thirty-seven editions, with translations into English, French,

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28 The ballad was printed in London in 1615. See Cressy, *op. cit.*, p. 40.
29 Batman, *op. cit.*, p. 112.
Dutch and even Welsh. Like previous writers of wonder books, Boaistuau did not present monstrous births as an independent subject: they still formed part of a chronology of mixed prodigies. Boaistuau (?-1566) was a native of Paris, known as a good talker and 'not without a certain erudition,' an intellectual rather than an academic. In 1559, he travelled to England to present an illuminated manuscript version of his work to Elizabeth I. The text appealed to the less austere aspects of scholarship, devoting (separate) chapters to famous courtesans and methods of torture. Boaistuau justified his inclusion of monstrous births by their value as a message to sinners:

It is most certaine, that these monstrous creatures, for the most part do proceede of the judgement, justice, chastisement and curse of God, which suffreth that the fathers and mothers bring forth these abominations, as a horrour of their sinne, suffering themselves to run headlong, as do brute beastes without guide to the puddle or sinke of their filthy appetites, having no respecte or regarde to the age, place, tyme or other lawes ordaine of Nature...  

As was so often the case, there was a contrast between the harshness of the monsters' message and the compassion shown towards them:

... the auncient Romaines had these litle monstrous creatures in such abomination, that as soone as they were born, they were immediately committed to the ryuer Tyber, there to be norished. But we being better broughte up, and fostred in a schole of more humanitie, knowyng them to be the creatures of GOD, suffer them to be brought to the church, there to receive the holy sacrament of Baptisme... 

The association in the sixteenth (and to a lesser extent the seventeenth) century between moral deformity on the part of parents and physical deformity in their offspring was commonplace, a reflection of the popular association of sin with deformity. Thomas Beard in The Theatre of God's Judgements (1597) told of a man who used to hunt every Sunday at sermon-time, whose wife had a child with a head like a dog, and it cried like a hound. Heretics were supposed to give birth to monsters the form of which symbolised their heresies and heresiarchs such as Luther were reputed to be monstrous births. Boaistuau linked monstrous births with sexual immorality: human infants with features resembling dogs or other animals were associated with bestiality (see Boaistuau, chap. 37). He

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32 His name has been subject to an unusually wide variety of spellings: Boaistuau, Boiastuau, Boisteau, Boaystuau, Bosteau, Boiestuaux, and Baistuau being the commonest.

33 NBG vol. 6, p. 282.

34 See Edward Fenton, Certaine secrete wonders of Nature... (London, H. Bynneman, 1569), fol. 12v, his translation.

35 Fenton, op. cit., fol. 15r.

36 Park & Daston, op. cit.

37 In Milton's Paradise Lost (2, 793-802) the rape of Sin by Death (Satan's son) led to the birth of 'yelling monsters.'
included a favourable review of ancient punishments for adultery, and the mother of one monster (of dubious authenticity) was described as 'a fallen woman, who prostituted herself to all and sundry.' Boaistuaux discussed the vexed question of whether demons could beget viable offspring, but contributed nothing new to the problem. His thesis was not that all monstrous births were the physical result of 'unnatural' sexual acts (physical 'causes' for monstrous births included 'want or default in the seed' and an excessive quantity of matter), but that when monstrous births did occur they served as a warning of the 'secret judgement' which all must, ultimately, undergo.

Boaistuaux diligently collected material and supplied references to other printed books, in accordance with his stated intention to: 'tell no story throughout this treatise on prodigies that cannot be confirmed by the authority of some famous writer, Greek or Latin, sacred or profane.' The work was Englished in 1569 by Edward Fenton, as *Certaine secrete wonders of Nature, containing a description of sundry strange things, seeing monstrous...* with the phrase *Gathered out of divers learned authors as well Greeke as Latine, etc.* added to the title in an attempt to pass off the translation as an original work. It was in his introductory justification of the subject of monstrous births that Fenton was at his most eloquent:

> amongst all the thinges whiche maye be viewed under the coape of heaven, there is nothing to be seene, which more stirreth the spirite of man, which ravisheth more his senses, which doth more amaze him or ingendereth a greater terror or admiration in al creatures, than the monsters, wonders, and abominations, wherein we see the workes of Nature, not only turned arsiversie, missehapen and deformed, but (which is more) they do for the most part discover unto us the secret judgement and scourge of the ire of God by the things that they present...  

*Medicine and natural philosophy*

The separation of medical and natural philosophical texts from wonder books in this section is not intended to obscure their similarities. The sources, textual and illustrative, were often the same, as, ultimately, were the monsters themselves, although the intended readership was not, and the authors' perception of their readers' interests influenced their approaches. The presentation of monstrous births to a medical readership began in 1554 with Jacob Rueff's *De Conœptu et Generatione Hominis.* The model for this work was one of the earliest vernacular treatises on obstetrics, Eucharius Rosslin's *Der swungem Frauen und*
Hebammen Rosengarten of 1508.\(^1\) Rueff (1500-1558) was city physician of Zurich, and as such was responsible for teaching and examination of midwives. His book was sent out to midwives, many of whom were not literate enough to follow the text, with instructions that parts of it should be read aloud to them ‘by a well-read woman.’\(^2\) The section on monstrous births was unlikely to have been especially useful to them, except as a warning that they could occasionally meet with such cases.\(^3\) Although *De Conceptu* was a ‘medical’ book, intended for practitioners of obstetrics, Rueff’s interpretation of monsters was that of the ballad literature or wonder books: they were a sign of the anger of God. Physical causes of monsters mentioned included excessive sensuality and bestiality, and Rueff implied that a monstrous birth sometimes followed automatically from these proscribed physical acts without requiring special divine intervention.\(^4\) After Rueff’s death, there were further editions of *De Conceptu*, illustrated with improved woodcuts by Jobst Amman. While preserving an essentially ‘wonder book’ interpretation, Rueff had introduced monstrous births into the medical domain.

1573 saw the publication of *Deux Livres de Chirurgie* by Ambroise Paré (?1510-1590), which included his treatise on monstrous births *Des Monstres tant Terrestres que Marines aux leurs Portraits*. This is the best known of all such works from the early modern period and is the only one readily available today. The simple but engaging woodcuts are frequently reproduced in accounts of the history of monstrous births. Paré, chief surgeon to Henry III, was an intelligent man at the top of his profession, though he was unlearned in Latin and Greek and had no university degree. He worked to raise the status of surgery to equal that of medicine but this change was not to come about in his lifetime and the medical academic hierarchy did not regard him as their intellectual equal.

*Des Monstres*\(^5\) is the first book to include a classification of monstrous births and as Paré’s emphasis on observation, practical experience and classification in some respects seems to foreshadow a modern approach to teratology, historians now give his work high

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\(^1\) Known as the ‘Rosengarten’ and Englished as *The Byroth of Mankyned* in 1540, this book was in turn based on Soranus of Ephesus’s instructions for midwives, written 1400 years earlier. The Rosengarten was widely translated and circulated; see Ove Hagelin, *The Byroth of Mankyned*... (Stockholm, Svenska Lakaresällskapet, 1990), p. 12.

\(^2\) ibid., p. 19.

\(^3\) This section is much more valuable from an historical point of view, as one of the earliest appearances of monsters in a printed book: the sources were ephemeral rather than classical, and for many cases *De Conceptu* is now the primary source.

\(^4\) The 15th century Catalan physician Jaume Roig (d. 1478) had argued in his book *Spill, or Book of Women* that physical defects in neonates were the result of the parents’ sins, particularly the mother’s uncleanliness or concupiscence, beliefs that were probably linked to menstrual or other taboos: see Ottavia Niccoli, “Menstruum Quasi Monstruum”: Monstrous Births and Menstrual Taboo in the Sixteenth Century’ in: Edward Muir and Guido Ruggiero (eds), *Sex and Gender in Historical Perspective* (Baltimore, Johns Hopkins University Press, 1990), pp. 1-25.

\(^5\) As Paré’s work is commonly known.
importance. At the time of its publication, however, the Paris medical faculty, with which Paré was at loggerheads, called the descriptions of monstrous births 'fit for amusing little children.' Although they obviously intended this remark to taunt the troublesome Paré, the attitude it exemplified – that monstrous births were not fit for serious study – would dog the subsequent development of teratology, so that later writers such as Liceti saw the need to justify themselves. This criticism was evidence of a change in attitude to monsters; a paradoxical lowering of their credibility as a subject for serious study. Despite the precedents of scholars from Aristotle to St Augustine, the immense popular interest in monstrous births in the sixteenth century made some medical writers wary of discussing them. As we shall see in the next chapter, academic opposition at Paris was relatively short-lived and, by 1600, monstrous births were being studied in the school of anatomy. Perhaps Paré, mindful of the popularity of monsters in wonder books, included them because they were likely to attract a wider, non-specialist audience.

Paré also antagonised the physicians by writing in French, in a style intermediate between the dryness of academic prose and the sensationalism of some wonder books. The opening of his first chapter is amongst the best-known writing on the subject and begins by introducing a classification that has thirteen categories. A number of monsters were seen by Paré and described by him for the first time, and in one or two cases he performed an autopsy, though this was by no means innovatory and autopsies of monstrous births had been recorded previously, for example, the Heidelberg twins described by Lycosthenes (Appendix 1, 1544). Paré mentions that some specimens were dissected and preserved at his house, but he did not publish any medical or anatomical observations on them. Some commentators have interpreted Paré as in effect the first teratologist, who treated monsters as 'from the outset a matter of “scientific” enquiry' and whose 'basic concern is his search for causes,' but his interpretations of monstrous births were actually traditional in outlook. Paré suggested that monsters were provided, like the man born blind in S. John's gospel (which he cited), as evidence of the power of God, which was manifest in the abundance of creation: a familiar theme both of wonder books and ephemera. As well as reiterating accepted theories of causation such as maternal impressions and the production of hybrids by human/animal unions, he offered some retrospective examples as 'proofs' that monsters were born before wars and other catastrophes. Unlike the writers of wonder books, he must have known from his medical and surgical experience that his 'true to life' illustration of the Prince of Piedmont's monster looked nothing like any real case; nor was he above attempting to pass off descriptions collected from earlier sources as his own. Overall, it is difficult to diverge

47 op. cit., p. xxvi.
from Wilson’s assessment that little in his treatise on monsters was new. If the work is a teratological milestone in any sense, it is as an early attempt to offer a classification of monsters.  

Another misconception is that Paré’s thirteen-point classification is evidence of the declining importance of the supernatural in theories of causation of monsters, as only three of the causes are ‘supernatural.’ This assumes that the classification was comprised of equal and mutually exclusive categories, which was not the case. Hole, for example, saw a ‘new metropolitan orthodoxy’ in writers such as Paré and Lemné moving away from the concept of divine punishment towards physical causes of monsters: but these two possibilities were not mutually exclusive – physical causes did not preclude monsters acting as signs of supernatural import – and Paré himself stated that ‘most often these monstrous and marvellous creatures proceed from the judgement of God, who permits fathers and mothers to produce such abominations from the disorder that they make in copulation, like brutish beasts...

After Paré’s work had introduced classification of monstrous births, little work was done in this area until 1600 when Caspar Bauhin (1560-1624) published a complete classification of monsters in his book on hermaphrodites (which term encompassed intersex conditions in general as well as true hermaphroditism) *Hermaphroditon Monstrosoineque.* Also included in the work were chapters on demoniality and lycanthropy, conditions that were, like hermaphroditism, intermediate states. Bauhin’s classification of monstrous births was the earliest attempt to order, rather than list, all types of monsters and is a valuable summary of current theories of their aetiology. This was a somewhat neglected topic for, as we have seen in Chapter 2, the cause was often irrelevant to the monster’s value as a sign or emblem. Bauhin distinguished higher and lower causes, putting the higher causes first, as had Paré.

Like many such classifications it was not as simple as it seemed: as the categories were not necessarily mutually exclusive, there was the possibility both of multiple causes and

48 The thirteen groups are listed and discussed further in Chapter 5.
49 See Chapter 5, p. 96.
50 Park and Daston, *op. cit.*
52 See Chapter 1.
53 Paré, *op. cit.,* p. 5.
54 Bauhin defined an hermaphrodite as ‘a man [human] whose genitalia are malformed, and in whom, in addition to the proper pudenda, the pudenda of the opposite sex are present.’ Caspar Bauhin, *Hermaphroditon monstrosoineque partum natura ex Theologonen, Jurconsultonen, Mediconen, Philosophonen, & Rabbinonen* (Frankfurt, Mathaeus Becker, 1600), p. 22.
multiple levels of causation. Bauhin nowhere explicitly stated that a monster could have more than one level of causation: did the anger of God or the influence of the stars act directly on the developing infant, or might they bring about their effects by, for example, altering the quantity of semen, or stimulating the maternal imagination? Paré and Bauhin probably never considered this problem in detail, but it appears that the categories in their classifications do overlap. Bauhin did not give individual examples of each type of monster, but he included a few cases, one of which was said to resemble Christ. At Pilsen in 1542, he wrote, citing Fincelio: 'A child was born who was the image of Christ our Saviour crucified, as when the Blessed Virgin held him at the deposition from the Cross: the feet were bent inwards one over the other, and if moved they immediately sprang back to their place, and the neck was also bent, so that it was difficult to put food in the mouth. For a time it lived in Vienna, Austria.' He attributed this case to maternal impressions (it may represent the consequences of oligohydramnios).

De monstrorum
Fortunio Liceti's *De Monstrorum* was, I suggest, something of a new departure in the description and classification of birth defects. Liceti (1577-1657) is noted for having survived from extreme prematurity. His mother was some seven months pregnant when she went into labour on a stormy sea voyage and her newborn son fitted into the palm of a hand (a small 28-week baby in a foetal position would just about fit onto a man's hand). His father used a primitive incubator based on a modified oven to rear Fortunio (who earned his name). He was a brilliant student, receiving his doctorate in Medicine and philosophy at Bologna in 1600 before taking up the chair of logic at Pisa. Liceti was an authority on Aristotle, and it may have been through *The Generation of Animals* that he acquired an interest in birth defects. He became Professor of philosophy at Padua in 1609, and his reputation for encyclopaedic knowledge brought him many students. He occupied a chair at Bologna until he returned to Padua as Professor of theoretical medicine, a post that he held until his death. During his academic career, Liceti wrote books at the rate of about one a year. The range of his learning was unusually wide even by the standards of the time and his output included everything from historical works such as *De Annulidis Antiquis*, an erudite treatise on the history of finger-rings, to the astronomical text *De Novis Astris et Cometis*. Books with a medical theme included a work on the spontaneous generation of animals and another on survival of long periods of fasting.56

56 Sources on the life of Liceti are few. A bibliography of the French sources is to be found in the *Nouvelle Biographie Générale* entry (Paris, Firmin Didot, 1860), vol. 31, pp. 131-5. A brief account in English is A.W. Bates's 'The *De Monstrorum* of Fortunio Liceti: a landmark of descriptive teratology' *Journal of Medical Biography* vol. 9 (2001), pp. 49-54.
After his death, his reputation was sustained for a time by reprints of his works but then suffered a decline, perhaps because of an apparent credulousness. In *De Lucemis Antiquorum Rerumdiis*, for example, he advanced a theory that the ancients had placed perpetually burning lamps in their tombs, producing a peculiar glow that Ottavio Ferrari explained away in his *De Veterum Lucemis Sepulchralibus* as nothing more than a momentary phosphorescence on exposure to air. As one of the leading medical scholars of his day, it also fell to Liceti to reply to Harvey’s account of the circulation, putting forward an alternative account in accordance with his interpretation of Aristotelian philosophy. Seen by some as the last scholastic, Liceti was working outside his normal fields of study when he wrote *De Monstrorum Causis, Natura, et Differentiis*, published in 1616. The structure of this work owed much to its author’s experience of classical philosophy. Liceti began by setting out his motivation in dealing with the subject of monstrous births:

No matter how loosely related the things that I here classify, and notwithstanding the principle that a surfeit of material exceeds a man’s capacity for astonishment, those who, whether for good or ill, steadily persevere to the end may be said to be familiar with the sum of informed opinion concerning monsters: thus honourable and civilised men will become more excellent and almost like gods, whereas men who direct their attention to sin become gross and corrupt.

A scholar such as Liceti was well placed to raise the status of the study of monstrous births, long associated with ballads and popular entertainment, and his book, which went through several editions, was clearly intended as a reference for academics rather than a practical guide. He defined a monster as follows:

A monster is a being under heaven [i.e., not supernatural] that provokes in the observer horror and astonishment by the incorrect form of its members, and is produced rarely, begotten, by virtue of a secondary plan of nature, as a result of some hitch in the causes of its origin.

Liceti depicted the monster not in wonder book terms as an unusual occurrence but as something that was not as it ‘ought’ to be (an Aristotelian concept). The monster told the observer something about its own nature and origin:

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58 Fortunio Liceti, *De Monstrorum Causis, Natura, & Differentiis* (Padua, 1634), p. 3: ‘Quaecumque raro contingens communem rerum sui generis ordinem, ac legem magno excessu cum summa hominum admiratione transgrediuntur; ea, sive in bonorum, sive in malorum serie contineantur, publico sapientum consenso Monstra nuncupare consuere: sic viri virtutibus heroicos mire praestantes, quasi humanam supergressi naturam prope ad Divinam accesserint, sic ex adverso ferinis vitius homines turpissime foedati.’
It is this field of physiology, at present lying fallow, which I intend to cultivate: I show here the attributes of monsters; their causes; their origins; their differences.60

The first edition of *De Monstrorum* contained no illustrations. Most of the text was taken up with a classification of monsters, arranged first by morphology and then within each group by 'cause.' For each group, Liceti supplied examples from antiquity to the seventeenth century. Although he probably started out with no practical experience of monstrous births, after the appearance of the first edition, Liceti’s name became known in connection with monsters, and cases were referred for his opinion. In 1622 Auguste Princet, a physician at Genoa, wrote to him, describing a pair of conjoined twins that had been born in that area in 1617.61 This letter, and Liceti’s reply with remarks on the possible causes of the malformation and the observation that such twins could live for a long time, was included in the second edition of *De Monstrorum* (Fig. 9). Liceti seems to have been on the alert for new cases, and a cyclopic girl born at Firme in 1624 was another addition. The second edition of *De Monstrorum*, with additional text and high quality illustrations, almost all of which were copied from earlier works, principally those of Paré or Lycosthenes, appeared in Padua in 1634. Liceti’s work is distinguishable from earlier books on monstrous births by the confidence of his assumption that all monstrosities could be classified and explained. In the popular view of the time, a monster was something almost miraculous; a manifestation of divine intervention, and this was one of the reasons why monstrous births provoked such interest, but Liceti points out that, if God is the sole cause of everything, only by adding further levels of causation can a useful classification be achieved.

The most extensive early modern taxonomy of monsters is that of Caspar Schott (1608-1666), a Jesuit priest who taught medicine and mathematics. His book *Physica Curiosa* (1662) is an exhaustive study of natural magic, including physics, music, mathematics and natural philosophy. 'Magic' is almost synonymous with 'knowledge,' and his work is a sustained attempt to separate 'licit and illicit magic' ('Magiae in licitam & illicitam'), the former being 'the knowledge of hidden things handed down from Adam to his descendents' ('ita reconditarum quoque rerum scientia ab Adamo posteris suis tradita').62 Book 5 dealt with monsters, their history and causes, in 30 chapters. Apart from a comparison of a child to the crucified Christ, in the manner of Bauhin’s case above, there

60 Liceti, op. cit., p. 1: '... ut propterea eximia haec Physiologiae seges etiamnum inculta, & fere deserta nos ad sui culturam accuratiorum acrioribus dudum stimulis excitaverit. Qua quidem in speculatone licet omnia Monstrorum attributa persequi decreverimus; quia tamen ex rei natura praecipue causos, originem, & differentias...

61 Jan Bondeson, *The Two-Headed Boy, and other Medical Marvels* (Ithaca, NY, Cornell University Press, 2000), pp. viii-xii, plausibly identifies these with the Colloredo twins (Appendix 1, 1617) and assumes that the year 1607 given in *De Monstrorum* is an error.

is no attempt to endow the cases with any overt emblematic or theological significance. The classification encompassed all known human monstrous births – Schott created a category of seven-headed monsters, which had only one member. Schott drew his cases exclusively from earlier book literature already described, and it would be superfluous to list them. His classification resembles modern ones, based as it is on the morphological features of cases. He placed some monsters in more than one category, but nothing was beyond the pale. Although it may therefore appear less scholarly than those of Liceti or even Paré, who sought to categorise monsters by cause, it had the advantage of practicality. Causes are often speculative and a matter of opinion, but morphological features are susceptible to reproducible description. It followed that, as with taxonomic classifications of animals, description had to become more complete and standardised if classification was to depend on it. Classifications, however imprecise, brought about changes in the way in which monstrous births were seen and portrayed. Schott was the most thorough of classifiers, so much so that the classification itself is perhaps the real emblem that he wished to create. Detailed and internally consistent, it reflected not only the intellectual discipline that characterized the Jesuit order but an orderly creation of an omnipotent creator.

63 This child also appeared in Pierre Boaistau’s *Histoires Prodigieuses*... (Anvers, Chez G. Ianssens, 1594), book 4, p. 607.
CHAPTER 4 — LEARNED SOCIETIES AND JOURNALS

From the latter half of the seventeenth century, scholarly journals became an important source of material on monstrous births. Most journals were linked with learned societies, being published by them, or under their auspices, or at least through the efforts of their members. Communications that would previously have been the subject of correspondence between scholars acquired permanence through inclusion in journals. The three journals that will be considered are the *Philosophical Transactions* of the Royal Society, *Miscellanea Curiosa*, and the *Journal des Savans*.

Though it is perhaps neither possible nor desirable to attempt a rigid definition of a learned society, the particular features that distinguished learned societies from other groups of scholars such as universities or religious orders are worth considering briefly. Learned societies did not usually function as examining or licensing bodies, and membership was not normally dependent upon occupation or formal qualifications. For this reason they were paradoxically more exclusive than examining bodies since membership was largely dependent upon social connections. The personal recommendation of existing members, necessary to join most learned societies, may have been much more difficult to attain than the passing of an examination. It has been suggested that hostility of universities in the seventeenth century to new methods and fields of intellectual or scientific enquiry necessitated the establishment of learned societies, which flourished as a response to the deficiencies of universities as centres of learning. The learned societies certainly acquired great influence: probably no organization before the Royal Society had made itself known internationally in such a way, and it has been said that the natural philosophical community was significantly divided into those who were and were not FRS. The high social standing of learned societies added to the authority of material published under their auspices, on the basis that: ‘Arts and Sciences, when cultivated by Persons of quality... derive lustre from the rank of their Professors...’

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1 Martha Ornstein strongly advocated this view in *The role of scientific societies in the seventeenth century* (Chicago, The University of Chicago Press, 1938). Entries under ‘universities’ in the book’s index (p. 307) included: ‘opposition to freedom of thought,’ ‘fundamental reforms needed,’ ‘flood of criticism against’ and ‘contributed little to the advancement of knowledge.’


A journal is as difficult to define as a learned society. The three journals examined here have different backgrounds and aims; one was the mouthpiece of the elite Royal Society, one the organ of a group of German physicians, and one an independent forum for news and scholarship in many fields. Do these, and indeed all scholarly journals, have particular qualities that justify treating them as a distinct category? Kronick summarised earlier work by Joachim Kirchner in which seven characteristic features of a periodical were proposed:

1. Periodicity
2. Duration
3. Collectivity (i.e., multiple authors)
4. Availability to all who want to pay for it
5. Continuity (i.e., similarity of issues)
6. Timeliness
7. [Lack of] Universality (i.e., they are aimed at a specific audience)

These criteria do not distinguish scholarly journals from newspapers or other periodicals. A scholarly journal might perhaps contain material that is more complex, though 'complexity' in this situation is difficult to define. An association with a learned society is a defining characteristic of a scholarly journal if present, though some (nowadays most) journals have no such association. I would add that the contents of a scholarly journal are intended to be of more than passing value, and therefore a journal almost invariably has an annual or collected index. This cumulative approach to knowledge with its emphasis on preserving and recording cases allowed them to be compared and classified more readily and classifications would become almost taxonomic in their complexity. The purpose of defining a periodical is not merely semantic, but is relevant to understanding the treatment of the subjects in its pages. Why were monstrous births represented in periodicals, and what was the effect of this new forum for the study of monsters?

**Miscellanea curiosa**

*Miscellanea curiosa* the journal of the Collegium Naturae Curiosum, has a claim to be the earliest medical journal. Dr Lorenz Bausch (1605-1665), *Stadtpyphysicus* (municipal physician) of...
Schweinfurt in Bavaria, had worked in Italy, where he had encountered the learned society known as the Accademia dei Lincei. Bausch, who kept a museum of ‘rarities’ and was an enthusiast for Bacon’s writings, founded the Collegium Naturae Curiosum in 1652, along with three other physicians. Its programme stated that the society’s aims were ‘the advancement of medicine and pharmacy through observation; by presenting observations in monographs, and communicating them to members for correction and further elaboration.’ The president assigned a topic to each member (which was printed after his name in publications) and required him to demonstrate the ‘truth’ of all communications to the society. In effect, this meant that eyewitness accounts from members themselves or from professional colleagues were expected: physicians were to be self-appointed expert witnesses, whose testimony was reliable not only because of their social status, but because they were possessors of specialist knowledge.

Little is known of its early activities, but by 1662, the Collegium had 25 members. Dr Philip Jacob Sachs von Lowenheim joined in 1661 and was responsible for its re-organization. Membership was open to ‘doctors, licentiates, or those approximating them in learning,’ but the society remained largely for German medical men (there were four foreign members by 1693). In 1687 the Collegium (like the Royal Society) acquired a royal patron, and became the Academia Imperialis Caesarea-Leopoldina Naturae Curiosum, having come under the nominal protection of the Holy Roman Emperor, Leopold I. Once under his patronage, it had officially the same standing as a University, with a full license to print and copyright privileges. The insignia of the Collegium was the ship Arg, the Golden Fleece representing scientific truth. The fleece, like the truth, was perceived as valuable and difficult to obtain (like the Order of the Golden Fleece, of which Leopold had been created a knight in 1654) and there was also, in my view, more than a suggestion of a quest for something hidden, of the natural philosopher as the discoverer of occult meaning. On 13th December 1664, Dr John Daniel Major, physician in ordinary to the City of Hamburg, wrote to Henry Oldenburg (who, as secretary of the Royal Society, corresponded with members of many European learned societies) about the Collegium, whose members were, he reported, ‘scattered through certain

7 The Academy of Lynxes operated from 1600 until 1630. The lynx, an animal proverbial for its acute observation, was shown in the badge of the society engaged in a symbolic struggle with ignorance (Ornstein, op. cit., p. 74).
8 Ornstein, op. cit., p. 170.
9 The name of Leopold has remained in the title of the society, currently known as Deutsche Akademie der Naturforscher Leopoldina.
of the more cultured German cities and provinces.\textsuperscript{11} Oldenburg graciously replied: [w]e do not doubt that Germany, ever fertile in learned men, will greatly add to the store of knowledge\textsuperscript{12} and agreed to an exchange of information with the Royal Society.

At the re-organization in 1670, new regulations proposed that the society would publish a collection of scientific papers every year, and that each member would be required to submit an account of his special subject for the journal. It was also open to non-members to make contributions\textsuperscript{13} and those who did so included distinguished foreigners such as Thomas Bartholin the Elder (1616-1680).\textsuperscript{14} Most of the members of the Collegium were physicians and, arguably, most readers of \textit{Miscellanea Cariosa} would have been physicians too. The journal's content is therefore an indication of the broad range of interests of scholarly physicians at the time.

Each volume contained more than a hundred communications, and there was usually a longer treatise printed as an appendix, the whole amounting to some five hundred pages. Topics included anatomy, teratology, zoology and botany, with an emphasis on the unusual.\textsuperscript{15} Many of the communications were very brief; some were historical reviews, but most were case reports. Production standards were usually high and most of the engravings of monstrous births show recognisable types, from which I infer that they were realistic representations that appear to have been made from the actual specimens, though some artists, for example the illustrator of Carol Patini's 'Monstrum biceps masculinum,' continued the tradition of showing monsters alive and standing in a landscape, as they had been depicted in the book and broadside literature.

In the first ten years of publication, 98 contributors to the journal were members of the Collegium and 198 were not. Early editors were called 'collectors,' the first of these being

\begin{footnotes}
\item\footnote{11} A. Rupert Hall and Marie Boas Hall (eds & transl.), \textit{The Correspondence of Henry Oldenburg}. (Madison, University of Wisconsin Press, 1965-1977), vol. 2, p. 337, their translation.
\item\footnote{12} Quoted in Ornstein, \textit{op. cit.}, p. 172.
\item\footnote{13} W. Röpke, 'Die Veröffentlichungen der K. Leopoldinische Deutsche Akademie der Naturforscher' \textit{Leopoldina} vol. 1 (1926), p. 151.
\item\footnote{14} Bartholin presumably approved of the emphasis given to maternal impressions: see Jan Bondeson, \textit{A Cabinet of Medical Curiosities} (London, I B Tauris, 1997), pp. 148-9. He contributed a teratological case, 'De sirene Danica' [the Danish siren] \textit{Miscellanea Cariosa} vol. 1 (1670), pp. 73-7, which, with its human face and bifid tail, is very reminiscent of later fakes: see Jan Bondeson, \textit{The Fijian Mermaid and Other Essays in Natural and Unnatural History} (Ithaca, NY, Cornell University Press, 1999), pp. 36-63. At the time Bartholin was working at the University of Copenhagen, a post acquired through the influence of Ole Worm, who was married to Bartholin's aunt.
\item\footnote{15} Georg Wolfgang Wedel's 'Flanus per penem emissi' \textit{Miscellanea Cariosa} vol. 2 (1671), pp. 85-6 and 'De cati ex ore mulieris nativitate' are two of the more bizarre cases.
\end{footnotes}
Sachs. Ten-year series of volumes made up ‘decades’ and each had a yearly index, with a collected index after the first twenty years. Accounts of human monsters often included detailed autopsy findings and skeletal preparations illustrated with engravings. The careful dissections and preparation of specimens for illustration must have involved considerable time and effort. The approach was observational, resembling modern case reports: interventional or experimental studies were not reported. The current trend to regard observational disciplines such as anatomy or taxonomy as intellectually inferior to experimentation is probably responsible for the comparative obscurity into which *Miscellanea Curiosa* has fallen compared with the journals of learned societies that adopted a more interventionist approach. Bondeson dismissed it as ‘the notorious seventeenth-century German “monster magazine.”’

The Collegium Naturae Curiosum did not operate on the same lines as the Royal Society – its main function was the publication of case reports rather than the initiation of research. Ornstein argued that “[s]cience seems somewhat more backward in Germany than in the other countries” and declared that the Collegium ‘hardly deserves to be classed as a learned society,’ largely because it did not hold meetings or sponsor experimentation. Its main role seems to have been the production of *Miscellanea Curiosa*, and I assume that members found that reading and contributing to the journal justified their membership of the society. The journal was a forum for the unusual. Each observation was treated as a separate contribution to knowledge and there is a tendency not to generalize in the way in which textbook writers did: as physicians, the authors would have been used to treating every case on its merits rather than making generalizations. The observational format of *Miscellanea Curiosa* encouraged reporting of the unusual, such as monstrous births, which frequently showed unique morphological features.

Even groups such as the Royal Society that had an experimental emphasis did not subject monstrous births to experimental investigation. The artificial production of monsters (through experimentally bringing about abnormal embryogenesis rather than the creation of ‘fakes’), and with it experimental teratology, did not begin until two centuries later, with the work of Dareste, who was one of the first to develop techniques for the culture and manipulation of embryos. The lack of any experimentation earlier than this is conspicuous. Even though the

17 *op. cit.*, p. 165.
18 *ibid.*, p. 175.
use of the human embryo for experimentation would have been ethically unacceptable, animal models could have been used. One explanation for the lack of experimentation is that there was little interest in the ‘causes’ of malformations. The causes assigned to monstrous births in *Miscellanea Curiosa* often seem rather perfunctory: maternal impressions was the commonest, and investigation was probably limited to enquiring of the parents whether there were any special circumstances surrounding the pregnancy.

The lack of attention given to causes contrasts with a growing emphasis on description. The case report has remained the usual format of communication of information on birth defects in medical periodicals and level of detail achieved in *Miscellanea Curiosa* was probably the best that was possible with the techniques then available. The readership probably numbered only a few hundreds, but *Miscellanea Curiosa* fulfilled a function not only in disseminating knowledge of monsters but also in archiving it. Journal editors were, like the curators of museums, engaged in the process of ‘collecting nature.’ Some of the material remains of interest today: there is, for example, the earliest description of Roberts’s syndrome, and the first successful surgical separation of conjoined twins.

**The Philosophical Transactions of the Royal Society**

The Society was originally founded in 1660 and in 1662 Charles II — who had been sufficiently interested in their work to send them ‘rarities’ — granted a Royal Charter to ‘The Royal Society of London for Improving Natural Knowledge.’ The Royal Society is often seen as the foremost learned society of the seventeenth century. Its role of presidents is certainly unequalled — Christopher Wren, Samuel Pepys and Isaac Newton all within the first forty-five years. Medical practitioners were, however, the largest and most active single group (about a fifth) of the early fellows and this was reflected in the papers published in the Society’s proceedings. The publication of *Philosophical Transactions*, which was at first unofficial, enabled

20 For example the detailed osteological illustrations in a case of anencephaly: see Maurit Hofmann, ‘Anatome partus cerebro carentis’ *Miscellanea Curiosa* vol. 2 (1671), pp. 60-4.


23 The connections between the Royal Society and earlier groups such as the Invisible College are tenuous but it is possible to interpret the Royal Society as a development of a more arcane tradition, a thesis advanced by Yates, *op. cit.*

the Royal Society publicly to identify natural philosophical advancement with itself and to become – on Baconian principles – part of the ‘economy of knowledge’ by serving as a ‘channel of transmission’ for the exchange of information,25 while at the same time enhancing its own reputation. European scholars ‘clamoured’26 for a Latin reprint of the Philosophical Transactions which was, however, not forthcoming.

The Philosophical Transactions were not published by the Society itself, but were the private venture of its secretary, Henry Oldenburg (c.1618-1677), whose correspondence27 is an invaluable record of the Society’s early activities. Oldenburg remained in London during the plague and the Great Fire, only to be imprisoned in the Tower in 1667 for obscure reasons most probably related to his suspiciously large foreign correspondence at a time when England was at war with both France and Holland.28 Oldenburg’s concerns over the status of the authors of reports to the Royal Society are very much apparent in his letters:

I am sorry, the Dissector of the Doublechild did not putt his name to the Account, he gave of the operation; and we must contrive some way or another, to have it yet done, for the more authentickness of the relation, now it is to be recorded by a Royall Society of severe Philosophers.29

Notwithstanding the bantering tone of Oldenburg’s remarks, he was evidently disappointed not to have an author’s name to append to the description of these conjoined twins. Upon receiving the original accounts of the case he stated that the Society ‘would be very glad to have that double attestation of the 2. Physitians among their records.’ The status of the witnesses was detailed by his correspondent, Robert Boyle (whose agent Oldenburg was, and to whom he dedicated volume 5 of the Philosophical Transactions): one, Dr Turbervill, ‘an Excellent Oculist’, was ‘deservedly famous in those parts’ and the other was a physician ‘late of this University [Oxford],’ who, having seen the twins alive, was looking forward to dissecting them. This anxiety over suitably qualified witnesses related to a case seen by over a thousand people.

27 Published in thirteen volumes: Hall and Hall, op. cit.
Witnesses compared the case to the Oxford twins of 1552 described by Rueff, and Oldenburg himself made the same comparison, 'Having Rueffus among my books'. Boyle's description of the case is of interest not only as a case report but also for the light it sheds on the observations made by visitors:

On Tuesday night last [letter dated 27th November 1664], there was borne in Fisherton adjoyning to our towne of Salisbury a Monstrous Issue in part, the Woman has three Children Girles, ye one very well formed & fatt, the other two as you may call them hath but one Body, continued hansomely to their shoulders, from whence growth foure Armes compleatly made, two Necks & two heads very well featur'd, wth all ye parts ... they were at writing hereof very lusty, & doe take their food, sugar & water, looke abroade & wagg all parts; the one is more sleepy than ye other, both very pretty, I saw them this Evening (being Thursday) there hath been a thousand to see them.\(^{30}\)

They died at the age of three days, one fifteen minutes after the other. A letter, now lost,\(^{31}\) giving an account of their death and dissection, was read to the Society on 9th November 1664: 'they were found to have their parts double ... except that the guts ... met in a common channel; as also the matrix [uterus].\(^ {32}\) This case was the first monstrous birth published in a journal, in an anonymous letter to the *Journal des Savans*.

Though few monstrous births are mentioned in the Oldenburg correspondence, its relatively informal yet informed nature reveals contemporary approaches to monsters, particularly in the correspondence from the Rev Nathaniel Fairfax (1637-1690) concerning another pair of conjoined twins. Fairfax was a Cambridge graduate who obtained an MD from Leiden and practised medicine in Suffolk. In a letter dated 28 Sept 1667 he told of 'Gw. Burroughs' of Woodbridge, aged 23, who conceived for the third time by her husband and delivered, at 4pm on 23rd October 1661 'a twobodyed one headed daughter or daughters' (cephalothoracopagus twins), which were stillborn at around the 28th week of gestation, 'being drowned in the waters (as the good wives thought). As the midwives assumed a cause of death that we would now term intra-partum asphyxia the twins had presumably lived until just before delivery, and were delivered vaginally (one might speculate that death resulted from a difficult labour due to their malformation). The twins seem to have had a single face, but 'some of the Wives sd. the head was bigger th[a]n for the body' (as would be expected). Fairfax, wondering if a second conception was responsible for the twinning, accordingly spoke to the mother, whose husband was by then dead.

\(^{30}\) ibid., vol. 2, p. 277.

\(^{31}\) ibid., p. 294.

understanding that nothing immodest was driven at, nor should any light or unseemly use be made of it, she told me that (according as I guessed,) she did think that she might conceive it at twice. for when she was 9 or 10 weeks gone she had a most strange restless longing which she kept to herself some days & weeks but at length fearing a miscarriage she let her husband know it, which was this, viz. That she would yield to be the under sheet, whilst they should join in the deeds of nature. this was done about the 14th week. now since she understood the bodies came from her in the arms of each other, she has been often ready in her thoughts to drive it up to that, more longed for, than kindly embrace."

I suggest that most lay people (and many scholars) usually attributed monstrous births to maternal impressions. Mrs Burroughs, who had had six years to ruminate on the cause of her monstrous birth, seems to have harboured feelings of guilt: did the conjoined twins, embracing one another, mimic her embrace of her husband during pregnancy and was this therefore an example of a maternal impression? Fairfax speculated that two children conceived on different occasions, 'a conception upon a conception,' had somehow become fused: 'how one whole soul may snug to, or lie hid in another...'

He also speculated on whether the monster could be regarded not only as a result of the mother's lustful thoughts but as a punishment for them:

Methinkd tis easier to rais a great many questions about this Case than to answer a few, as Whither the two-bodied burden in the woman's womb put her upon the longing after an hugg should bear some resemblance to it, or, which is more likely, this unsatiable desire of hers, should stamp such an image upon her: whether there is more in it of moral than of natural, as that were a punishment of an unkind list. (as the woman herself guesses). I would be loth to be a lessener of sins, but I think the thing in itself is not so much abhorrent from the nature of mankind comparing it with what god does in the world in the like cases... but when I consider it as the child of a longing... for I am so much a freind to the pasionate bout in a woman which springs more from the hurry of materiall particles from the rational soul, I scruple whither longings shall be layd to the rule of a law, at domesday.

In a second letter of 26th September 1667 he returned to the theory of maternal impressions: 'the breeders unwonted longing (which that posture onely could fulfill.) had some way or other to doe with the shaping of the burthen.' There are no theories here (maternal

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33 Hall and Hall, op. cit., vol. 3, p. 496.
34 Thoraco-omphalopagus twins were conventionally depicted embracing one another; see Fig. 10.
35 The implication is that the conjoined twins arose due to the mother having sexual relations with her husband while already pregnant. This not only lays her open to a charge of concupiscence, but suggests the operation of maternal impressions, the embrace of the twins resembling that of husband and wife. Fairfax adds in a footnote (cont.)

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impressions, punishment of sins, unacceptable sexual behaviour) that were not current a century or more before, though Fairfax's account was the first to describe an attempt to establish the truth by obtaining a maternal history. By speculating 'whither nature aymd at a single birth or a twinne,' he was implicitly accepting Liceti's model of the monster as a mistake. Case reports of monsters in learned journals were often based on principles laid down in *De Monstrorum*: Liceti's opinions on the nature of monsters were generally accepted and Bayle, for example, argued in the *Journal des Savans* that a human foetus could degenerate into a monkey, reiterated in a modified form Liceti's view that the male or female semen could degenerate (*degenerare*) and that this was responsible for humans giving birth to foetuses that resembled animals.

The *Philosophical Transactions* had a far wider scope than *Miscellanea Curiosa*, including mathematics, optics, astronomy, geography, architecture, painting, music, mineralogy, botany, zoology, grammar and history, as well as medicine and (as they would now be called) the medical sciences, but the eight accounts of human monsters in the first 35 years of publication represent little more than a footnote to the medical content. The discussion of the causes of monstrous births in the *Philosophical Transactions* was similar to that in contemporary published sources: the Fellows of the Society provided no new insights into monstrous births, and were ready to explain them in conventional terms of maternal impressions. Conjoined twins (the majority of the reports) were generally explained as fusion of separate conceptuses. The Fairfax correspondence shows that, in contrast to the routine explanations of monstrous births offered for publication, a more interesting debate over their significance was taking place between Fellows of the Society.

The *Journal des Savans*

The *Journal des Savans* (or *Savans*) is often described as the first published scientific journal (although the Academy of Lynxes had published proceedings), perhaps due to Voltaire's

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36 For example Johann Maurice Hoffmann's 'De monstro gemello,' *Miscellanea Curiosa* 2nd Series, vol. 4 (1685), pp. 288-90, began with Liceti's statement that a monster is something that excites admiration.


39 For example in the case of a child resembling an ape with: 'a Mass of Flesh that came from the hinder part of the head...the Woman which brought it forth had seen on the Stage an Ape so clothed...': Anon., Extract of a Letter, Written from Paris, containing an account of some Effects of the Transfusion of Blood; and of two Monstrous Births, &c. *Philosophical Transactions* vol. 2 (1667), pp. 479-80.
assessment of it as ‘the father of all the publications of this genre which today fill Europe.’

Before the introduction of scholarly periodicals, scientific communication had relied on private correspondence. Though this was normally sporadic, on occasion individuals such as the theologian and philosopher Marin Mersenne (1588-1648) provided a service as a clearinghouse for scientific news from a wide network of correspondents. Denys De Sallo (1626-1669) proposed a solution to the unreliability of private correspondence as a means of scientific communication. Sallo was conseiller to the parliament of Paris and part of the coterie of the powerful Jean-Baptiste Colbert (1651-1690, Marquis de Seignelay, minister of the household of Louis XIV). Sallo proposed to Colbert a scheme whereby he would publish a weekly periodical containing information on matters of interest to the learned public including numerous reviews of new books. Sallo was granted a privilège for the printing of the journal in 1664, which was published by the Parisian printer Jean Cusson.

The first issue of the Journal des Savants appeared on 5th January 1665, and sold for five sous. Sallo, in an introductory note to the reader (under the nom de plume of Sieur de Hedouville), outlined his five-fold purpose for the publication:

1. To provide a catalogue and brief description of the principal books printed in Europe.
2. To print obituaries of famous men.
3. To publish findings from experiments in physics and chemistry, new discoveries in the arts and sciences such as machines and useful or curious inventions of mathematicians, celestial and meteorological observations, and new anatomical findings made on animals.
4. To document the findings of secular and ecclesiastical tribunals as well as universities in France and the rest of Europe.
5. To report items of news that might be of interest to men of letters.

The introductory paragraphs also pointed out that the journal would contain differing points of view and that the editor would be impartial. The first issue had ten articles on such diverse topics as a monstrous birth, Giuseppe Campani’s new telescopes and lenses, a new edition of Descartes’s De l’Homme, and a review of a published history of the African church.

41 Ornstein, op. cit., p. 200.
The *Journal des Savans* was suppressed following the thirteenth weekly issue of March 30, 1665, the reason given being that Sallo was not submitting his proofs for official approval before publication. Sallo had undertaken the task of editor out of interest (the profits went to the printer) and he therefore abandoned the editorship rather than submit to censorship. After a hiatus of several months, the Journal returned on 4th January 1666, under the editorship of Jean Gallois (or Galloys, 1632-1707), who edited the next 42 issues. The *Journal* continued to appear on a weekly basis, under various stewardship, until 1724 when it became a monthly issue.

The French Academy of Sciences was founded in 1666 and was made a royal institution by Louis XIV in 1699, one of its purposes being, says a late nineteenth century observer, 'to work at natural history quite according to the design of Verulam.' Reports from the French Academy of Sciences, the French Academy and the Academy of Inscriptions and Belles-Lettres (Petite Académie), along with reports from the Royal Society and other foreign societies all found their way into the *Journal des Savans*.

Among the authors of articles for 1665-6 were Bausch and Sachs of the Collegium Naturae Curiosum, and Henry Oldenburg, whom Sallo had consulted before the inception of the *Journal*, who supplied an account of the conjoined twins from Oxford.

**Theses and Sermons**

Wilson saw the 'scientific pamphlet' as the precursor of the article in a scientific journal. Although it is possible that writers who might previously have paid for the publication of a monograph took advantage of the opportunity to publish in a journal, 'scientific pamphlets' dealing with monstrous births are few, even including disputations and sermons in this group. Most theses were, unlike journals, produced under the auspices of universities. While it is

43 ibid.
44 Gallois was a priest, conseiller and an active member of the French Academy: *Dictionnaire de Biographie Française*, vol. 15, pp. 257-8.
45 See Morgan, *op. cit.* In 1903 the Journal came under the auspices of the Académie des Inscriptions et Belles-Lettres of the Institut de France.
47 The French Academy of Sciences had its own journal from 1700, and the *Mémoires de l'Académie Royale des Sciences* for 1666-1699 were published retrospectively in ten volumes between 1729 and 1734. Both of these contain accounts of monstrous births.
49 It was published anonymously: 'Extrait d'une lettre ecrite d'Oxfort, le 12. Novembre 1664' *Journal des Savans* vol. 1 (1665), pp. 11-12.
difficult to say exactly how many survived, or how many of the survivors have come to my attention, they are much less numerous than either broadsides or journal articles. A disputation by Jean Riolan (the younger, 1580-1657) is seen by Wilson as something of a turning point; 'one of the first efforts towards a more scientific view of the monstrous birth.' This case (of thoracopagus conjoined twins) was particularly well documented, appearing in three other contemporary publications (Wilson highlights several minor variations among them, including the date of birth and whether they were born alive or dead, a reminder that attitudes to factual detail in the popular press could be rather casual).

Riolan used a traditional formal question and answer format for his disputation. The first of his four questions was whether the twins were a monster, which he thought they were. The second question was whether they had two souls or only one. Riolan based his conclusion that they had two separate souls primarily on behavioural differences between them, and he used examples of the Oxford twins of 1552 and the Northumbrian monster of 1490 (conjoined twins who lived to the age of 28) to demonstrate that conjoined twins showed clear differences in behaviour if they lived to maturity. Behavioural differences were accepted evidence that conjoined twins were two individuals, as accounts of an autopsy performed on Hispaniola in 1533 show (see pp. 141-2) and Riolan’s approach was not innovative. Riolan’s third question was whether such monsters should be killed at birth; he rejected this proposal, but favoured segregating monsters from society. The final proposition, that monsters were prodigies, he rejected also. Riolan’s questions and answers were rhetorical: the twins were self-evidently a monster, conjoined twins with two heads were invariably treated as two individuals, there is nothing to suggest that infanticide was ever openly performed in the early modern period (see Chapter 6) – though unwanted children, monstrous or otherwise, may of course have been secretly destroyed – and the distinction between monsters and prodigies was well accepted (see Chapter 5).

The monograph included an impressive intaglio engraving, which would have been expensive to produce, showing diagrammatically the arrangement of the abdominal viscera (Fig. 11). The twins shared a liver and a heart (or at least a pericardial sac) and the artist arranged the viscera symmetrically, with one twin almost a mirror image of the other, suggesting that he may have

52 Wilson, op. cit., pp. 101-4 stresses Riolan’s omission of theological considerations such as ‘baptism or even last rites’ but I think that this omission is due to Riolan’s lack of theological training. Writers with a theological background usually did deal with the question of baptism in theses of this period. The sacrament of 'last rights' is not appropriate to an infant.
been aware of the long-perpetuated myth that conjoined twins are always mirror images. Three other publications appeared around the same time offering vernacular accounts of the twins for general consumption. All four versions put forward a mechanical cause for the monstrosity (nature had been obliged to 'sew together' the two embryos due to narrowness of the womb) but none offered an interpretation of the twins as a sign: evidence that general as well as scholarly readers no longer saw monstrous births in this way.

The presentation of Riolan's thesis marked his appointment to the chair of anatomy and botany at Paris. A formal pronouncement from the chair was expected of a new professor, and these were often subsequently printed. We might regard the occasion as something like a modern inaugural lecture, with the faculty in attendance and a rather formal discussion afterwards. The audience was meant to admire Riolan's grasp of logic and rhetoric rather than his conclusions. Jean Riolan was only 25 at the time De Monstrosæ was published, and the University of Paris (where his father had been Dean of the faculty of medicine) was an institution characterised (in retrospect) as conservative or even reactionary. Even though this conservatism may have been overemphasised by some commentators it seems very unlikely that he intended his questions and answers to present a controversial view. Riolan must have hoped that his display of the anatomy of the monster would impress his audience, and a high quality engraving was required to do it justice. He was a master anatomist, and his work is particularly impressive considering the limited numbers of cadavers available for dissection at that time.

Monstrous births featured in a number of later disputations in faculties of theology at German universities. Such works generally included a description of a recent monstrous birth, with a brief literature summary. The appropriateness of baptism and whether demons could generate monsters were popular topics for discussion. Laurent Gerlin, for example, who wrote his thesis in Wittenburg in 1624, was able to identify only three cases of monstrous births in the sixteenth century. These he attributed to maternal impressions and discussed according to the theories of Aristotle. Christophor Wallrich took as the subject of his disputation John Baptist and Lazarus Colloredo, the flamboyant Italian and his parasitic twin who toured Europe exhibiting themselves. Monstrous births were a popular subject for disputations at

54 See Wilson, op. cit., pp. 103-5.
56 Disputato Physica de Monstris quam Deo Juxtae (Wittenberg, Johannis Borckardt, 1655).
Wittenberg (Luther himself had written on the subject) and in 1665, Johann Stricer produced a summary of what was known about monsters. He defined 'a natural monster' as 'a natural product with stigmata of deformity of some kind caused by deficient or aberrant development' and categorised plant, animal and human monsters including incubi and succubi. The overall organisation resembles, and probably reflects the influence of, Liceti’s De Monstrorum. These disputations indicate that monstrous births were an accepted subject for teaching and learning in the universities, part of mainstream academic knowledge, and that a contribution to the subject was regarded as a suitable beginning to an academic appointment.

Thomas Bedford’s monograph concerning a monstrous birth at Plymouth is an apparently unique survival of a sermon on a monstrous birth. It is unlikely that he delivered the sermon as written (if at all) as it is too long and complex a text, best regarded as a scholarly monograph, though intended to include a moral lesson. Bedford (?-1653) was rector of St Martin Outwich in London. A Mrs John Persons living in the parish gave birth to male thoracopagus twins after a 14-hour labour. Bedford made an external examination and found them to have a common sternum and a single umbilical cord, which finding led him to speculate that there was a shared liver. He suggested that the twins were two infants coalesced into one by external pressure. Bedford also discussed other causes of monsters including defects and excess of semen and the effects of the maternal imagination. This work shows that a well-educated man with no medical background was capable of describing a case and attempting an interpretation according to accepted medical theories. There was also a discussion of the ethics of exhibiting monsters for profit. Perhaps surprisingly for the work of a clergyman, the sermon’s chief weakness, in my view, was theological. Bedford wished to show that monstrous births were deserved punishments for sin, and attempted to use the example of the man born blind in St John’s gospel (one of the very few scriptural passages that mentions a congenital defect) to prove his thesis, an approach requiring him to reverse the usual interpretation of this passage.

Later commentators have often regarded the work of universities in the seventeenth century unfavourably. The extreme view, articulated by Ornstein, is that outdated scholastic methods and religious intolerance in European Universities frustrated learning. Learned societies could be favourably contrasted as a republic of letters, an international community of scholars.

57 Disputato Physica de Monstro (Wittenberg, Joh. Röhner, 1665).
58 Thomas Bedford, A true and certain relation of a strange birth... (London, Anne Griffin, 1635).
59 op. cit.
transcending frontiers, in which learning could flourish freely. Many of the descriptions of monstrous births in seventeenth century scholarly journals are recognisably similar to modern case reports from the early twentieth century, however they also inherited much from the popular tradition of monstrous births described in ballads. The examples above show that monstrous births were seen as a subject for intellectual debate in the universities. Indeed, universities rather than learned societies were the source of fresh approaches to monstrous births, both aetiological, where the writings of Liceti were central to a developing emphasis on the physical causes of monstrous births, and morphological, as the techniques of university based anatomists were applied to monstrous births. Morphological approaches to monstrous births required both knowledge of anatomy and the ability to perform dissection; skills found pre-eminently amongst members of the medical faculties of universities. Paré, by contrast, had not made his own anatomical studies despite possessing the preserved bodies of several monstrous births. Perhaps we can judge the universities by the graduates they produced, men like the members of the Collegium Naturaе Curiosum who were able to produce descriptions of monstrous births that were as accurate as their resources permitted and who had, in the tradition of Riolan, the technical skill to undertake difficult dissections of infants whose structure was markedly abnormal.

The similarities between monographs and journal articles are not particularly striking. Theses continued to be produced after the advent of journals and I know of no example of a thesis-writer republishing a case in a journal. Kronick suggested that calendars and almanacs were the antecedents of learned periodicals, partly because monstrous births and other monstrous events appeared in both. The influence of almanacs may be seen in journals' concerns over chronology: they generally provided dates of birth in case reports as almanacs and broadsides had done.

A farrago of medical curiosities
Shadwell's *The Virtuoso* (1676) included a parody of the gentleman natural philosopher in the person of Sir Formal Trifle (who is presumably FRS), a somewhat pompous and effete character who studied swimming in theory, without entering the water, and who was of the opinion that 'To study for use is base and mercenary, below the serene and quiet temper of a sedate Philosopher.' The point of the satire was not that the learned societies had a less utilitarian attitude to knowledge than, say, the universities, but that they studied practical things in a theoretical way: Shadwell's message was that not everything amenable to scholarly

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60 Kronick, op. cit., pp. 63-4.
study is necessarily worthy of it. The view that monstrous births are unworthy of study—
which was one response to Paré's work—coupled with a perception that experimentation is
inherently more valuable than observation may explain why reports of monsters in early
journals have received little attention from historians of science, and indeed those in the
Philosophical Transactions of the Royal Society have been dismissed as: 'a farrago of medical
curiosities...evidence of triviality and misguided enthusiasm among English medical
practitioners,' the antithesis of 'learned research.' It was the preference of the editors of
Miscellanea Curiosa for observational studies over experimental ones, more than anything else,
that led Ornstein to categorise the Collegium Naturae Curiosum as 'not a learned society.'

Despite a greater level of anatomical detail, descriptions of monsters in journals resemble
those in ballads and broadsides with their 'picture, description, brief interpretation' format.
They can thus be seen as an example of the adoption by scholars, the 'surfacing into
visibility' of vernacular knowledge that occurred during the Scientific Revolution. The large
crowds through which physicians often had to make their way to examine a monstrous birth
indicate that these births were well known and of interest to the general population, but their
entry to the medical literature, facilitated by journals, resulted from the availability and interest
of suitably qualified witnesses who had access to a means of publication. These observers
brought university-acquired skills in anatomy to the popular case report format. The purpose
of the ephemeral literature was financial profit and I have suggested in chapter 1 that
monsters were chosen as subject matter likely to produce good returns because of their
popular interest and because they were suitable emblems for theological and moral discussion.
For book publishers too it would have been an advantage to appeal to a wider readership and
monsters were a subject that appealed not only to physicians, natural philosophers and
theologians but also to those with an interest in the unusual. The market for (often plagiarised)
vernacular translations of scholarly works indicates that a more general readership was in
existence outside the academic community and that books of monsters could cater for both.

Periodicals, although not intentionally loss making, were less directly driven by financial gain
than book or ballad writing. A journal is purchased not for a specific item of content but
because of its overall reputation as a source, which is bound up with the reputation of the

62 Porter, op. cit., p. 285, saw this distinction as too sharply drawn, as well as being the antithesis of the
Baconian theory of learning through observation.
63 An index entry, op. cit., p. 291.
learned society of which it is the organ. Many, perhaps most, of the subscribers were members, or would-be members, of the society concerned, some of whom would have had the added incentive of seeing their own work in print from time to time. Journals enabled material from a wider range of scholars to find its way into print, and men who lacked the funds, time, material, or reputation to write a book, could now make, and be seen to make, a contribution, however small, to knowledge. It was easier than ever to publish an account of a monster, and editors sometimes faced the problem of filling the available space. As Kronick remarks, 'One of the problems of regularity of issue [of journals] was that of finding an adequate pay-load for the vehicle.'

The intended readers of journals were professional men and gentlemen amateurs. In his preface to the abridged version of the Philosophical Transactions, Lowthorp identified two kinds of reader: 'those who make use of Books for their private Instruction or Entertainment, and those who consult them in order to publish something of their own.' He expressed a desire that his work might encourage a similar abridgement of foreign journals. By the fifth edition the Latin papers were, for the first time, translated into English. The choice of the English and French languages may have helped to ensure that Philosophical Transactions and Journal des Savans enjoyed better sales than the all-Latin Miscellanea Curiosa, although, especially in the case of the Journal des Savans, it limited their geographical range. Although a journal is numerically much less effective in disseminating information than a broadside or newspaper it has two advantages to the scholarly author: it is targeted at other scholars and it is intended to be permanent. Miscellanea Curiosa, the Philosophical Transactions and the Journal des Savans were indexed and so each contribution was a unit of knowledge that would remain available for the conceivable future.

The empiricist motto of the Royal Society, 'Nullius in Verba' (meaning 'take no-one's word for it') seems inconsistent with the many case reports in the Philosophical Transactions, which the reader is expected to believe 'on trust.' Those who contributed to journals did so as amateurs, content to write as an interest or to enhance their reputation. From the start, the Royal Society was anxious to emphasise its social status and that of its members (for example by appointing several high-ranking but intellectually undistinguished presidents), which, as its historian Thomas Sprat optimistically stated made them intellectually 'free and unconfined.' Status, as

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65 Kronick, op. cit.
we saw from Oldenburg’s remarks (above) on the ‘doublechild’ was one way of guaranteeing intellectual probity68 (perhaps ‘don’t take just anyone’s word for it’ was closer to the society’s ethos). A gentleman’s word was accepted as honest, and he was considered intellectually capable of producing an accurate account; furthermore, unlike the writers of broadsides and newspapers, he had no direct financial incentive to write. Though it was possible to make a living as a freelance writer and translator if one could successfully combine this with publishing and administration, as Oldenburg did as secretary of the Royal Society, it was not possible to make a profit from natural philosophical writing in the seventeenth century. Publishers began to see the advantages of material that was new and freely available. A ‘pirated’ edition of the Journal des Savants was re-published in Amsterdam. As this edition is the one generally encountered in libraries today it may be presumed to have accounted for a significant proportion of total sales.

Journals were a particularly suitable forum for case reports, which are short, self-contained, and often topical. The case report as a means of medical communication is currently in disfavour, even though “[t]here is no other way but a series of cases to bring a potentially new disease to the attention of the medical public.”69 A report of a congenital malformation contained an element of surprise, which it shared with popular accounts of monstrous births and with museum specimens: almost by definition, these were not what the reader or viewer expected to see. In terms of formal scientific theory the case report is striking because it runs counter to an accepted hypothesis, even though that hypothesis may not have been explicitly stated.70 Conjoined twins, for example, disprove a null hypothesis that human individuality was dependent upon independent bodily existence. As various cases revealed that neither a shared liver nor heart precluded individuality, the concept of individual existence was further refined.

The furore surrounding monstrous births would have drawn the attention of local physicians, even if they were not personally involved with the case. By reporting them, physicians and natural philosophers aimed to acquire and preserve material that was interesting and potentially valuable in the future. Even where malformations were relatively frequent, such as anencephaly, case reports from before 1700 generally failed to mention earlier cases, treating each new case as a surprising novelty. This I attribute in part to the greater difficulty of reviewing the literature at that time, though authors of case reports may have wished to

68 Steven Shapin, A Social History of Truth (Chicago, University of Chicago Press, 1994).
70 Ibid.
present their own discovery as unique. However repetitive such reports seem in retrospect, at
the time they were expanding knowledge of the range of potential outcomes of foetal
development, all of which would have to explained by later theories of development. In the
light of modern scientific theory, we can see the case report not as confirmatory but as
essentially subversive, its function being to highlight exceptions to the perceived natural order.

I have argued from their appearance in theses that monstrous births were a well-recognised
part of the mainstream of academic knowledge in the late seventeenth century, and that by the
preservation of cases, in journal accounts as well as in museums, collectors intended to
contribute to the sum of knowledge. By the end of the seventeenth century, a new rôle for the
monster as a natural experiment was emerging. A child born without nostrils was used as
evidence to reach the surprising conclusion that the foetus in utero breathes through its
mouth71 and an anencephalic child posed a question for Cartesians: how did it move its limbs
if the pineal gland, the seat of the soul, was lacking?72 The use of exceptions to shed light on
normal development – the theory that the edge shows us what the middle is like – provided an
important motive for the study of unusual cases:

> We ought not to set them aside with idle thoughts or idle words about “curiosities” or
> “chances.” Not one of them is without meaning; not one that might not become the
> beginning of excellent knowledge, if only we could answer the question - why is it rare?
> Or being rare, why did it in this instance happen?73

The journal literature also developed Liceti’s concept that the monster was a creature not as it
‘ought’ to be, formed when nature makes a mistake. A growing sense of monsters as
abnormal, a result of the ‘vehement terrors of the imagination of women,’ was reflected in the
language chosen to describe them. Monsters were reported as being of ‘horrible’ appearance,
even by physicians familiar with disease in its grossest forms, while conjoined twins wept at
the prospect of their partner’s death, and a physician called to see a monstrous child thanked
God when death supervened. Questioning of the mother was employed to elicit a specific
cause for a monstrous birth, often rooted in her imagination, and guilt-stricken mothers
unwittingly helped to turn the old superstition of maternal impressions into a self-perpetuating

72 Anon., ‘Extract of a Letter, Written from Paris, containing an account of some Effects of the Transfusion of
Bloud; and of two Monstrous Births, &c. A monstrous birth like a monkey, at Paris’ Philosophical Transactions vol.
2 (no. 26, 1667), pp. 479-80.
theory as they invested minor past events as the loss of a cow with the significance born of hindsight.74

But the emblematic uses of the description of monstrous births had not been entirely lost. Unlike the Royal Society, the Collegium Naturae Curiosum had no pretensions to encompass the whole of knowledge. *Miscellanea Curiosa* is a revealing indication of the type of subject matter in which the more successful seventeenth-century physician took an interest. Few of the ‘observations’ were directly relevant to clinical practice, and readers clearly did not consider the purpose of learning to be utility in medical practice, although *Miscellanea Curiosa* gave them access to reports of the most unusual cases encountered by their colleagues and may have improved their practice. Many of the observations noted resemblances between the natural world and Christian images: a root shaped like a crucifix, or an image of the Virgin Mary in a rock formation. Johann Musche de Moschau translated a message in Hebrew that had been found in the pattern of the wing of a locust.75 These do not qualify as emblems in the traditional sense – the reader is told what they represent rather than left to work it out – but they do suggest that the natural world was seen as a kind of emblem book in which God had concealed messages that men could discover. Coincidentally, but significantly, the image of a stillborn infant with multiple congenital malformations was placed under that of the locust’s wing (Fig. 12). Another description of a monstrous birth ended with the words ‘Benedictus sit Deus in omnibus Operibus suis,’76 perhaps the last attempt to justify reports of monstrous births as emblems of their Creator.

In the next chapter, I shall consider classification of monstrous births and the work of museums. Collecting must necessarily precede classification: the physical preservation of specimens in museums was only one means of collecting: another was to preserve the demographic and anatomical details of monstrous births in printed form. While publications of all types did this, scholarly journals were unique in that they intended specifically to collect information and to make it available in this way. Seventeenth century observers had not the preoccupation with causes that would characterise later scientists. The accumulation of data, as Oldenburg put it, to ‘add to the store of knowledge’ was their stated objective and the authors of the monster literature, and of other medical case reports, have perhaps been unfairly criticised for achieving what they set out to do.

74 ‘Extrait d’une lettre de monsieur le Prieur de Lugeris en Champagne, sur un enfantement arrivé an mois de Mai dernier’ *Journal des Sçavans* (1690), pp. 53-4.
76 Johann Jacob Wepfer, ‘De puella sine cerebro nata, historia’ *Miscellanea Curiosa* vol. 3 (1672), pp. 175-203.
Chapter 5 — Classifying monsters

The irresistible tendency of any general method is imperialistic; it inescapably prescribes its own subject matter and rejects as irrelevant and unreal whatever cannot be brought under its hegemony.¹

Definitions

This chapter describes various classifications of monsters, including ‘formal’ schemes proposed by scholarly authors, and ‘working’ classifications used to order books and collections. The criteria used to assign birth defects to the category of ‘monsters’ will also be considered, in relation to the ill-defined but highly significant divisions between natural, unnatural, and supernatural phenomena. The different classifications used are first summarised with brief comments, and then discussed in relation to theories of the causation of monstrous births. Finally, the collection and preservation of foetal material is considered.

What are we to make of the apparent incompatibility between the concept of the monstrous as intermediate ‘between’ categories and the many and thorough classifications of monsters? At a purely logical level, there is no inconsistency in classifying things that do not fit into one system according to a different system. One can for example classify conjoined twins according to their mode of union without being sure whether they are one or two individuals in any given case, or one could classify hermaphrodites by cause without knowing whether they were male or female. In a wider context, however, interpretations of monstrous births as emblematic of disorder become difficult to sustain if they are seen as part of a precisely ordered system.

One view of the interpretation of monstrous births in the early modern period is of an increasing division between popular and learned culture: while lay people continued to see monsters as signs or warnings, learned authors looked for other causes. This, it has been suggested, represented a change in the interpretation of monstrous births from a relationship of sign and signified to cause and effect.² Such a change would not have required new knowledge — we have seen that ‘causes’ of birth defects such as excess or deficiency of material were known to writers (and therefore to readers) of ballads but were generally disregarded in favour of the monsters’ emblematic meaning. It is a change of

emphasis that is being suggested: Moscoso argued that ‘discursive self-restraint’ characterized the late seventeenth century natural philosophical approach to monstrous births – Aldrovandi had told everything whereas the French Academy of Sciences reported only the ‘salient’ features of the case. In the publications of learned societies, the reader was no longer left to decide for himself what was salient but was presented with a selective, expert view of the subject.

As the reporting of monstrous births became increasingly confined to students of specialised fields, the range of interpretations offered diminished. Whereas in the sixteenth century monsters had a wide audience and were subject to theological, legal, and natural philosophical interpretations, by the end of the seventeenth century medical and natural philosophical interests predominated in the printed cases, perhaps because the theological and legal questions concerning monstrous births were deemed to have been answered. This does not necessarily mean that emblematic interpretations were no longer tenable – I have emphasised that interpretations of monsters as signs or emblems and interest in their physical causes were not mutually exclusive but were two ways of viewing the same phenomenon: ‘why’ monsters are formed and what they signified was largely independent of ‘how’ they were formed. A monstrous birth might for example have been seen both as the ‘natural’ (cause-and-effect) consequence of bestiality and as a divine warning against sin: a natural explanation did not preclude interpretation as a sign of divine providence. As with many apparent dichotomies in the classification of monstrous births, categories that at first appear distinct were not in fact mutually exclusive.

Causation was an important element of some systems of classification, notably that of Liceti, and I suggest the increasing speculation on the causes of monstrous births was – like the increasing anatomical detail in which they were described – a consequence of the desire to produce ever more elaborate classifications. If classification was an end in itself rather than a tool for understanding monstrous births then there must have been a reason why it was seen as inherently desirable. This was, I suggest, because the monster classified was no longer an emblem of disorder and doom, but one of order and fecundity.

Monsters and prodigies

What would the words monster and monstrous have signified to the early modern reader? The Latin root of monsber, monstrum means a portent or warning. Lewis and Short in their Latin dictionary derived monstrum from monere, to warn. Aldrovandi, in his Monstrorum Historia

(written before 1605 but not published until 1642, Fig. 1), offered, as we have seen, a perhaps etymologically flawed but nonetheless interesting alternative derivation from *monster*, to show, as a monster was something customarily shown to others. The Oxford English Dictionary (OED), published between 1884 and 1928, gave as the first meaning of *monster*: ‘something extraordinary or unnatural; a prodigy, a marvel.’ Other meanings for which the OED gave examples from the seventeenth century or earlier are: ‘an animal or plant deviating in one or more of its parts from the normal type,’ ‘an imaginary animal’ and ‘a person of inhuman and horrible cruelty and wickedness.’ *Monstrous* was defined as: ‘deviating from the natural order,’ ‘strange or unnatural’ and ‘abnormally formed.’ The meaning of the Latin root, a portent, is not given in examples of Early Modern usage in the OED, but most scholars were writing in Latin, where *monstrum* signifies both a portent and an abnormal birth. Phrases in English texts such as ‘a monstrous deformed infant’ and ‘a straung and monstros Child’ suggest that *monstrous* signified to the reader something more than just strangeness or deformity. *Monster* and *monstrous* often appear to have been used in an imprecise way, especially in the popular literature, and they may have carried several meanings simultaneously, as there is no reason why a monstrous birth could not have been thought of as a prodigy, unnatural, abnormal, and horrible all at the same time. *Monster* later became a technical term within medicine, signifying ‘child with severe congenital malformations.’ In this context it is now obsolete, having largely been replaced by the terms *congenital malformation* or *birth defect*, both of which significantly refer to the medical condition, not the individual, and carry a meaning of failure to attain a particular result, which *monster* does not. The concept of the monster as a mistake has become the standard interpretation.

Paré’s work on monsters is now known as *Des Monstres et Prodigies*, usually translated into English as *On Monsters and Prodigies* or *Monsters and Marvels*. For Paré, and for most writers of his time, monsters and prodigies were two different things, though the boundary between them was not always distinct. Basically, a monster was within the compass of nature while a prodigy was totally outside it. The recognition of this distinction became a

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6 ‘Normal’ is anachronistic in this context: ‘usual’ would be more appropriate.
7 An extensive linguistic discussion of *monster* and related words is to be found in the first chapter (‘Definitions’) of Wilson, op. cit.
8 [Jones], R[ichard], *A most straung and true discourse of the wonderfull judgement of God, of a monstrous deformed infant, begotten by incestuous copulation, between the brother’s sonne, and the sister’s daunger, being both unmarried persons. Which child was born at Cokhall, in the county and diocese of Hereford, upon the feast of the Epiphany, commonly called twelfth day, 1599. A notable an most terrible example of incest and adultery* (London, 1600).
10 Though it is retained as a text heading in the Systematised Nomenclature of Disease codes in use in my own hospital, appearing on the final report as ‘M2800.’
standard part of the preamble to scholarly accounts of monstrous births for over a century. For example, the physician François Bouchard began the report of a case in 1672:

A monster is anything that appears outside the usual course and order of nature, such as a child with two heads, or which has three or more arms or other superfluous members, mutilated or maimed.

A prodigy is that which goes totally against nature, such as if a woman gives birth to a beast, whether four-footed, aquatic, flying, reptilian, or of some other kind.\(^{11}\)

So a birth could be (1) natural, (2) outside the usual course of nature, or (3) totally against nature. I shall refer to these three groups, which roughly correspond to what we would call 'normal' births, monsters, and prodigies, as natural, unnatural, and supernatural. If the distinction between monsters and prodigies now seems unclear, it was probably always so, since the division between what was or was not within the bounds of nature was a subjective one. Daston\(^{12}\) compared the relationship between natural, unnatural and supernatural births during the Early Modern period with theological concepts of the miraculous: for example St Thomas Aquinas considered some miracles to be impossibilities in nature, whereas St Augustine wondered how anything done by the will of God could be contrary to nature. Some Early Modern commentators such as Nicholas Remy did not accept that any birth could be 'against nature,' and the concept remains a difficult one to grasp (see below).

Daston has argued that the supernatural was the invention of thirteenth century theologians, notably Aquinas, and postulated that there was a gradual naturalisation of the supernatural during the sixteenth and seventeenth centuries, driven by a growing distrust of signs and portents as diabolic. During this period, she suggests, there was a shift in interpretation of monsters from signs to facts: '[t]hey [monstrous births] began as signs par excellence and ended as stubbornly insignificant.'\(^{13}\) The issue is a complex one, but I may start by saying that in my view monstrous births were never considered to be supernatural. Monsters were not supernatural events like Aquinas's miracles, and they broke the laws of nature, and so were unnatural, without transgressing the bounds of what was possible in nature and passing into the supernatural sphere. I also think that the division between natural/unnatural and supernatural is distinct from that between facts and signs. Both monsters and prodigies could serve as signs, since God colluded in the production of 'natural' (or unnatural) monsters just as much as in supernatural prodigies:

\(^{11}\) 'Monstrum est omne id, quod praeter cursum & ordinem Naturae apparat; Velut infans biceps, vel qui habet tria aut plura brachia seu alia membra superflua mutila vel manca.
Prodigiorum est, quod prorsus contra naturam venit, velut si mulier pariar brutum, sive sit quadrupes, aquatile, volatile, reptile, sive prodigiosum alium.'

\(^{12}\) op. cit.

\(^{13}\) ibid.
They are shewed that they may shew the speciall handyworke of God, and though, peradventure dead, yet speake, and tell the forgetful worlde, that God himself hath a speciall hand in forming and featuring the births conceived in the wombe.  

In the sixteenth and seventeenth centuries the authors of descriptions of birth defects almost invariably assigned them to the 'monstrous' category and it appears that this was done to distinguish them from supernatural goings on. Although the rôle of monsters as signs of the times did diminish, emblematic interpretations persisted in one form or another throughout the early modern period.

To summarise, abnormal births could be either monsters or prodigies, the latter being equivalent to supernatural or miraculous events. Monsters were referred to as 'unnatural' since they were outside the normal course of nature or, as some preferred to say, they transgressed its laws, but they were not prodigies. *Unnatural* was sometimes synonymous with *monstrous*. When writers such as Paré referred to the natural 'law' being transgressed in the generation of monsters, they implied not the immutable 'laws of nature' as we might think of them (such as, say, the laws of motion) but usual types of occurrence. The natural law as posited in the Early Modern period therefore resembled human law in that it could be broken. There was also a sense in which unnatural events were not as they 'ought' to be and they were therefore associated with sin as they supported the very useful social theory that law breaking violated a divinely established natural order.

The question of what kinds of abnormalities were considered monstrous can be best answered by example: monstrous births are what the ballads, books, and journal articles described in the previous chapters were about. It is quite striking that, despite the many arguments over the causes and significance of monsters, no writer, popular or scholarly, seemed to question what *was* a monster. The same types of cases, and often the same individual monsters, were accepted by many authors. Conjoined twins were monsters, as were anencephalics, children with multiple congenital malformations, acardiac foetuses, and parasitic twins. They were monsters because they were outside the normal course of nature, not because of any specific morphological criteria. At least one case, though macerated, would now be considered morphologically normal (Appendix 1, 1562a), but all monsters were thought to have morphological abnormalities: Liceti, for example, did not consider pygmies to be monsters because although they differed from other men in size,

15 Lorraine Daston, 'The nature of nature in early modern Europe' *Configurations* vol. 6 (1998), pp. 149-72.
they were not deformed. In contrast to monsters were prodigies, supernatural births such as, we are told, when a woman gives birth to an animal. Creatures of this type known in the seventeenth century as sooterkins are discussed below. They were not regarded as human and they were commonly killed. They also seem to have been devoid of emblematic significance, perhaps because they lacked the ambiguity necessary for successful emblems. They were viewed with extreme distaste – a reflection perhaps of the growing concern that animals could develop from human seed through a process of degeneration. This theory does however suggest that they were not seen as supernatural occurrences.

**Finding fault with nature**

The distinction between monsters and prodigies became established in the sixteenth century: neither classical embryology nor its mediaeval interpretation required it to be made. In mediaeval times monsters were *pecata naturae* (slips of nature). Thijssen argued that to the Mediaeval mind expressions such as *praeter naturam* (beyond the range of nature) and *praeter ut in pluribus* (outside that which occurs frequently) were interchangeable.¹⁷ To be rare or unusual was to be unnatural. The concept of nature making a mistake was bound up with the assumption that nature aims at a particular result. In the second book of his *Physics*, Aristotle wrote of nature sometimes failing to accomplish its ends. This implies that nature has ends, towards which it works but which it cannot always achieve: "[t]hus Aristotle calls a woman a Monster, and a fault of Nature, which always designs the making of a Male as the more perfect... And for the same reason he calls a Child, which doth not resemble its Father, a Monster, because the Father design’d to beget a Man like himself."¹⁹ Aquinas developed this further, concluding that it was legitimate to find fault with nature:

> Actions are open to criticism only so far as they are taken to be done as means to some end. It is not imputed as a fault to any one, if he fails in effecting that for which his work is not intended. A physician is found fault with if he fails in healing, but not a builder or a grammarian. We find fault in points of art, as when a grammarian does not speak correctly; and also in points of nature, as in monstrous births."²⁰

According to St Augustine, God would correct these mistakes of nature on the last day:

> We are not justified in affirming even of monstrosities, which are born and live, however quickly they may die, that they shall not rise again, nor that they shall rise

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¹⁶ Fortunio Liceti, *De Monstrorum Cassis, Natura, & Differentiis* (Padua, 1616), p. 38. Another way of looking at this is that they were not unnatural because they were how they ought to be.

¹⁷ Thijssen, *op. cit.*

¹⁸ *ibid.*

¹⁹ *ibid.*, p. 67.

²⁰ Thomas Aquinas, *Somma Contra Gentiles* book 3, ch. 2: 'that every agent acts to some end.'
again in their deformity, and not rather with an amended and perfected body. God forbid that the double limbed man who was lately born in the East, of whom an account was brought by most trustworthy brethren who had seen him, - an account which the presbyter Jerome, of blessed memory, left in writing; - God forbid, I say, that we should think that at the resurrection there shall be one man with double limbs, and not two distinct men, as would have been the case had twins been born. And so other births, which, because they have either a superfluity or a defect, or because they are very much deformed, are called monstrosities, shall at the resurrection be restored to the normal shape of man; and so each single soul shall possess its own body; and no bodies shall cohere together even though they were born in cohesion, but each separately shall possess all the members which constitute a complete human body.\(^{21}\)

In the sixteenth century, when theological and moralising interpretations placed the emphasis on monstrous births as signs of divine intervention in natural events, the concept of the monster as a mistake of nature was almost lost.\(^{22}\) Nothing that was seen as a sign of divine intervention could be a mistake. Liceti, who, as we have seen, was strongly influenced by Aristotle, to some extent reconciled the two theories, by criticising the 'vulgar' opinion that monsters were 'errors' or 'failures' on the part of nature and proposing instead that they were part of a secondary plan, the results of nature doing its best with the flawed materials available,\(^{23}\) but by the mid seventeenth century, the scholarly view of the monster as a mistake had been re-established.\(^{24}\) We can therefore distinguish two theoretical bases for the interpretation of monstrous births, the first, as 'slips of nature,' having classical roots and re-emerging in the scholarship of Liceti, and the second, as divinely-mediated signs, often related to the transgression of natural or moral 'laws,' which was developed in the sixteenth century.

**Classifications**

Two kinds of classification were undertaken. One was of the practical sort: many books and collections contained material arranged in an organised fashion, usually involving grouping similar cases together. Other classifications were theoretical in type, as when a book or thesis considered the general topic of 'monsters'. Within either type of classification, monsters could be grouped by morphology and/or by cause. Classifications by cause indicate the accepted theories of the causation of monstrous births, many of which have an extensive literature. My intention is not to describe each theory in detail, but rather to consider their role in the interpretation of monstrous births.

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21 Augustine, Bishop of Hippo, *Enchiridion* ch. 87, 'The case of monstrous births.'
22 There are of course exceptions such as the physician Jerome Cardan who wrote of conjoined twins 'Nature would have created two, saving that by some defect she imperfected the whole' see Pierre Boaistau, *Histoires prodigieuses...* (Chez G. lanssens, Anvers, 1594), fol. 36v.
There was no one generally accepted classification of monstrous births in the Early Modern period. Some writers, such as Paré, chose to classify by cause, and others, for example Schott, chose a largely morphological system. While classifications by cause provided information about the supposed etiology of monstrous births, classifications by morphology were probably easier for the reader to navigate, since the morphology of a monster would be known even if the cause was not. Classifications offered by Paré, Schott, Stricter, Liceti and others will now be considered in more detail.

In the first chapter of *Des Monstres* (1573), Paré gave the following list of ‘several things that cause monsters’:

- The first is the glory of God.
- The second, his wrath.
- The third, too great a quantity of seed.
- The fourth, too little a quantity.
- The fifth, the imagination.
- The sixth, the narrowness or smallness of the womb.
- The seventh, the indecent posture of the mother, as where, being pregnant, she has sat too long with her legs crossed, or pressed against her womb.
- The eighth, through a fall, or blows struck against the womb of the mother, being with child.
- The ninth, through hereditary or accidental illnesses.
- The tenth, through rotten or corrupt seed.
- The eleventh, through mixture or mingling of seed.
- The twelfth, through the artifice of wicked spital beggars.
- The thirteenth, through Demons and Devils.\(^\text{25}\)

Most of these were statements of generally accepted knowledge. It is not quite the earliest classification – St Albert the Great, in his commentary on Aristotle’s *Physics*,\(^\text{26}\) had distinguished four causes of failure of normal foetal development: (1) Diminution of matter, (2) Abundance of matter, (3) Disproportion of matter with regard to the qualities conveyed upon it and (4) Deficiency of the container. Classical writings were important influences, which Paré acknowledged when writing of causes such as the quantity of seed, maternal imagination, smallness of the womb, and corruption of the seed. His justification for ‘mixture or mingling of the seed’ as a cause of monsters was 2Esdras 5, 9: ‘and menstruous women shall bring forth monsters’ (i.e., children conceived during menstruation shall be monstrous).

Paré went on to say that there were other causes as yet unknown, because for some malformations, such as persons ‘with only one eye in the middle of the forehead,’ he was


\(^{26}\) Albertus Magnus, *Physics* 2, 3, 3.
unable to give an explanation that was either sufficient or probable. In subsequent chapters he used his list of causes as the basis of a classification of monstrous births, providing examples of monsters from each group. This was not a formal classification but a series of overlapping groups into which cases were placed so as to appear in an orderly fashion before the reader. The relationships between the categories are more complex than they may first appear: the first and second presumably included the following eleven groups, as it does not appear to me that Paré supposed that any monsters were not the result of the actions of God. For example, in his chapter 20 on ‘mixture or mingling of seed’ he wrote of atheists and sodomites ‘provoking the wrath of God against them[elves],’ thereby interpreting birth defects in this group as a subset of group 2.

Caspar Bauhin’s (1560-1624) classification of monstrous births (1600), unlike Paré’s, consisted of several ‘levels’ of categories rather than a single overlapping scheme. It utilised a system of binary oppositions presented in tabular form of the type developed by the French academic Petrus Ramus. Many types of knowledge can be structured in this way, since almost anything can be divided into x or not x, then subdivided into y or not y, and so on. Aquinas had recognised such ‘nested’ causes of monstrous births, the higher encompassing the lower:

I answer that cognitive habits differ according to higher and lower principles: thus in speculative matters wisdom considers higher principles than science does, and consequently is distinguished from it; and so must it be also in practical matters. Now it is evident that what is beside the order of a lower principle or cause, is sometimes reducible to the order of a higher principle; thus monstrous births of animals are beside the order of the active seminal force, and yet they come under the order of a higher principle, namely, of a heavenly body, or higher still, of Divine Providence. Hence by considering the active seminal force one could not pronounce a sure judgement on such monstrosities, and yet this is possible if we consider Divine Providence.

Bauhin hardly even attempted to fill the categories he had created with examples, but his choice of dichotomies is of interest as a list of properties or causes that he believed some, but not all, monsters shared.

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28 Thomas Aquinas, *Summa Theologica* 2nd part of the 2nd part, q. 51, art. 4.
29 Bauhin, *op. cit.*, facing p. 58.
Higher

(From God: His anger, judgement, punishment due to errors of sexual union
The influence of the stars or of an unfavourable planetary aspect

(Of the Southern wind

In the father, if the semen is wanting either

Material (in quantity

(Excess

Deficiency

In quality, because it is corrupted, either

Of itself

Because mixed

with waste products in the uterus

In the mother, either

Semen

Quality

Blood, either

Quantity

Size

Narrowness

Other ways

The uterine cavity is unsuitable

The efficacy of the formative faculty is weak

Of itself

Because of

the uterus

Both parents

Union contrary to nature

During menstruation

Excessive lust

With

Animals

Hereditary disease

Imagination

Fright

Strong feelings

The mother only

Undue sitting or constriction of the body

Accidentally inherited

(Food

Alimentation

Drink

Air

Lower, either

Internal

(Semen

Quality

Blood, either

Quantity

Size

Narrowness

Other ways

The uterine cavity is unsuitable

The efficacy of the formative faculty is weak

Of itself

Because of

the uterus

External

(Imagination

Fright

Strong feelings

The mother only

Undue sitting or constriction of the body

Accidentally inherited

(Food

Alimentation

Drink

Air
The first division, into higher and lower causes, separated monsters caused by God, unfavourable winds and astrological influences from those due to other causes. While the 'higher' category included those monsters due to the 'anger or judgement of God' because of 'errors of sexual union'; a similar group appeared in the 'lower' category under 'union contrary to nature.' These cases seem to have been subject to double jeopardy as they were against the laws of both God and Nature. This is an indication not only that 'higher' and 'lower' were not mutually exclusive categories, but also that natural laws and religious laws were seen as complimentary.

Liceti is not likely to have relished Ramus's critique of Aristotle. Nevertheless, his elaborate classification system, first published in 1616, was somewhat Ramist in structure (his division of monsters into 'uniform' and 'non-uniform' for example\(^\text{30}\)) and succeeded in combining (intentionally, rather than by just confusing the two) morphology and cause. He applied the same set of causes (deficiency of material, quality of semen, compression within the uterus, &c.) to each morphological group. *De Monstrum* was primarily an analytical work and at the outset Liceti probably had no practical experience of the subject, but the former Professor of Logic assumed that monstrous births, just like anything else, could be classified systematically. The significance of this conceptual change can be shown by comparing Paré's statement, made forty-three years earlier, that some monsters defied explanation: 'There are divine things, hidden, and to be wondered at, in monsters – principally in those that occur completely against nature – for in these, philosophical principles are at want, so that one cannot give any definite opinion in their case,' with Liceti's magisterial dismissal of some of the earlier theories of their origin: 'Monsters are produced merely when nature makes a mistake, and sin cannot result in the appearance of a monster', 'A monster does not foretell the future,'\(^\text{31}\) and 'a monster does not signify evil.'\(^\text{32}\) 'It is unbelievable,' Liceti wrote, 'that God produces monsters in order to warn men of imminent catastrophes. It is not what they presage, but their rarity that makes the world wonder at them.'

In *De Monstrum*, Liceti divided monsters into two principal groups: 'uniform', which are of a single species and gender, and 'non-uniform', which possess parts of different species or sexes. 'Uniform' monsters were sub-divided into six groups: deficient or mutilated (e.g, lacking arms or feet); excessive (e.g., two-headed); of two natures (deficit and excess combined); double (conjoined twins); unformed (e.g., sirenomelia or a child with its limbs

\(^{30}\) Uniform monsters are mutilated or deficient, excessive, of two natures, double, unformed, enormous. Multiform monsters are formed of divers parts; different species, but the same genus, or they may have the parts of different genera.

\(^{31}\) 'Monstra non indicant future': Liceti, *op. cit.*, p. 6.

\(^{32}\) 'Monstra non nisi malorum': *ibid.*, p. 5.
bruised, broken and disarticulated and extraordinary (morphologically complete but unusual in substance, e.g., hirsute or pigmented). 'Non-uniform' monsters could be of the same or different species: the first category included hermaphrodites, the latter hybrids with demons or with animals.

In the same year as Liceti's *De Monstrorum*, Julius Caesar (Lucilio) Vanini's controversial pantheistic/atheistic natural philosophical work *De Admirandis Naturae Regnae*... was published in Paris. Vanini had theological motives for excluding divine intervention from the causes of monsters. After taking holy orders in 1603, Vanini (c. 1585-1619) became a Carmelite friar and received a doctorate in canon and civil law from the University of Naples in 1606. After a chequered ecclesiastical career in which he lapsed into Protestantism and was later received back into the Catholic church as a 'secular' priest, he was finally executed for atheism at Toulouse. *De Admirandis* gives six 'natural' causes of monsters: (1) Vehement imagination during sexual intercourse, (2) Inordinate lust, (3) Parents who are too much alike, (4) A defect or excess of semen, (5) Malformation of the feminine receptacle and (6) The influence of the stars.

By contrast, a sermon by Thomas Bedford, a well-educated but undistinguished English Protestant clergyman, had no controversial theological point to make. Although a comparatively minor work that is unlikely to have reached a very wide audience, is noteworthy as an example of what an educated generalist knew (and taught) about monstrous births:

What varietie (I say) o f strange births doe wee see and heare of? Strange in the quantitie of (a) stature: [he gives examples of giants and dwarfs in a footnote] strange in the (b) number of parts: Strange in the Multiplication: [i.e., multiple births] strange in the Concorporation of several births, but above all, most strange in (c) quantity and kind altered and changed.

Bedford does not make clear whether he considers all multiple births to be at least technically monstrous, or whether only extreme examples fell into this category. In his discussion of multiple births, he mentioned Countess Margaret of Henneberg's 365 children (said to have been born in a single delivery comprising 182 males, 182 females and one hermaphrodite), a tale that he seems to have taken literally. This charming superstition has been very well documented by J. Bondeson and A. Molenkamp, 'The Countess Margaret of Henneberg and her 365 children' *Journal of the Royal Society of Medicine* vol. 89 (1996), pp. 711-6, who diagnosed a hydatidiform mole as the original abnormality.

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33 Probably a skeletal dysplasia.
35 Aristotle considered twins along with other monsters ([The Generation of Animals](771a.15)).
36 This charming superstition has been very well documented by J. Bondeson and A. Molenkamp, 'The Countess Margaret of Henneberg and her 365 children' *Journal of the Royal Society of Medicine* vol. 89 (1996), pp. 711-6, who diagnosed a hydatidiform mole as the original abnormality.
births given by philosophers and physicians: defect or excess of seminal material, 'dullness of the formative faculty,' 'indisposedness of the vessels,' and maternal imagination.

Johann Schenck's (1619-1671) Observationes Medicarum (1644) included a number of monsters among the hundreds of case reports. None of the cases was based on direct observation: the sources, listed in the introduction, included writers from classical times up to Paré and Lycosthenes and the Observationes includes detailed descriptions of illustrations of cases now lost. Schenck arranged his material in a loose classification, so for example monstrosities of the head included (1) biceps (2) anencephaly (3) national diversity (4) like animals (5) hydrocephaly and (6) horned.

Schott's (1662) classification consisted of a series of precise, morphologically based categories formulated to accommodate all the monstrous births that he knew of. Some were included in more than one group but this implies not overlap but co-incidence, the equivalent of a patient suffering from more than one disease:

- Human acephalics
- Human polyccephalics
  - Two-headed
  - Two-headed with one head in the belly
  - Three and seven heads
- Animal polyccephalics
- Human monsters with non-human heads
- Animal monsters with heads of other species
- Human monsters with abnormal heads
- Human monsters without arms & compensating for their loss
- Human monsters with arms
  - Mutilated
  - Transposed
- Human monsters with supernumerary arms
- Human monsters with imperfect hands, maimed or with superfluous digits.
- Human monsters with deformed bellies and genitalia
- Human monsters without legs or feet
- Human monsters with 3 or 4 feet
- Human monsters with feet like those of evil beasts
- Human monsters by reason of various affections of the skin
- Human monsters born with the skin wounded or peeling off
- Monsters born as stone
- Human monsters double below, single above
- Human monsters double above, single below
- Human monsters with two bodies laterally conjoined
- Human monsters with two bodies longitudinally conjoined
- Human monsters made from perfect and imperfect bodies joined
- Monsters with two bodies from human and animal foetuses combined
- Monsters which differ from the progeny of all species
- Rare kinds of monsters
Stricter's doctoral thesis, presented at Wittenberg in 1665, dealt with the conjoined twins Lazarus and John Baptiste Collredo, who provided the starting point for a predominantly theological discussion. Stricter provided a classification of natural (i.e., not supernatural) monsters ('A natural monster is a natural product with stigmata of deformity of some kind caused by deficient of aberrant development').

Divisions of monsters

1. Monsters are divided by reason of subject, because some are plants, some animals; by reason of type, because in some their shape is changed whereas in others it remains the same.

2. When their shape is altered they may have a well formed and perfect shape, but different, for example a mule.

3. When the type stays the same, when they do not differ from a straight and perfect type [one might say species] but nevertheless in another way their shapelessness or deformity set them apart, e.g. bicephaly, cyclopia, &c.

4. Those concerning either gender or the arrangement of generative parts, the gender (in this latter case) being preserved.

5. Concerning sex, there are certain forms of doubtful sex or of both, e.g. hermaphrodites.

6. Concerning the arrangement of parts there are four groups: 1. Concerning number. 2. Concerning size. 3. Concerning unity. 4. Concerning shape.

7. There may be defect or excess of number. Monsters with defects have parts absent or deficient, e.g., men born without arms, feet, heads &c. Those with excess have parts added on or increased, e.g. men born with two heads, four arms &c.

8. Regarding the size of monsters, some are deficient and others excessive. In the deficient sort either the entire body is decreased in size, as seen in pygmies, whose whole body is not bigger than a single foot (pede), or some men are born with short arms, feet &c. In the excessive kind either the whole body is affected or one part is conspicuously large, as with giants, megalcephalics, &c.

9. Regarding united monsters, either the parts are fused together, or they are side-by-side but separated, as with newborn children, too large and too many, pressing to be born.

10. Regarding those of a deformed shape, with regard to appearance, position, or in any other way. Now for instance children are born with their eyes in their chests, their noses in their sides and their ears at the back of their heads: others appear which have their faces at the back and their hands towards their scapulae; now appear men who are quadrupeds with faces looking forwards; dogs or wolves &c.

37 'Monstrum est Effectus naturalis cum insigni aliqua deformitate à causa deficiente & aberrante productus.'
From these classifications we can extract some supposed causes of monstrous births for further consideration.

**Mingling of seed**

It was expected in the early modern period that offspring resemble their parents: 'like is born from like.' In his chapter on hereditary diseases, Paré wrote of dwarfs, epileptics and cripples who resembled their parents: 'Now these kinds of people are far from unusual, which is a thing that anyone can observe and know by his own eye the truth of what I am saying, wherefore I see no reason to continue talking further about it.' A ballad describing a child with complex congenital malformations born near Colchester in 1562 shows an awareness of the importance of the parents' reproductive history in excluding heritable congenital malformations: 'The aforesayde Anthony Smyte of Much Horkesley, husbandman, and his wyfe, were both maryed to others before, and have dyvers chyldren, but this defomed childe is the fyrst that the sayd Anthony and his wyfe had betweene them two... Heredity was an accepted cause of malformations (it is one of the three causes identified by Ballantyne in the Hippocratic writings, the others being trauma and narrowness of the womb) and so it was noteworthy that the parents of a monstrous birth had had normal children before: 'The father thereof is one Vyncent, a butcher; bothe he and hys wyfe being of honest and quiet conversation, they having had chyldren before in natural proportion, and went with this her full tyme.' Offspring that did not resemble their parents, and especially those that resembled animals, called for an explanation.

Stories of human/animal hybrids have a long history. St Albert the Great was said to have saved the life of a herdsman accused of bestiality, one of whose cows had given birth to a human-like monster, by arguing that the birth was the result of astrological influences. Although this story from the Saint's life was probably not intended as a literal account of events, its effect requires that the hearer does not believe the monstrous birth was the result of bestiality: it is intended to show Albert's cleverness in saving an innocent man by discovering the true cause of the monster, not his skill at excusing the guilty.
Thijssen remarks that to describe the use of monsters as evidence of bestiality in the seventeenth century as ‘mediaeval’ is misleading, as mediaeval laws did not accept the possibility of human/animal hybrids. Aristotle had written that the different gestational periods prevented cross-species unions from being fertile, a view that does not seem to have met much opposition until Liceti, whose sole major difference of opinion with Aristotle this was. There is however evidence, such as the tale of Albert saving the herdsman, that a link between monstrous births and bestiality was part of popular culture in the Middle Ages, and Gerald of Wales (c. 1145-1223) certainly accepted the existence of hybrids, writing in his *History and Topography of Ireland* of a human/cow:

> From the joinings of the hand with the arms and the feet with the legs, he had hooves the same as an ox. He had no hair on his head ... his eyes were huge and like those of an ox both in colour, and in being round. His face was flat as far as his mouth. Instead of a nose he had two holes to act as nostrils, but no protuberance. He could not speak at all; he could only low.

Vincent de Beauvais (c. 1190-1264) presented a hybrid theory of animal monstrous births in *Speculbn Naturale* without specifically applying it to humans: ‘[t]his type [hybrid] of monstrosity sometimes occurs in this way, that is by means of coitus between two different species.’

Belief in the viability of human/animal hybrids was prevalent during the sixteenth century, when it became part of mainstream academic as well as popular knowledge. Paré stated that hybrid offspring were produced: ‘if animals of diverse types cohabit with one another.’ As far as humans were concerned: ‘it is, when it is done, a very unfortunate and abominable thing, and a great horror for a man or a woman to mix with or copulate with brute animals; and as a result, some are born half-men and half-animals.’ There are some accounts of monstrous births combining human and animal elements that were supposedly produced in this way. Paré himself related the story of a child conceived in 1493 of a woman and a dog: ‘having, from the navel up, upper parts similar in form and shape to the mother, and it was very complete, without Nature’s having omitted anything; and, from the navel down, all its lower parts were similar in form and shape to the animal,'
that was the father... Such monsters arose from ‘mingling of seed,’ however it is not clear exactly what each parent contributed. It is possible that degeneration or corruption of the human semen rather than cross-fertilization was thought to be responsible. Paré also considered conception during menstruation as mingling of seed: ‘[t]hat women performing the desire of the fleshe being in their Sanguine menstruale, bring forth these monsters.’ This belief probably originated from traditions of menstrual taboo:

Because a child conceived during the menstrual flow takes its nourishment and growth — being in its mother’s womb — from blood that is contaminated, dirty, and corrupt, which having established its infection in the course of time, manifests itself and causes its malignancy to appear.

By the end of the seventeenth century, scholarly opinion was turning against the possibility of human/animal hybrids, though the argument was not yet won. In 1699, Edward Tyson wrote to the Royal Society to disprove the belief that a man-pig could originate from bestiality, and as late as the nineteenth century Gould and Pyle received a letter from a medical practitioner asking if it were possible for a woman to give birth to a dog.

The number of actual cases of supposed human/animal hybrids described in the sixteenth and seventeenth century literature is small. Most monstrous births mentioned in accusations of bestiality were the offspring of animals, and are therefore outside the scope of this thesis. An example of this type was the following:

At Birdham near Chichester in Sussex, about 23 years ago, there was a monster found upon the common, having the form and figure of a man in the fore-part, having two arms and hands, and a human visage, with only one eye in the middle of his forehead: the hinder part was like a lamb. A young man in the neighbourhood was supposed to have generated the monster by bestial copulation, and that the rather, because he was afterwards found in the like beastly act with a mare; upon discovery whereof, he fled out of the country. This young monster was nailed up in the church porch of the said parish, and exposed to public view a long time, as a monument of divine judgement.

Liceti discussed several explanations for human/animal intermediates. He attributed most to association: the resemblance between human and animal was just that; a resemblance

49 ibid., p. 67, from Cardan’s De Renm Varietate book 14, ch. 64.
50 Edward Fenton, Certaine secretewonders of Nature... (London, H. Bynneman, 1569), fol. 12r.
51 Pare, op. cit., p. 5. Levin Lemne (1505-1568) also warned against copulation ‘when her courses run, not observing natures rules; for he strives against the flux, and fails against the stream. Our people by a proverb call it pissing against the moon...’ quoted in: Robert Hole, ‘Incest, consanguinity and a monstrous birth in rural England, January 1600’ Social History vol. 25 (2000), pp. 183-99.
52 Park and Daston, op. cit.
and nothing more. So a child with a cleft lip resembled a leopard: there was clearly no question of the mother having encountered a real leopard during her pregnancy. The use of human-animal comparisons such as these for descriptive purposes continues in modern teratology: lobster-claw deformity, cri du chat, bird-headed dwarfism and others. Animal resemblances were extensively employed in descriptions of birth defects in the early modern period: anencephalics were described as like a frog (or on one occasion a cow), and cleft lip and palate were compared to a leopard’s or rabbit’s mouth.

A related topic was the existence of ‘monstrous’ races of humans, thought from the time of Pliny to exist at the limits of the known world. Columbus’ log recorded his failure to find ‘human monstrosities, as many expected’ in his exploration of the Caribbean. Linnaeus (Carl von Linné, 1707-1778) included in his classification the species Homo monstrous, though it is possible that apes rather than more traditional monstrous races were signified. Some of these monstrous races resembled types of birth defect. Schierhorn has suggested that the entire mythology of monstrous races was derived by generalization from birth defects, and Bos and Baljet assigned each type to a specific malformation: hippocopodes represent lobster claw syndrome, cynocephali are anencephalics, arimaspi are cyclopic, blenmyae are acardiac, the double-faced are diprosopus twins, sciopods have polydactyly and antipodes, sirenomelia. Pathologists who attempt such demythologising comparisons are in distinguished company: von Recklinghausen proposed that Satyrs were based on descriptions of spina bifida. Monstrous races were not believed to be hybrids: in his City of God Augustine had been sceptical about whether monstrous races actually existed, but certain that there were no intermediates between humans and animals.

Liceti attributed the resemblance between some malformed human foetuses and animals to ‘degeneration’ of the seed: ‘[i]f, therefore, the male semen in the female uterus were to degenerate from its original nature through whatever cause, its vital principle becomes transformed to another kind; if the whole of the semen were fully changed in this way, whole creatures of diverse kinds are formed; not monsters, but like monsters...’ His theory was that ‘imperfect’ semen might undergo degeneration, so that development

55 This opinion was based on Aristotle: ‘The likeness of monstrosities to animals is merely resemblance. Their differing gestation periods prevent mixtures of one animal in another’ (Generation of Animals 769b10-25).
60 Salisbury, op. cit., p. 148.
61 Liceti 1634, op. cit., p. 191.
resulted in a sub-human foetus. A later modification of this idea was Bayle’s suggestion that the human foetus could degenerate into an animal: even after six months gestation, he thought that a human foetus could still degenerate (denere) into a monkey. This theory resembles the later belief that the human embryo passes through stages of lower animals before achieving its definitive form (‘ontogeny recapitulates phylogeny’) and may perhaps have been suggested by the resemblance of early foetuses to lower animals. As Liceti and Bouchard wrote, these degenerate births were not monsters, as they were not human.

Liceti’s De Monstrorum, which went through several editions in the seventeenth century, shows that he and his readers were familiar with several explanations for human/animal monsters including co-incidental resemblance, degeneration of the seed, and maternal impressions. Yet even having considered all the alternatives, Liceti still accepted some cases as genuine hybrids, and was prepared to contradict Aristotle in order to do so. One possible explanation for a desire to accept the possibility of human/animal hybrids is that it enabled monsters to be used as a warning against the transgression of sexual taboos. This raises the question of why bestiality, a sin treated in mediaeval penitentials as equivalent to masturbation, had become by Liceti’s time a grave, indeed a capital, offence.

One of the earliest references to the ‘crime’ (rather than the ‘sin’) of bestiality is from fourteenth-century Majorca. Bestiality was not regarded as a serious crime in England until the sixteenth century, when it became punishable by death. It also became a capital crime in Sweden at about the same time. In The Beast Within, Salisbury has analysed changing relationships between humans and animals in the middle ages. She argues that blurring of the once absolute theologically-based distinction between humans and animals led to increasing efforts to maintain the special nature of humankind. Humanity was seen as something that could be lost into bestiality unless efforts were made to preserve it. Bestiality therefore attracted increasingly severe religious penalties and finally became a capital offence under criminal law. According to Fudge, these efforts to prevent bestiality were the consequence of ‘a new fear about the status of humanity,’ at a time when the once seemingly certain uniqueness of mankind was increasingly open to question.

63 This does not however apply in the example of an ape, as the human baby resembles a foetal ape. The stages of embryonic development were not recognised in the seventeenth century: an illustration in Reuff shows the foetus coalescing from a coagulum of semen and menstrual blood.
65 Salisbury, op. cit., p. 100.
66 Fudge, op. cit.
67 op. cit.
68 op. cit.
Prohibitions against animal behaviour extended from copulation with animals to copulation like animals. The latter referred not only to dorsal intercourse but excessive lust and uncontrolled sexuality, characteristics that, however unjustly, were associated with animals.

It does not seem plausible however that the association of monstrous births with criminal acts was intended as a deterrent. The threat of a monstrous birth would hardly have done much to prevent bestiality or witchcraft, already capital offences. Another possible explanation for the early modern preoccupation with human/animal monsters is that the link between criminal acts and monstrous births was an attempt to make human law part of the wider natural world rather than just an arbitrary system. Monsters were said to be 'against nature' and the birth of a monster could have been taken as evidence that the parents had transgressed natural, as well as human, laws. Mediaeval animals differed from humans in that they were 'governed by their own wishes'; unlike men they did not have social or legal obligations. Yet animals were prosecuted, and in increasing numbers, perhaps in an attempt to extend human laws to the whole of nature. These animal trials were not the result of ill-judged anthropomorphism, and if the pivotal fact in explaining the disappearance of animal trials was the rise of science and the secularization of religion, then why did the trials peak between 1600 and 1700, at the very moment when the movement in science was at its height, and why did they continue, albeit sporadically, well into the nineteenth century? This peak coincided with a period of great interest in human/animal hybrids and of concern over 'degeneration' of humans into animals. At this time, the once unique position of humankind was increasingly threatened, from above as well as below.

**Agnes Bowker’s cat**

On 16th January 1569, Agnes Bowker claimed to have given birth to a cat, the macerated, or flayed, body of which she produced for inspection. None of the six women, including her mother, who had helped at the delivery, admitted to having actually seen the cat emerge. An autopsy on the cat revealed nothing of note, but it was discovered that a neighbour’s cat had gone missing. The commissary of the court of the Archdeacon of

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69 See Bauhin’s classification, p. 99.
71 Animal trials were largely ignored by historians until the publication of E.P.Evans’s *The Criminal Prosecution and Capital Punishment of Animals* (London, Heinemann, 1906).
Lichfield, a clergyman named Anthony Anderson, who was responsible for investigating the case, caused another cat to be killed, flayed and boiled, after which it resembled Agnes Bowker's creature. Anderson was satisfied that it was indeed a real cat, but found it hard to accept that Agnes had given birth to it. Only Agnes and her midwives knew the truth, and it may perhaps have been a trick, in the manner of the later and more celebrated 'rabbit breeder,' Mary Toft, designed to produce notoriety. Agnes variously confessed to having had commerce with a cat and with a man named Hugh Brady, a schoolmaster and alleged Satanist by whom she appears to have become pregnant. Her free confession to these actions, which implied that she was at least an accomplice to the crime of witchcraft, suggests that either she prepared to risk prosecution to achieve notoriety, or that she was attempting to conceal the even more serious crime of infanticide, the women hoping that a flayed and boiled cat might pass for a macerated foetus. If her story was an attempt to conceal the truth, it was successful: none of the people involved in this bizarre case was punished.

What is significant is that the ecclesiastical authorities were not convinced by the 'birth' of the cat. Contrary to the impression sometimes given, the church was reluctant to credit tales of women giving birth to animals and Anderson's experiment had exposed its true nature. Nor was the birth taken as evidence of witchcraft. There was a popular tradition that demons could beget monstrous children and the possibility was much debated in academic circles. The consensus amongst theologians was that such conceptions were theoretically possible only if the demon used semen extracted from a man, because the demon could not contribute of itself the physical matter necessary for conception. In general, however, there was great reluctance to adopt such an explanation for monstrous births, and they did not feature in witchcraft trials.

Although there were few cases in which monstrous births were specifically attributed to demonic activity, these will be dealt with at some length as like human/animal hybrids, they threatened the unique status of humankind. Under the term demons or, in Latin, daemones, 'spirits' in general are referred to: what we presently think of as 'demons' would have been described as cacadaemones or, in English, devils. Indeed, spirits might be a better translation of the Latin daemones used in legal textbooks of the time. Montague Summers deals with the meaning of these terms at length in the introduction to his translation of Sinistrari's Demoniology, where he states that in Classical Greece 'daemones formed the connecting link between gods and men.' In essence, demons were creatures of a higher order of nature than men, but 'lower' than angels. Like a man, a demon possessed a soul

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74 Much literature has been published on the 'rabbit breeder,' an excellent introduction to which is Jan Bondeson's 'Mary Toft the rabbit breeder' in: A Cabinet of Medical Curiosities (London, I B Tauris, 1997), pp. 122-43.
that required salvation. Some writers envisaged demons as purely spiritual creatures, while others, notably Sinistrari, considered them to possess physical, though praetemnatural, bodies.\(^\text{75}\) The literature dealing with the possibility that demons could beget human children was large. Much of it centred on the debate over whether demons themselves conceived offspring with humans, or whether they employed semen taken from humans to produce these conceptions. Most authorities favoured the latter hypothesis, though there were some dissenting voices.

In the book *Demonolatry*, first published in 1595, Nicholas Remy, a very senior French jurist, who presided over more than 900 capital trials for witchcraft and was familiar with public opinion on the matter, considered the significance of monstrous births in accusations of witchcraft:

> to this day nearly all men show by their speech and their thoughts that they truly and firmly believe in the procreation of men by Demons; and they think that their strongest and most unassailable proof lies in the fact that they can point to certain women who have lain with Demons and have given birth to deformed and portentous monsters, such as have been noted by Cardan (*De renem varietate*, XVI 39) in Scotland, by Levin Lemne (*De Miraedis Ocadis Naturae*, I, 8) in Belgium, and more than once by ourselves in Lorraine during our examinations of witches. But this argument can easily be refuted by anyone who cares to probe and delve more deeply into the whole matter. For, as Ulpian says... phenomena of this sort are against nature; and I take him to mean by this that they are disaccordant with the common laws of nature.\(^\text{76}\)

Remy then considered several cases that had come to his notice, including a child with 'two mouths, two sets of teeth, a long beard, and four eyes' born at Daphne near Antioch and recorded by Ammianus Marcellinus, 'that shapeless mass like a palpitating sponge or marine zoophyte with every evidence of life, which Levin Lemne says (*De Miraedis Ocadis Naturae*, I, 8) an island woman brought to birth not long since in Lower Germany,' and the Monster of Ravenna.\(^\text{77}\) Summing up these examples, Remy concluded:

> nobody, who is amenable to the processes of reasoning which always carry the most weight in this kind of argument, will fail to agree readily that all these creatures, in respect of the formation of their animal bodies, owe their inception to the same causes which actuate Nature in her undertaking of other matters.\(^\text{78}\)

Of the 'palpitating sponge' (probably a hydatidiform mole) described by Lemne, Remy wrote:

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\(^{75}\) Lodovico Maria Sinistrari (1622-1701) was a highly cultured and learned Franciscan theologian but capable of some odd opinions. See the introduction to the Summers's translation of his *Demonolatry*.

\(^{76}\) Remy, *op. cit.*, p. 20-1.

\(^{77}\) Which he knew from the chronicles of Christianus Massaeus, *Chroniconem multiplici historiae utrasque testeminit* (Antwerp, 1540).

\(^{78}\) Remy, *op. cit.*, p. 21.
Not even among physicians is there any doubt that this was begotten in the natural manner; they only differ in their opinion of the cause of its deformity. For some ascribe it to a malformation of the womb; some to unclean and evilly infected semen; some to the influence of the stars and the heavens, and especially to that silent quarter of the moon which Varro calls intermenstrual. Remy in effect assigned all birth defects to the category of ‘monsters’ and denied that supernatural intervention occurred at all, and he quoted from Euripides’ Electra: ‘There is no birth but Nature is its mother.’ He also appears to have been unable to resist a jibe at the credulousness of physicians. Remy recognised that his opinion was at variance with popular beliefs:

Whatever may be the truth of it, I have never yet heard any suggestion made that a foetus of this sort originates from nature, and not from Demons [thereby indicating that he was of the opinion that most of mankind was not amenable to the processes of reasoning] For even honest matrons, far from the least suspicion of such execrable copulation, have often been known to give birth to such a child. And, on the other hand, witches who are said to have daily carnal relations with Demons often bear children complete with every natural attribute and absolutely perfect. Man and demon were ‘so utterly opposite by nature as are the mortal and the immortal, the corporeal and the incorporeal, the sentient and the insentient,’ he wrote, that ‘[h]ow such incompatibles can mingle and copulate together passes my understanding.’ The union, if it occurred at all, was ‘Cold, Joyless, Vain and Barren.’ Remy’s approach to birth defects was that of a lawyer: he was concerned principally with whether giving birth to a monstrous child could be regarded as evidence of intercourse with demons, and he concluded that it was not, both for the practical reason that witches did not, in his experience, give birth to monsters, and for the theoretical reason that all monstrous births had natural, rather than supernatural, causes. While this was the legal view, the general population did not share it.

Paré and Liceti both considered the production of monsters through the action of demons, and Liceti included a chapter on the subject in De Monstrorun. Paré’s statement that ‘one should not deny, that there be sorcerers’ implies that some people did just that, and he wrote that people were forced to admit the existence of witches, because there are
laws against witchcraft and 'one does not make a law for a thing that was never seen or known.'\(^4\) Paré however denied either that demons could use human semen to conceive (as it would lose its efficacy in transportation) or conceive themselves (since they were incorporeal), remarking that if such things were possible the world would contain large numbers of demons.\(^5\)

At the end of Liceti's catalogue of monsters of non-uniform type there are four short chapters on monsters resulting from the actions of demons. He may have wished to include every proposed cause of monsters, however unlikely, out of scholarly completeness, but other issues may have been involved. *De Monstrorum* required an imprimatur to show that it contained no teaching contrary to the Catholic faith and, while denial of the possibility of demonic involvement in monstrous births was not contrary to Catholic doctrine, Liceti may have thought it wise to avoid potential conflicts with the censors.\(^6\) The inclusion of an engraving, on p. 256, of purported demons appears deliberately to subvert the text: the original of this illustration accompanied Lycosthenes' description of a child born in 1543 to 'honest and noble' parents, but in *De Monstrorum* it appears as a demonic child, festooned with cobwebs, more likely to have provoked amusement than horror (Fig. 13).\(^7\)

**Maternal impressions**\(^8\)

The ancient Philosophers amongst others, which have searched the secrets of Nature, have declared other great causes of this wonderfull and monstrous childbearing, which Aristotle, Hippocrates, Empedocles, Galen, and Plinie, have referred to an ardent and obstinate imagination, which the woman hath, whist she conceives the childe, whiche hath such power over the fruite, that the beames and Characters, continue upon the rocke of the infante, whereupon they finde an infinite number of examples to prove the same...\(^9\)

Maternal impressions are probably one of the most plausible of all theories in human development. Countless examples can be produced and the concept can only be refuted by

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84 As the charge of witchcraft required only that sorcery be attempted it was quite possible even for a sceptic to accept that some allegations were justified.
85 James Bulwer (MD, fl. 1648-54), *Anthropometamorphosis*... (London, William Hunt, 1653), p. 514, apparently accepted the possibility of monsters being produced by inter-species unions and ridiculed the notion that devils could conceive human offspring in similar terms: 'If the faculty of generation had been allowed to Devils, the world had long since been full of Devils.'
86 Cardan had been arrested in October 1570 for casting a horoscope of Christ. His *De Renvi Varietate* was placed on the *Index*. With the assistance of Cardinal Morone he moved to Rome, where he was granted a Papal pension. See Thorndike, *op. cit.*, vol. 6, p. 153 and C.S. Breathnach, 'The autobiography of a Renaissance enigma, Jerome Cardan' *Journal of Medical Biography* vol. 10 (2002), pp. 74-80: 78.
87 Bulwer, *op. cit.*
88 There is a very extensive literature on maternal impressions, an introduction to which is Gould and Pyle, *op. cit.*, pp. 81-5.
89 Fenton, *op. cit.*, fol. 13r.
the lack of any demonstrable mechanism by which the maternal imagination could materially affect the foetus. As Remy wrote: 'In view of the above examples of the power of imagination, what should hinder us from confidently ascribing to the influence of sight those hideous births accomplished by Nature'?  

The theory was derived from the classical idea that a child is conceived in the likeness of someone or something seen, or imagined, by the mother at the time of conception:

_Hippocrates_ saved a princesse accused of adulteries, for that she was delivered of a childe blacke lyke an _Ethiopian_, hir husbande being of a faire and white complexion, which by the persuasion of _Hippocrates_, was absolved and pardoned, for that the childe was like unto [the image of] a _Moore_, accustomably tied at her bed.  

Marcus Damascene told a similar story, of a woman whose child was covered with hair because she had gazed at a picture of St John the Baptist, after which Pope Nicholas III is said to have ordered the removal of all such pictures from Rome.  

In early modern times, maternal impressions were extended to the period after conception, and were thought to effect the foetus as it developed in the womb. The exact time during which the pregnant woman was susceptible to such impressions was ill-defined: Paré accepted Aristotle's statements that the male child took some 30-35 days to form _in utero_ and the female 40-42, after which time maternal impressions could no longer occur, but other authorities did not recognise a time limit. Monsters were engendered by unwholesome desires during pregnancy, such as those for: 'filthy and unsavorie meates, as burning coals, mannes flesh, and other like things...' which are 'contagious and hurtfull to their fruite,' or by unpleasant experiences: a woman who had seen the bloated carcass of a horse whilst pregnant gave birth to a child with a swollen abdomen covered only by a thin membrane. It was thought that such experiences could radically change the shape of the foetus: '[m]any apprehensions seize on the pregnant woman and the foetus changes its whole shape, indeed, it changes its nature, from human to that of a beast...'.  

Before the seventeenth century this theory was hardly questioned: debate began in earnest in the eighteenth century, an example of which is the exchange of views between the

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90 Remy, _op. cit._, p. 25.  
91 Fenton, _op. cit._, fol. 15.  
92 Remy, _op. cit._, p. 25.  
93 Fenton, _op. cit._, fol. 16r.  
London surgeon and (later) physician Daniel Turner (1667-1741) and the Paris-born but London-based physician and author of *The Power of the Mother's Imagination Described* James Blondell (?-1734). The Italian physician Francesco Maria Nigrisoli (1648-1727) published another comparatively early expression of doubts about the veracity of maternal impressions. The theory however persisted well into the nineteenth century. I have argued in chapter 4 that the popularity of this theory was in part due to efforts of physicians and other commentators to provide an explanation for birth defects by obtaining a maternal history. Mothers may already have held a belief in the power of the imagination and they may have been tempted to invest minor incidents that occurred during their pregnancy with unwarranted significance, as they ruminated over why their child had been abnormal. The enduring popularity of the theory of maternal impressions may also have been a consequence of its relative acceptability to all concerned. To the moralising writer it offered an opportunity to warn against allowing one's imagination to dwell on lurid subjects, whereas from the parents' point of view, it was better to be accused of a wandering imagination than adultery, or worse. Human/animal monsters and maternal impressions could both arise in the same manner, from degeneration of the human seed.

**Physical causes**

Pare illustrated talipes equino-varus and extension deformities of the wrist in a child 'pressed against the mother's body.' The association between 'narrowness of the womb' and compression deformities had been known since antiquity:

*Hippocrates* witnesseth in his booke *De geniturn*, wher he sheweth by the similitude of trees, how these children issue from the bellie of theyr mother monstrous and deformed, saying thus: that of force those bodies which cannot move by reason of the straigthnesse [narrowness] of the place, must become the rather mishapen and deformed: like as trees before they issue out of the earth, if they have not libertie and scope to spring, but be with holden by some let or hindrance, grow crooked... he sheweth other reasons, by the which children be made monstrous and deformed, as by the natural diseases of the parents: for if the foure kindes of humors, whereof the seede is made, be not wholly contributorie to ye secrete partes, there shall be then some partie wanting... as when the mother receiveth some blow or hurt, or that the childe fortunes to be sicke in the bellie of hys mother, either that the nourishment wherewith he ought to be relieved, happen to slippe out of the wombe: al which things be sufficient to make them hideous, wanting or deformed.

Physical causes of monsters were not restricted to deformation of the formed foetus. The semen itself could be affected by physical constraints. According to Aristotle, the male's contribution to conception was semen and the female's was menstrual blood. The semen...
imparted form then evaporated; the female provided the substance of the embryo. This theory, like much of Aristotle's natural philosophy, was influential in Mediaeval medicine.\textsuperscript{99} St Albert the Great postulated that twins result from abundance (\textit{superfluitas}) and division (\textit{dissio}) of matter.\textsuperscript{100} Albert used the term \textit{sperma} for both the male and female contributions to conception and for the mixture of the two: he believed that the semen contained spirit, which could evaporate \textit{en route}. Abundance and division of sperm in the uterus caused the birth of twins; incomplete division caused conjoined twins. 'Division' referred to the mass of sperm being divided; hence John of Jandun (c. 1285-1328) wrote: 'Therefore it is dangerous that the female moves during sexual intercourse in the way prostitutes are reputed to do, because if at such a moment they would conceive, they could generate an awful two-headed monster.' Sixteenth century commentators acknowledged this cause of monstrous births and its classical sources: 'Empedocles and Dephilus do attribute [monsters] to come of the superabundance or defaulte and corruption of the seede...\textsuperscript{101}

As it was thought to be the female that provided the substance for the embryo, references to an excess quantity of seed must refer to the female 'semen.' As the male semen did not contribute to the physical substance of the embryo, its 'spirit' rather than physical quantity was significant. Sinistrari wrote in \textit{De Daemonicalitate} (completed c. 1700 but not published until 1875): 'Medical men are well aware that the size of the foetus depends, not indeed on the quantity of matter, but on the quantity of virtue, that is to say of spirits held by the sperm; therein lies the whole secret of generation...\textsuperscript{102} Nicolas Remy in his \textit{Demonolatry} wrote of 'duplications and superfluities of parts of the body'... 'it is agreed that they are due to an excessive abundance of semen, and there is nothing monstrous in their anatomy.'\textsuperscript{103} Conjoined twins were also explained as due to excess of 'matter\textsuperscript{104}' in the same way as Aristotle had written: '[t]he reason why the parts may be multiplied contrary to nature is the same as the cause of the birth of twins – excess of material.'\textsuperscript{105} Lack of seed had predictable results: according to Paré, '[i]f the quantity of seed (as we said prior to this) is deficient, similarly one or more members will be lacking.' Liceti wrote that although maternal imagination could alter the form of the foetus, it could neither increase nor decrease the quantity of material. Double monsters were either due to too much material or to a deficiency in material if nature had 'intended' to make twins.

\textsuperscript{99} Thijssen, \textit{op. cit.}
\textsuperscript{100} \textit{De animadibus} 118.2.2.
\textsuperscript{101} Fenton, \textit{op. cit.}, fol. 15v.
\textsuperscript{103} Remy, \textit{op. cit.}, p. 21.
\textsuperscript{104} Boiastuau, \textit{op. cit.}, fol. 142v.
\textsuperscript{105} Aristotle, \textit{The Generation of Animals} 772b13.
Collections

Museums and collections were often arranged in an orderly fashion, and collecting, like classifying, can be seen as an attempt to impose order. Monstrous births were given a place in collections of various kinds: cabinets of curiosities and museums are considered here, but monsters also formed part of fairs and 'freak shows,' as discussed in the following chapter. The early modern period is notable for a rise in the 'popularity' of monsters, and they were accessible not only in printed descriptions, but in the growing number of private collections. These were, of course, anything but private, and Aldrovandi boasted that 'an infinite number of gentlemen' had visited his cabinet of curiosities. One motive for collecting was to increase one's intellectual and social prestige, a point well-made by Findlen: '[t]hrough the possession of objects, one physically acquired knowledge, and through their display, one symbolically acquired the honor and reputation that all men of learning cultivated.'

Another reason to collect (and to classify) was to impose organisation: 'Collecting was one way of maintaining some degree of control over the natural world and taking its measure.' Collecting and classifying are related activities: early collections were not displayed haphazardly but were ordered. The contents of the cabinet of Ole Worm, for example, were arranged in groups; minerals in one part, plants in another, and so on. A love of rarity and the bizarre was a motive for these early collectors and 'order' in a collection was often based on aesthetic criteria. Phrases such as 'A World of Wonders in one closet shut' suggest a desire to organize nature on a human scale. Catherine the Great criticised her grandfather, Peter the Great, for attempting just that: 'I often quarrelled with him about his wish to enclose Nature in a cabinet - even a huge palace could not hold her.'

Most cabinets of curiosities had a foetus or two: Worm had one, and Hermann had several. In the period of this study, most objects preserved in cabinets of curiosities had to be dried. Humidity was the enemy of preservation and moist humours were:

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107 *op. cit.*, p. 3.

108 ibid., p. 4.

109 Olmi, *op. cit.*

110 Quoted in Findlen, *op. cit.*, p. 17.


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... excrementations and also alimentations, by which the least defect of Heat is easily turned into putrefaction... whence it is that foul Bodies, Trees cut down at Full Moon, being full of their sap, and Fruits gather’d before their maturity, very easily corrupt ... Wherefore they who would embalm bodies well, must make use of several means ... Humidity must be absumed by Hot Drugs, amongst which, Wormwood and Scordium hold the first place [along with] Balsames Cold, Dry and penetrating, which may preserve the figure, colour, and consistence in the dead body.^^'*

In 1666, Robert Boyle published the results of his experiments on the preservation of (dog and chick) embryos in spirits.^^^ *Wet’ specimens were still something of a novelty in 1681:

I also saw in the cabinet of curiosities [of Vescher in Amsterdam] all sorts of embryos, one of which I saw inside the womb, because of its transparency on account of the property of the water in which it was preserved.116

A foetal specimen in the Kunstkenner of Frederick III of Denmark was alleged to be one of Countess Margaret’s 365 children (the other 364 seem to have disappeared).117 It is not possible to identify every foetal museum specimen of this period but no example of a preserved foetus with birth defects dating from before 1700 is, so far as I am aware, in existence.

Paul Hermann’s collection is of interest because the values given to the specimens when it was sold have been recorded.118 Although the figures written next to many of the specimens in the index catalogue119 are clearly not the prices of individual lots but rather notes made as a means of reckoning up the total price, they do give us some insight into the high monetary value of preserved human material in four cases:

<table>
<thead>
<tr>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>The skeleton of a foetus</td>
<td>£1 2s</td>
</tr>
<tr>
<td>The skeleton of a five month foetus</td>
<td>£7 10s</td>
</tr>
<tr>
<td>Two small human foetuses</td>
<td>£1 8s</td>
</tr>
</tbody>
</table>

114 Havers, op. cit., p. 185.
115 Philosophical Transactions vol 1 (1666).
117 See Bondeson, 1996, op. cit.
118 Paul Hermann, Catalogus Musei India... (Leiden, Joh. du Virie, 1711). Hermann (1646-1695) was born in Halle, the son of Johann Hermann, a well-known organist. He was to make one of the earliest scientific collections of plant specimens from Ceylon, where he was Medical Officer to the Dutch East India Company between 1672 and 1677. After his return to Europe, Hermann took up the Chair of Botany at the University of Leiden in 1679 where he spent the rest of his life. In 1711 his entire collection was sold to a Mr James Petiver and transported to London.
119 BL 1004.c.4.
Foetal material differs in one key respect from most of the curiosities, animal and mineral, that found their way into collections. It is potentially unique, and it is ephemeral. Whereas animal species, plants and minerals have a continuous existence in the world, and are brought into collections only for convenience, monstrous births are unpredictable events and will be lost to decay or ill-usage if not expertly preserved and protected from damage. Anyone who wants to study human malformations in the flesh and in significant numbers can only do so in a museum. The creators of museums can be seen — like the authors of learned journals — as adding to the store of knowledge, taking their cue from merchants who accumulated and preserved goods in anticipation of future demand. The collection and preservation of specimens constitutes a specific contribution to knowledge by making them available for examination by future generations of students. An example is the recent re-cataloguing and re-examination of specimens in the Museum Vrolik by Dutch pathologists.

Of course the seventeenth century cabinet was not intended as a resource for future teratologists. As Findlen writes: ‘While we perceive the museum of natural history to be alternately a research laboratory or a place of public education, they understood it to be a repository of the collective imagination of their society.’ The Jesuit Claude Clemens wrote that: ‘Museum most accurately is the place where the Muses dwell.’ Although museums were highly ordered places their contents were not classified in the same way that monsters were in books. The public anatomy hall at Leiden was described as ‘so set in order that every thing may easily be found in their places,’ yet exhibits were eclectically juxtaposed. In the entrance hall the visitor passed, in sequence, ‘A Crocodile,’ ‘A Norway house,’ ‘The skin of an Animal from Brasil,’ ‘The Snout of an unknown Fish’ and ‘Some Indian Darts.’ The museum translated natural philosophy from a ‘bookish’ to a ‘tactile, theatrical’ culture. To use a word beloved of modern educators, museums made knowledge ‘accessible.’ Those who believe that a general audience has no legitimate interest in birth defects may agree with Lamark’s comparison between the cabinet of curiosities and the cabinet of natural history: ‘the former was for amusement and the latter for the progress of the sciences.’

120 Cook, op. cit.
122 op. cit., p.9.
123 Quoted in Findlen, op. cit., p.48.
124 Francis Schuyt, *A Catalogue of all the chiefest Rarities in the Publick Anatomie-Hall, of the University of Leyden* (Leyden, Diewertje vander Boxe, 1723), p. 3.
125 Findlen, op. cit.
126 ibid., p.398.
The collector who most obviously combined ‘scientific’ and ‘aesthetic’ interpretations of anatomical material was Frederik Ruysch.\(^{127}\) Ruysch was a physician and master anatomist whose interests were anatomical rather than medical: ‘[m]edicine,’ he wrote, ‘is not the origin but rather the offshoot of experiment.’\(^{128}\) The first catalogue of his anatomical museum was published in 1691, and the specimens were described in a series of quartos published between 1701 and 1715. In 1710, the museum displayed more than 1,300 (mostly ‘wet’) anatomical specimens. In 1717 Ruysch sold his entire collection to Peter the Great and it was shipped to St Petersburg.\(^{129}\) (Fig. 14).

Ruysch’s specimens formed the nucleus of Peter the Great’s collection to which he added assiduously (in the so-called ‘monster decree,’ he ordered all monstrous births to be handed over).\(^{130}\) His urge to collect was due mainly to a desire to educate himself and others. On a visit to Libau in 1697, after he had paid a call on the local apothecary, Peter wrote: ‘Here I have seen a great marvel which at home they used to say was a lie: a man here has in his apothecary’s shop in a jar of spirits a salamander which I took out and held in my own hands: this is word for word exactly as has been written.’ Of his kunstkammer, he said simply: ‘I want people to look and learn.’\(^{131}\) The museum had introduced the possibility of direct observation as a new way of establishing scientific credibility: seeing was believing; though sometimes, as with Peter’s salamander, seeing and believing could be very different.

The catalogue of Ruysch’s collection lists such exhibits as a phial containing a human foetus (item 4), a ‘human foetus, in its natural colours, four months after conception’ (item

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127 Ruysch (or Ruijsch, 1638-1731), praeclor of anatomy and surgery of the Guild of Surgeons in Amsterdam, was one of the earliest and most dedicated collectors of anatomical specimens in Holland. He assembled an impressive collection of malformations and normal foetal material (Ruysch, *Catalogus Musaei Ruischiani*, 1731). His *Observationum Anatomico-Chirurgicarum Centuria* (1691) included teratological cases such as encephalocele, omphalocoele, spina bifida, and hydatidiform mole.

128 ‘Medicinam non originem tantum, verum etiam incrementum ab Experientia sumpsisse...’

129 Some cabinets of curiosities were made with a view to being sold: see Paula Findlen, ‘Inventing nature: commerce, art and science in the early modern cabinet of curiosities’ in: Paula Findlen and Pamela Smith (eds) *Merchants and Markets* (London, Routledge, 2001), pp. 223-47. It is estimated that 47% of Ruysch’s collection remains in St Petersburg, mostly in the Imperial Academy of Science: B. Baljet and R.-J. Oostra, ‘Historical aspects of the study of malformations in the Netherlands’ *American Journal of Medical Genetics* vol. 77 (1998), pp. 91-9. Some has been redisplayed in the Museum Vrolik, currently located in the Academic Medical Centre at the University of Amsterdam.


and 'conserved in a phial of liquor, the arm of a human foetus representing the living specimen, in its hand a child's heart, the arteries of which have been carefully filled' (item 14). As chief of the midwives' guild, and their anatomical lecturer, Ruysch was well placed to have access to stillbirths. He prepared anatomical tableaux from a mixture of human foetal skeletons and dried adult viscera and placentas. These tableaux displayed his technical skill in the preparation of detailed and durable specimens (not so durable as the wet specimens, since none has survived) as well as illustrating a vanitas theme, which was common in art, particularly Dutch still life painting, of the period. From a modern perspective, Ruysch's work crosses the line between anatomy and art, though I think that, from Ruysch's perspective, there was no line to be crossed. The tableaux included foetal skeletons set in landscapes in which the rocks and vegetation were made from dried adult tissues such as arteries or meninges. Several of the skeletons were posed as if playing musical instruments (again made up of body parts), and others held symbols of folly or of the brevity of life (Fig. 15). The exhibition led the viewer to contemplate time and 'the specimens themselves represented permanence in the face of the forces of decay.' The detailed anatomical descriptions of these tableaux run to 116 pages. Each had an appended motto, such as 'homo bulla,' or 'mundus lachrymarum vallis.' Regrettably, even serious commentators have found Ruysch's efforts to achieve aesthetically interesting displays of anatomical and pathological specimens 'bizarre.' The tableaux, like the more conventional 'wet' preparations, were intended to instruct the viewer morally as well as anatomically (so-called anatomie moralisée) and perhaps to raise the status of the stillborn infant (the unbaptised were forbidden Christian burial). A foetal skeleton pointing to a uterus bore the words: 'no nobler tomb could have held me.'

132 Cook, op. cit.
133 Frederic Ruysch, Observationum Anatomico-Chirurgicarum Centurias, aedita Catalogus Rariorum, Quae in Museo Ruytschiano asservantur (Amsterdam, Henricum & Theodori Boom, 1691).
136 'Nec poterat Tumulo nobiliore tegi'; Ruysch, op. cit.
Whoever is born anywhere as a human being, that is, as a rational mortal creature, however strange he may appear to our senses in bodily form or colour or motion or utterance, or in any faculty, part or quality of his nature whatsoever, let no true believer have any doubt that such an individual is descended from the one man who was first created.\(^1\)

Popular accounts of monstrous births often included quite detailed biographical information. The 'monster' was at the centre of these reports but we can also gain an impression of the audience and its reaction. Monstrous births attracted large crowds, including men who were well educated (several Fellows of the Royal Society were to be found among the audience) and financially well off (some of whom could perhaps acquire the body of a monster for themselves). Substantial sums of money could change hands - before and after death - and the child often suffered as a consequence. In some cases, death was hastened by the crush of visitors, all of whom wanted to see and handle the child for themselves. Nevertheless, children with congenital malformations were generally accorded equal status with their 'normal' contemporaries and were sometimes given special treatment. This humane approach is contrasted with reactions to the sooterkin - a non-human parasite thought to have been produced in the womb during a normal gestation.

**Delivery**

Almost all early modern sources show a disregard for the obstetrics of monstrous births: their arrival in the world is presented without mention of the obvious fact that many must have had difficult deliveries. A foetal malformation would usually have been unsuspected until the moment of birth and if the pregnancy was close to term malformations such as conjoined twins would have carried an increased risk of obstructed labour. Several accounts of autopsies carried out on non-macerated conjoined twins that were born dead suggest that they died from intra-partum asphyxia during prolonged deliveries. Garden wrote of a pair of thoracopagus twins born in Aberdeen in 1686: 'It is thought they might have been brought forth alive, but that they stayed so long in the Birth; for that both heads presenting together, the Midwife thought they had been Twins, and thrust one of them always back.'\(^2\)

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1 ‘Ab utero ad Tumulum’ the motto of one of Ruysch’s dioramas.
Most full term births took place in the presence of several female ‘witnesses,’ and a midwife would have attended all but the poorest women, although by the latter part of the seventeenth century some wealthier ladies preferred a surgeon-accoucheur. The room of confinement could be a crowded place: an illustration on the title page of Rueff’s *De Conœpdae* showed, in addition to the pregnant woman, seven adults (three of whom are enjoying a large meal), two small children and a dog. A woodcut showing labour in progress, with a midwife modestly working with her hands beneath the patient’s skirts, while two other women comfort the mother and astrologers cast a natal horoscope, illustrates that, despite the number of people present at a confinement, there may have been no eye-witnesses to the delivery. The depiction of the (male) astrologers is symbolic: most births were probably all-female events and male writers attached a certain amount of mystique to the activities of the midwife.

Throughout the sixteenth and seventeenth centuries, midwives were usually women of mature years who had borne children themselves. In England they were licensed, usually by the Bishop of the diocese in which they worked, who usually judged each application with the assistance of a panel of established midwives, although by the middle of the seventeenth century a secular licensing process was available in London via Surgeons’ Hall. There are several reasons to believe that the social or administrative aspects of the job were considered more important than an applicant’s obstetric skills. In *The Brevary of Helthe* Andrew Borde characterized the ideal midwife as ‘wyse and discrete,’ and an English midwives’ oath of 1567 was chiefly concerned with preventing various superstitions (‘sorcery or incantation’) and Roman Catholic practices, although midwives were also enjoined to obtain from unmarried mothers the name of the child’s father.

Midwifery was not a well-respected occupation: the work was unpleasant, and although childbirth may have been likened to a rose garden, there was often ‘a stronger odour of blood and fumigations with doves’ dung than of roses.’ Two well-known passages from the *Malleus Maleficarum* in which midwives were alleged to have misused their position of trust to murder children suggest that midwifery may have had a sinister reputation:

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7 London, 1547.
8 For the text of the oath see Towler and Bramall, *op. cit.*, pp. 56-7.
Here we must refer incidentally to witch midwives, who surpass all other witches in their crimes, as we have shown in the First Part of this work. And the number of them is so great that, as has been found form their confessions, it is thought there is scarcely any tiny hamlet in which at least one is not to be found.  

At Dann in the diocese of Basel, 'a witch who was burned confessed that she had killed more than forty children, by sticking a needle through the crowns of their heads into their brains, as they came out from the womb' and another woman in Strasburg:

confessed that she had killed more children than she could count. And she was caught in this way. She had been called from one town to another to act as midwife to a certain woman, and, having performed her office, was going back home. But as she went out of the town gate, the arm of a newly born child fell out of the cloak she had wrapped around her, in whose folds the arm had been concealed. This was seen by those who were sitting in the gateway, and when she had gone on, they picked up from the ground what they took to be a piece of meat; but when they looked more closely and saw that it was not a piece of meat, but recognized it by its fingers as a child's arm, they reported it to the magistrates, and it was found that a child had died before baptism, lacking an arm. So the witch was taken and questioned, and confessed the crime, and that she had, as has been said, killed more children than she could count.

Now the reason for such practices is as follows: It is to be presumed that witches are compelled to do such things at the command of evil spirits, and sometimes against their own wills. For the devil knows that, because of the pain of loss, or original sin, such children are debarred from entering the Kingdom of Heaven. And by this means the Last Judgement is delayed, when the devils will be condemned to eternal torture; since the number of the elect is more slowly completed, on the fulfilment of which the world will be consumed. And also, as has already been shown, witches are taught by the devil to confect from the limbs of such children an unguent which is very useful for their spells.

David Harley found no such connection between witchcraft and midwifery in early modern England but this was not necessarily the case elsewhere in Europe. The place of confinement was unusual in early modern Europe as socially important events took place in the absence of male witnesses. Exaggerated though these accounts of witch-midwives probably were, midwives were certainly well placed to conceal the true circumstances of a

11 ibid., p. 140-1.
14 Julie Sanders, 'Midwifery and the new science in the seventeenth century: language, print and theatre' in: Erica Fudge, Ruth Gilbert and Susan Wiseman (eds), At the Borders of the Human: Beasts, Bodies and Natural Philosophy in the Early modern Period (Basingstoke, Macmillan Press Ltd, 1999), pp. 74-90.
birth if they wished. On at least one occasion, the details of a monstrous birth were concealed out of compassion: Jane Cockerell was midwife at the birth of conjoined twins to one of which was attached either a third, parasitic twin or a fetiform teratoma. Faced with this probably unique case the unflappable Mrs Cockerell advised the other women present against 'confusing truth and falsehood' and the twins were described in the burial register as ‘joined together’ without mention of any more serious abnormality. Such a birth in rural Yorkshire in 1655 evidently retained a potential for scandal. In other cases however, midwives obscured the true circumstances of a birth for less charitable reasons as in the case of Agnes Bowker where they may well have concealed infanticide. Furthermore, midwives were responsible for the disposal of stillbirths in 'a secret place.' The flesh of unbaptised children ('ditch delivered by a drab') was a traditional ingredient in medicines and charms and midwives were the most likely source of this material.

By the close of the seventeenth century, man-midwives were becoming increasingly common in towns, especially in France. The man-midwife Guillaume Maquest de la Motte wrote a textbook of midwifery that contains many case reports from this period. It shows a town-based practice with patients from a wide range of social groups: La Motte gives the titles of nobility (while omitting the names) of many ladies, but he was also called in by those of modest means: ‘a coopers wife,’ ‘a poor woman’ and many more. The book gives some indication of the activities normally carried out by midwives: they performed embryotomy in obstructed labours, but did not use the crotchet (a blunt hook), though it seems that this was by choice rather than because they were prohibited from doing so.

If a child was obviously dead in utero, embryotomy was an option, and this method was employed at the delivery of a pair of cephalothoracopagus janiceps twins in 1555 (Fig. 16), ‘so huge above order, that it was impossible to draw him whole from the belly of his mother.”

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15 Ben Jonson’s play The Magnetic Lady is concerned with a midwives’ plot to conceal a birth: see Sanders, op. cit., pp. 82-6.
18 Many references to the use of foetal material in ointments are to be found in Thomas Rogers Forbes, The Midwife and the Witch (New Haven, Yale University Press, 1966), pp. 112-132.
19 Guillaume Maquest de la Motte (1655-1737) was born and worked at Valognes, France. His book was printed in English as: La Motte (transl. Thomas Tomkyns), A General Treatise of Midwifry illustrated with upwards of Four Hundred curious observations and reflections concerning that art (London, James Waugh, 1746).
20 Pierre Boaistuau, Histoires Prodigieuses, divisées en deux Tomes (Paris, Jean de Bordeaux, 1571), fol. 124v. It is interesting to note that this case of cephalothoracopagus, a type of twinning in which there is often shared brain tissue – see, for example, A.W. Bates and S.M. Dodd, ‘Anomalies in cephalothoracopagus synotus twins and their (cont.)
The evidence from monstrous births suggests that embryotomy was uncommon, and I have identified no other case between 1500 and 1700. Wilson briefly reviewed standard techniques used in early modern England for dealing with difficult births: an English midwives’ oath from 1567 forbade embryotomy whether the child was living or dead, but this restriction seems to have been relaxed in the seventeenth century, when craniotomy might be performed if the baby had died. The manuscript ‘Observations in midwifery’ by Percival Willughby of Derby recorded ‘two or three’ examples where a living child was deliberately killed by embryotomy, each time with the sanction of a minister of religion, during Willughby’s 45 years of practice. Mauquest de la Motte described several cases of embryotomy performed by surgeons on children still living, and a case in 1699 of a child delivered with a crochet and left for dead but subsequently discovered to be alive. These however were not intentional acts of infanticide, and their inclusion was intended to show the incompetence of the surgeons involved, in comparison with some self-laudatory accounts of Mauquest de la Motte’s own work. In France, embryotomy was not permitted while the child lived: ‘there was no hope left but in the instruments, and these we are forbid to use without a certain knowledge of the child’s death.

Caesarean section had been proposed to save mother and child in the sixteenth century by Francois Rouset, but does not seem to have been generally performed in Europe while the mother lived before the eighteenth century, though there are a few, possibly anecdotal, examples of Caesarean sections in the sixteenth and seventeenth centuries. One reason for the unpopularity of Caesarean section was that it would generally have proven fatal to the mother, and it was thought that, in extremis, even embryotomy on a living child was preferable to the mother’s death, as Mauriceau wrote in 1668, provided the child had been first baptised.

Baptism

The reader of accounts of monstrous births is often told that the child was baptised. This unequivocally signified the child’s full acceptance into the Christian community, as well as

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implications for morphogenesis in conjoined twins’ Pediatric and Developmental Pathology vol. 2 (1999), pp. 464-72—was described as a single individual.

21 Adrian Wilson, op. cit., pp. 19-22.
22 La Motte, op. cit., pp. 249-50.
23 ibid., p. 321.
24 In one of the better documented cases from France in 1667 both mother and child lived, see La Motte, op. cit., p. 435.
25 Dyre Trolle, The History of Caesarian Section (Copenhagen, C.A. Reitzel, 1982), pp. 34-5. Intra-uterine baptisms, as described in Tristram Shandy, were carried out at this time.
making a less obvious point about the contentious issue of infant baptism by showing that the child was baptised in spite of the parent’s faults. In Catholic and most Protestant communities, all liveborn children were normally baptised soon after birth. Children with major birth defects would have probably been considered likely to die, in which case it would have been acceptable under canon law for anyone present to baptise them. Midwives were well-placed to do this and in 1303 Robert Mannyng wrote that a midwife who had neglected this duty might have ‘loste a chylde both soule and lyfe.’ In England, midwives received training in the administration of baptism. The few words required would have been easily learned by even the least intelligent, and most of the ‘training’ was intended to prevent them adopting too Catholic a method: they promised, for example, in the English oath of 1567, to use ‘plain’ water.

A considerable amount of debate took place over the proper form to use when administering baptism to children with congenital abnormalities. Discussion generally centred either on whether the child was to be considered human, or, for conjoined twins, on whether they were to be baptised separately or only once. Another cause of difficulty was uncertainty over whether a dying child retained some sign of life. This was (and still is) solved by conditional baptism, with the qualification ‘if thou art alive’ in order to avoid the error of attempting to administer the sacrament after death. In a letter to the *Journal des Scavans* in 1690, the Prior of Lugeris referred to the conditional baptism of an anencephalic using the form ‘if thou art alive...’ The Prior raised an ethical question that remains today: can a child without a brain be said to be alive? Could such a child possess a soul when the putative seat of that soul, the pineal gland, was lacking? A second form of conditional baptism included the formula ‘if thou art a Man...’ and this was presumably intended for monsters thought to be animal-human hybrids, perhaps most usually in the case of animals that had given birth to offspring that resembled a human foetus. In this series of human birth defects there is no record of any having received this form of baptism.

27 The rubric from the *Rituale Romanum* stated: ‘In monstris vero baptizandis, si casus eveniat, magna cautio adhibenda est: de quo si opus fuerit Ordinarius loci, vel ali peritii consultatur, nisi mortis periculum immineat. Monstrum, quod humanam speciam non prae se ferat, baptizari non debet: de quo, si dubium fuerit, baptizetur sub hac conditione: “Si tu es homo, ego te baptizo...”’ [With regard to monsters, they should certainly be baptised; if this misfortune comes about, great caution is to be employed; and so it should be done by the Ordinary of the diocese, or another experienced person should be consulted, unless there is imminent danger of death. But if the monster itself is not considered to be human, it ought not to be baptised; or, if there is doubt, baptised under this condition: ‘If thou art a Man, I baptise thee...’] See Nicholas Remy, *Demonology* (Secaucus, NJ, University Books, 1974), p. 26.
Many early spontaneous abortions would have been known only to the mother, and Gélis has suggested that they were often kept secret because of 'guilt' or 'fear of barrenness.' However, if the midwife or other witnesses were present at a miscarriage, the foetus may still have been baptised. There does not appear to have been a lower age limit below which a foetus was always presumed to have been born dead and in one case, the baptised infant was so tiny that it was lost in the folds of the bed linen and then accidentally trodden on. This foetus, 'of the bigness of a cockshafer,' could not possibly have been born alive according to current concepts of independent life. Another foetus was the size of a 'small bee:' 'I believe this little embryo was alive, but in spite of all my care I could not discover it,' wrote Mauquest de la Motte.

Writers of books and ephemeral literature on monstrous births supplied information about their baptism particularly in cases of conjoined twins, where the question of whether they were one or two individuals was at issue. In a case of diprosopus twinning born at Bononia in January 1514, the Cardinal Bishop of Bononia performed the baptism himself. The recommendation that the Ordinary baptised a monster may have been used to the advantage of the Church, as the baptism presumably then took place in the cathedral. The sacrament was not performed privately (as would have been permissible for a child in danger of death), but attention was deliberately drawn to it (Protestants also drew attention to monstrous births, in sermons). A possible motive for this would have been to demonstrate to the congregation that, as St Augustine had written, all people, whatever their appearance, were equally acceptable members of the race of Adam, and therefore of the Church. It also provided an opportunity to display the child in public.

**Exhibition**

September 13 I saw in Southwark at St. Margarites faire, a monstrous birth of Twinns, both female & most perfectly shaped, save that they were join'd breast to breast, & incorporated at the navil, having their arms thrown about each other thus [drawing]. It was reported quick in May last, & produced neere Turne-style Holbourn: well exeunt[ed] & preserved till now: We saw also a poore Woman, that had a living Child of one yeare old, who had its head, neck, with part of a Thigh growing out

29 La Motte, *op. cit.*, p. 192.
30 *ibid.*, pp. 235-6.
31 Men with serious physical deformities were debarred from the priesthood, not due to survival of Judaic laws on physical perfection of the priesthood, as is sometimes supposed, but for the practical reason that they would have been unable to celebrate mass.
about Spina dorsi: The head had the place of Eyes & nose, but none perfected. The head monstrous, rather resembling a great Wenn; and hanging on the buttocks, at side whereoff, & not in the due place, were (as I rememberd) the excrements it avoided, we saw also Monkeys & Apes daunce, & do other feats of activity on the high-rope, to admiration: They were galantly clad alamode, went upright, saluted the Company, bowling, & pulling-off their hatts: They saluted one another with as good grace as if instructed by a Dauncing Master.

The historian Henry Morley wrote that after the English Restoration, 'the taste for monsters became a disease.' Morley speculated that the monstrous births shown at fairs were the year round stock in trade of London showmen who for the rest of the year earned a living in other parts of the city. This type of exhibition offered a contrast to the sedate, and contemporaneous, cabinets of curiosities, but both placed monstrous births alongside other rarities and curiosities: in both it was 'their rarity that makes the world wonder at them.'

Exhibition of monstrous births took place throughout the early modern period, and it was recorded of conjoined twins born in Vienna in 1475 that:

... because their parents were poor, they were carted around to several cities in Italy, in order to collect money from the people, who were burning to see this new spectacle of Nature...

The secondary literature on monstrous births gives the impression that exhibition was their usual fate, but the cases recorded are those that were publicised. Perhaps others were cared for in private if the parents lacked the desire, or the financial necessity, to exhibit them. It is by no means certain that public exhibition was the degrading experience that we, from the position of a society where such things are no longer permitted, might imagine it to be. A broad range of people were interested in seeing monstrous children: monarchs, cardinals, priests, merchants, even nuns (one recorded in her diary that 'a foreigner' had been paid to show them an embalmed male baby with 'two child's faces, and for the rest a single body, very beautiful to see...'). The records that survive are predominantly those left by the well to do; we know

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35 Fortunio Liceti, De monstrorum essis, natura, et differentiæ (Paratü, 1616).
36 Paré, op. cit., p. 9.
that Samuel Pepys and Robert Hooke (both, like Evelyn, Fellows of the Royal Society) had an interest in seeing monsters. Montaigne’s essay On a monstrous child preserves an impression of the effect that seeing a child exhibited could have on an educated man:

I saw two dayes since a child whom two men and a nurse (which named themselves to be his father, his uncle, and his aunt) carried about with intent to get some money with the sight of him, by reason of his strangenesse. In all the rest he was as other children are: he stood upon his feete, went and prattled in a manner as all others of his age. He would never take nourishment but by his nurses breast; and what in my presence was offered to be put in his mouth he chewed a little and put it all out againe. His puling differed somewhat from others: he was just fourteene moneths olde. Under his paps he was fastned and joyned to another childe, but had no head, and who had the conduite of his backe stopped; the rest whole. One of his armes was shorter than the other, and was by accident broken at their birth. They were joyned face to face, and as if a little child would embrace another somewhat bigger. The joyning and space whereat they were closed together was but foure inches broad, or thereabouts; in such sort that if you thrust up the imperfect childe you might see under the others navill; and the seame was betwenee the paps and his navill. The navill of the imperfect one could not be seene, but all the rest of his belly might. Thus, what of the imperfect one was not joyned, as armes, buttocks, thighes, and legges, did hang and shake upon the other, whose length reached to the middle-leg of the other perfect. His nurse told me he made water by both privities. The members of the little one were nourished, living, and in the same state as the others, except only they were lesse and thinner.

The spectacle led him to conclude that:

Those which we call monsters are not so with God, who in the immensitie of his work seeth the infinite of formes therein contained... From out his all-seeing wisdome proceedeth nothing but good, common, regular, and orderly, but we neither see the sorting, nor conceive the relation.

Detailed descriptions of the place of birth in ballads may have encouraged people to go to see the child for themselves, and the news of a monstrous birth travelled quickly: ‘This monster lived two days... and was seen alive by many hundreds of the neighbouring places, which flocked to see so strange a creature.’ Ballads acted as advertisements (‘[c]ome take a view good people all’ and provided directions: ‘[t]his childe beforsaid (the day of the date under written) was to be seen in Gleve Alley, in Suthwark, beeing alive and x week olde and iiiij dayees, not unlikely to live long.’ The birth of a monster was a significant event: hundreds or

39 Natures Wonder..., reprinted in Rollins, op. cit., p. 141.
even thousands of people might have gone to see it while many more read of it or heard the
news by word of mouth. A majolica bowl depicting female conjoined twins was produced in
Italy in the early sixteenth century and was probably inspired by one or more pairs of
conjoined twins that were a fashionable talking point at that time (see frontispiece).41

A few printed advertisements for monstrous births on display in London, as well as for other
freaks and unusual animals, survive, but their reliability is open to question. They have no
illustrations, partly perhaps to save money and also to excite the imagination of the reader.
There is little doubt that anyone paying to inspect ‘a monster ... being Humane upwards, and
Bruit downwards ... so exactly stuffed’42 would see nothing more than a clever example of the
taxidermist’s art. The following advertisement is perhaps more promising:

A changeling child. To be seen next door to the Black Raven in West Smithfield,
during the time of the fair. Aged 9 or more, a foot and a half high, legs and arms no
bigger than a man’s thumb, seems so grave and solid, as if it were 60. You can see the
whole anatomy of its body by setting it against the sun. It never speaks, but cries like a
cat. It has no teeth but is the most voracious and hungry creature in the world. Taken
by a Venetian vessel from a Turkish galley.43

Apart from its romantic origins (it is more likely to have been taken from a poor local family)
the physical description is unconvincing and the age probably much exaggerated to make it
look smaller for its age than it actually was.44 Conjoined twins aged 21 with two bodies but one
head, described in another pair of advertisements, though not impossible, are unlikely if only
because one would expect them to have earned their livelihood by exhibiting widely, yet there
seems to be no other record of the case.

It was common for a monstrous birth to attract a crowd; five hundred or more a day in the
case of the liveborn thoracopagus conjoined twins born at Isle Brewers in Somersetshire, so
many that ‘Mr A.P.,’ who reported the case to the Royal Society, had difficulty getting close
enough to examine them (Appendix 1, 1680b). The crowds were so great that it was feared the
children’s lives would be shortened by constant examination. A thousand people saw a pair of
conjoined twins born near Salisbury in 1664 (Appendix 1, 1664b):

41 Currently in the Wallace collection, London, they are described in the catalogue as ‘two small naked girls
embracing’; see A.V.B. Norman, *Wallace Collection Catalogue of Ceramics 1. Pottery, Maiolica, Faience, Stoneware*
42 From a collection of broadsides in the British Library, N.TAB. 2026/25.
43 ibid.
44 Later a common practice with dwarfs such as the ‘Sicilian fairy.’

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This Monster lived two dayes and then dyed, and is Imbalmed, and to be brought to London to be seen. There hath been Lords, Ladys, and much Gentry to see it; The Father (being a poore man) had twenty pound given him the first day, by persons of Quality. I Josiah Smith, Practitioner of Phisick, saw them all three alive.\textsuperscript{45}

This later became the first case of a birth defect to be reported in a journal.\textsuperscript{46} A charge was often made to view such cases, or a voluntary donation was expected: the mother of a child born in Kent in 1615 was ‘relieved by much money, which out of Christian compassion many bestowed on her.’\textsuperscript{47} The most demanding living was to be had by begging in the street: ‘An observing Divine, a Traveller, and freind of mine... saw in Cheapside London, but a few daies before, a child that was born without Armes, and had two little hands, which it could move, standing out of its shoulders, a poore woman had the child in her armes, begging with it.’\textsuperscript{48} It was also possible to make a living by begging door-to-door: ‘this mayde went from dore to dore searching for a living, to whom they gave more willingly for the noveltie of so strange a creature and so new a spectacle.’\textsuperscript{49} Sometimes such a person would be ‘paid off’ to go somewhere else, by a community afraid of maternal impressions.\textsuperscript{50} Even a stillborn child could be a source of income, and in 1583 a child with ‘two heads and two backbones’ was brought to Shrewsbury in its coffin.\textsuperscript{51} In London abnormal children, living and dead, were exhibited at Bartholomew Fair, and the expression ‘a Bartholomew Fair baby’ became current for a fake.\textsuperscript{52} Bartholomew Fair has been emphasised as a location for the display of monstrous births,\textsuperscript{53} but there are very few documented cases shown there before 1700, despite the continuous existence of the fair since mediæval times. An early eighteenth century pamphlet describing people who made a living from the fair mentions whores, players, cooks, fiddlers and a variety of other entertainers, but not monsters.\textsuperscript{54}

\begin{thebibliography}{9}
\bibitem{45} Rollins, \textit{op. cit.}, pp. 140-5. ‘It [the twins] was alive 24 hours, and cried and did as all hopefull children do; but, being showed too much to people, was killed’: Pepys’ diary, 11 November 1664, quoted in Rollins, \textit{op. cit.}, p. 241.
\bibitem{50} see Lycosthenes’ case in Bavaria (Appendix 1, 1538).
\bibitem{51} Cressy, \textit{op. cit.}, p. 46.
\bibitem{52} \textit{ibid.}
\bibitem{54} Anon., \textit{Jack Puddings Disappointment}... (London, c. 1708).
\end{thebibliography}
The prospect of financial gain meant that many children, like the case seen by Evelyn, continued to be exhibited after death, including, apparently, the first published case of Roberts's syndrome. A pair of cephalothoracopagus janiceps twins, almost certainly dead, was brought up to London in 1565, 'wheare it was seene by dyvers worshipfull men and women of the cytie. And also of the Countrey.' Perhaps because monstrous births were often perceived to be associated with parental sin, there is evidence that, at least if it was stillborn, a child's body could be brought out for public viewing whether the parents liked it or not: '...this as it was still-borne was exposed unto publick view to the infinit amazement of the beholders, and to the great griefe of the Parents.' Wealthy students acquired the bodies of some infants, perhaps by purchase, or by exhumation. A cyclopic child born on 12th July at Firme, Italy (Appendix 1, 1624), which 'fortunately' died almost at once, was exhumed on the orders of the prefect of Genoa, but the face had already decomposed.

In 1682, an eye-witness account of a pair of craniopagus twins in Ostend was considered interesting enough to publish for the London market. A merchant and his friends had paid to see the twins, whose parents had been offered a great sum of money for them to be 'carried about' on exhibition. It is clear that the spectators made quite a thorough examination, with the parents' consent. It was even said that the birth of a monster was a blessing for a family as it provided them with a source of income, and it is understandable that some parents made the most of it. For others, the birth of a monster must have been made doubly alarming by the prospect of being accused of sexual or other misconduct - it has been suggested that Henry VIII's change of attitude towards Anne Boleyn was partly due to her having given birth to a monster. It is easy to imagine, though there is no evidence, that women concealed at least stillborn monstrous births as well as they could. The wife of a man in the cautionary tale The Theatre of God's Judgements (1597), who is punished for hunting on the sabbath by the birth of a child with a dog's head, tries initially to conceal the birth.

55 Francis Bouchard, 'Infante monstroso Lugduni in viam publicam die V. Martii A. MDCLXXI. Exposito' Miscellanea Curiosa 1st series vol. 3 (1672), pp. 14-16.
57 Anon., The most strange and wonderfull apperition of blood in a poole at Gamston... (London, L.H., 1645).
58 See: R. Warnicke, The Rise and Fall of Ann Boleyn (Cambridge, Cambridge University Press, 1989), pp. 202-3, 246. The evidence that Ann did have a monstrous birth is not compelling, resting as it does largely on the assertion of a hostile early biographer, Nicholas Sander, that she gave birth to a 'shapeless mass,' but the claim points to a link between sexual immorality and monstrous births.
It seems that only a few people with major congenital malformations lived to adulthood. Those that did so almost certainly had to earn a living by exhibiting themselves and therefore left documentary evidence. After a childhood spent travelling and earning money for a parent or guardian ('A Spaniard came to Florence, who had with him a boy of about thirteen, a kind of monstrosity, whom he went around showing everywhere, gaining much money') the few who reached adulthood could set up business independently. One well-known case was Lazarus Colloredo and his parasitic twin John Baptiste. Their progress around Europe was marked by the appearance of ballads, but we do not know whether these publications were organised by Lazarus himself, or whether they were opportunistic, with publishers taking advantage of the Colloredos' visit to sell hastily-produced accounts of them. The Two Inseparable Brothers (1637) describes Lazarus as an Italian gentleman, then about seventeen years of age. He was born in Genoa in 1617 and examined by Bartholin. Paul Dubé, a country physician in Montargis, wrote that Lazarus was condemned to death but spared because his execution would have killed his innocent brother. Lazarus himself was wont to tell this story, which sounds like a fiction designed to draw an audience.

On 4th November 1637 the Master of the Revels, Sir Henry Herbert, granted a licence 'to Lazarus, an Italian, to shew his brother Baptista, that grows out of his navell, and carries him at his syde. In confirmation of his Majesty's warrant, granted unto him to make publique shewe.' After a London audience with Charles I, Lazarus exhibited himself in Norwich over Christmas 1639: "This daie Larzeus Colleretto have leave to shewe a monster until the day after twelfe, he shewing to the Court a lycense signed with his Ma^ own hand." Thereafter he probably toured England as best he could. The Colloredo brothers also visited Scotland and there is an account, again discovered by Rollins, of their modus operandi:

When he cam to the towne he had tuo servandis auaiting upone him, who with him self were weil clad. He had his portraiture with the monster drawin, and hung out at his lodging, to the view of the people. The one servand had ane trumpettour who soundit out at suche tyme as the people should cum and sie this monster, who flocked aboundantlie into his lodging. The uther servand receaved the moneyis fra ilk persone

60 Landucci, quoted by Daston and Park, op cit., p. 190 (their translation).
61 who described him in his Historiae anatomiae rerum (Amsterdam, Joann Henrici, 1654). Dudley Wilson, Signs and portents. Monstrous births from the Middle Ages to the Enlightenment (London, Routledge, 1993), p. 88 has also identified Dubé's account of 1650 as a reference to the Colloredo twins.
62 A similar plot was used in the film Chained for Life (dir. Harry Fraser, 1951).
for his sight, sum less sum mair. And after there was so muche collectit as culd be
gottin, he with his servandis, shortlie left the toun, and went southward agane.  

A picture emerges of a comfortable if peripatetic life for Lazarus, at the expense of his twin:

And if you nip it by the arme,  
Or doe it any little harme,  
(this hath been tride by many,)  

It like an infant (with voyce weake)  
Will cry out though it cannot speake,  
As sensible of paine,  
Which yet the other feeleth not...  

Visitors were invited to try this simple experiment in order to gain information about the extent to which Lazarus and John-Baptiste were separate individuals, a question that provoked lively disputes:

I will onely remember unto you a very handsome young man, late (if not now) in Towne [London], whose picture hath been pubHckely set out to the common view, and himselfe
to be seen for money; who from one of his sides hath a twin brother growing, which
was borne with him, and living still; though having sence [sensation] and feeling, yet
destitute of reason and understanding: whence me thinks a disputable question might
arise, whether they have distinct lives, so they are possessed of two soules; or have but
one imparted betwixt them both...  

Boaistuau wrote of a similar case; a man, aged 40 in 1530, with a parasitic twin attached at the umbilicus. He carried the twin's body in his arms and 'great troupes' came to see him. He too travelled and was seen in Valence, Paris, and Montleheray. According to Boaistuau he later appeared whole and was asked what had become of the monster. Perhaps a small parasite could have been removed surgically (by a brother who had earned enough to retire?) but we do not have enough details to be sure.

Paying to see a person with a malformation enabled the visitor to satisfy his curiosity to the limit. Infants were picked up and palpated and some died from excessive handling. Adults were questioned – James Paris DuPlessis asked Lazarus Colloredo and the Yorkshire hermaphrodite 'many questions' – and sometimes submitted to intimate examination: 'its viri

67 Parker, Two insepercible Brothers, reprinted in Rollins, op. cit., p. 13.
Herge did Erect by Provocation...’ DuPlessis noted of the hermaphrodite.\(^6^9\) In spite of these intrusive examinations, the evidence that we have indicates that adults with congenital malformations who were able to provide for themselves were regarded with interest and perhaps admiration. There is nothing to suggest that they were feared or ridiculed, as some historians have suggested.\(^7^0\) The tendency was for their accomplishments to be emphasised. The skill of Thomas Schweiker, a man born without arms, at writing with his feet was his stock in trade during life (he was depicted writing ‘Blessed be God in all his works’) and a sheet of parchment said to have his writing on it was on display at the mint at Worms more than a century after his death, when his calligraphy was still praised as ‘very Beautiful.’ This was a typical description of the work of individuals with this type of deformity, who were said to use their feet ‘marvellously well’ (Appendix 1, 1528). A child born without lower limbs ‘jumps, dances and shows artfull tricks that any other person can do with thighs and legs. He speaks divers different languages as High Dutch, Low Dutch, Sclavonian, French and English.’ The linguistic abilities of people with deformities were noted: ‘A Man with a Head Growing out of his Belly... spoke and Rit Several Languages as Latin, French, Italian High Dutch and Pritty good English.’\(^7^1\) As well as showing a favourable, even exaggerated, regard for the intellectual abilities of people with malformations, their linguistic proficiency suggests that they were widely travelled. The physical beauty of monstrous births is also given remarkable emphasis: conjoined twins ‘...were so well made in all the other Members, that the Painter, who was employed to draw them, affirm’d, that if they were done in Ivory, he would have paid any money for them.’\(^7^2\)

In a sermon delivered in 1635, the clergyman Thomas Bedford, preaching on the birth of a pair of thoracopagus conjoined twins in his locality, inveighed against those who exhibited malformed children for money, or who bought or sold the body of a child for exhibition. However, by prohibiting Christian burial for unbaptised children, including all stillbirths, the church was inadvertently encouraging the sale of their bodies, which would otherwise have been handed over to the midwife for disposal:

> If any childe be dead-born, you yourselfe shall see it buried in such secret place as neither hogg nor dogg, nor any other beast may come unto it, and in such sort done,


\(^7^0\) For example, Semonin, *op. cit.*, pp. 78-80: ‘They [monsters] were characters of comic horror intimately connected to an ancient tradition of folk humour... The monsters in the marketplace of early modern England embodied elements of an ancient comic tradition.’

\(^7^1\) DuPlessis, *op. cit.*, pp. 31-2, 58. The manuscripts of Du Plessis do not suggest that he had an expert knowledge of these languages.

as it may not be found or perceived, as much as you may; And that you shall not
suffer any such childe to be cast into the Jaques or any other inconvenient place.\textsuperscript{73}

The monetary value of monsters living and dead also provided a motive for deception. Accounts of children intentionally maimed for exhibition date back to classical Rome: ‘Finding a different savagery for each, this bone breaker cuts off the arms of one, slices the sinews of another: one he twists, another he castrates.’\textsuperscript{74} Paré was the first author since antiquity to mention the practice of faking monstrositites for financial gain. The faking of illness for gain was a particular concern of his and he took a dim view of it, approving of corporal punishment for offenders. Fenton also believed that fakes were still being created:

Vacabunds... as soone as their children be borne, and whilst their sinewes & bones be tender and flexible, with smal force, wil not stick to breke their arms, crush their legs, & pufte up their belly with some artificial pouder, defacing their noses with other parts of the face: & sometime pecking out their eyes, & all to make them appear monstrous... \textsuperscript{75}

A few examples of fakes using cadavers are identifiable from the early modern period: a child born in Denmerk in 1684 for example (Fig. 17). A soldier’s wife gave birth to a child which died immediately: there were fleshy excrescences on the legs, six toes on the right foot, a tail ‘1/4 of a Zealandish ell long,’ and excrescences on the forehead resembling:

artificial laces: which the Painter, who 3 Days after it was dead, did draw the Scheme, testifieth to have been almost spoiled or rotten by the touching of so many Hundreds of People that went to see this Creature. But before, when the Head of the Child was turned against the Light of the Sun, these physical Laces seemed to be very artificially done.\textsuperscript{76}

Only one account, of parents put to death for creating artificial hydrocephalus, involved mutilation of a live infant.\textsuperscript{77}

\textsuperscript{73} From an oath taken in England in 1649, reproduced in Towler and Bramall, \textit{op. cit.}, p. 59.
\textsuperscript{75} Edward Fenton, \textit{Certaine secret-wonders of Nature}... (London, H. Bynneman, 1569), fol. 16r.
\textsuperscript{76} Christopher Krahe, ‘The description of a monstrous child, born Friday the 29th. of February 1684, at a village called Heisagger, distant about 4 English miles from Hattersleben, a town in South-Jutland, under the King of Denmark’s dominion’ \textit{Philosophical Transactions} vol. 14 (1684), pp. 599-600.
\textsuperscript{77} Bulwer, \textit{op. cit.} This source however is not a scholarly work but one characterized by persiflage, and the technique described would be likely to have led to rapid death of the child from infection. There is an ongoing tradition in Vietnam that unscrupulous people kidnap children and mutilate them in order to make a living from exhibiting or begging with them.
Anatomical approaches to monstrous births are closely linked to their description and classification. Many cases reported in scholarly journals underwent post-mortem examination. A brief chronology of anatomical practice in Europe after the Middle Ages may help to set the scene. Medico-legal autopsies, to determine the cause of death, had been performed in the Middle Ages (one of the earliest recorded was in 1286 at Cremona) and this suggests that the prosectors had sufficient anatomical knowledge to dissect a body and identify unusual features. Mondino is the first anatomist known to have taught from the human body and in 1316 he published a manual of anatomy, which remained the standard textbook for 200 years. The University of Montpellier began public dissection in 1366, Venice in 1368, Florence in 1388, Lérida in 1391 and Paris in 1478. Montpellier was granted the right to the body of one executed criminal a year in 1375; the same privilege was granted to Lérida in 1391 by King John I. James IV granted the Edinburgh Guild of Surgeons and Barbers the bodies of executed criminals for dissection in 1506, and Henry VIII granted the Company of Barbers and Surgeons the annual right to the bodies of four hanged felons. Other people’s autopsies became fashionable entertainment: Harvey’s dissection of Old Parr was a public spectacle. Anatomy was a subject with which every educated man was expected to be familiar: ‘the knowledge and true understanding of mans body... is also of great use to the Professors of Divinitie, Philosophy and all other good Literature and more particularly necessary for the faculties and Artes of Phisicke and Chirurgery.

The theory that religious opposition hampered the development of anatomy has proved tenacious (Puschmann’s use of the term ‘Reformation’ to describe the growth of anatomical knowledge in the sixteenth century is revealing). The idea that the Church harboured cultural
objections to the autopsy is not sustained by events. It was common practice to open the bodies of the saints.* St Clara of the Cross, for example, was dissected by four senior nuns of her order: see Montague Summers, The Physical Phenomena of Mysticism (London, Rider and Co, 1950), pp. 131-2.

85 Puschmann, op. cît., p. 247.


87 Cadavers came from hospitals as well as scaffolds and obliging judges chose the date and mode of executions to suit his requirements. When he wished to dissect a virgin, Cosimo I (1519-1574) made available the body of a nun (Puschmann, op. cît., pp. 327-8).


89 Puschmann, op. cît., p. 327.
It is my impression that the limited material that was available was still sufficient for a fairly thorough anatomical training: at Oxford, following the visitation of Edward VI in 1549 the statutes laid down that a student had to see two human dissections before obtaining his BA and perform two before being admitted to practice (this is more than is expected of U.K. medical students today).\footnote{Sinclair and Robb-Smith, \textit{op. cit.}, p. 10.} Even with a good supply of animal carcasses, it would be difficult to achieve the requisite skill in displaying and interpreting human anatomy with such a paucity of human subjects. That university-educated physicians were capable of and interested in performing autopsies, though most had probably seldom dissected cadavers themselves, is evidence of high standards of training in anatomy. These anatomical skills were eminently transferable to the study of congenital malformations. Dispelling the myth of opposition to anatomical dissection by the Church seems to me relevant to monstrous births in two ways. Firstly, there is a similar myth concerning the reaction of the Church to monstrous births, and secondly, because monstrous births were dissected, if dissection was regarded as a degrading or dishonourable process – literally ‘a fate worse than death’\footnote{Richardson, \textit{op. cit.}, p. 32.} – then this would suggest that monstrous births were perhaps accorded a lower status than morphologically normal infants.

The autopsy normally required the consent of the deceased’s family, sometimes difficult to obtain. An autopsy on a 12-year-old child who died from tuberculosis, reported in volume 1 of \textit{Miscélanea Curiosa}, was abandoned when a female relative changed her mind and withheld consent. The author remarked that people ‘very rarely allow them [autopsies] unless special persuasion has been used.’\footnote{Segerus, 1670, quoted in Jarcho, \textit{op. cit.}, his translation.} In a commentary on the report, Sachs, the editor, remarked that difficulty in procuring cadavers for autopsy:

\begin{quote}
\textit{is a common evil in Germany, as is the complaint that some are too frequently overscrupulous with regard to the dead... Let it not be thought that opening the body defiles the honor of burial, since by skilful section... the members are shown which in good persons were organs of the Holy Spirit, and the mighty works of God are shown respect.}\footnote{\textit{Ibid.}}
\end{quote}

So far, I have intentionally not made a distinction between anatomical dissection and the autopsy, principally because in the case of birth defects the procedures are likely to have been very similar because it was the anatomy of monstrous births that interested the physicians who dissected them. Anatomy and pathology in monsters are one and the same. The distinction
was not clearly made at the time, with the word 'anatomy' being used for public anatomical dissections, autopsies, and even the preparation of bodies by embalming. Katherine Park has explored the paradoxical similarities between the humiliating public dissection of the bodies of criminals and dissection of the bodies of the saints. One difference is that anatomical dissection was seen as destructive, whereas the ultimate aim of dissection of the saintly body was its preservation (albeit piecemeal in reliquaries across Europe). It was the public and destructive nature of anatomy, argues Park, that constituted its punitive element. If there was a dichotomy between destructive and preservatory treatment of the cadaver (as there is at present: many people desire to be embalmed, some consent to an autopsy, very few accept anatomical dissection) the dissection of monstrous births belongs in the latter group. It was intended not to destroy the body but to display its structure in a way that could be preserved by description, artwork, or embalming. Once embalmed, the body of a monstrous birth became, like a saintly body, not only incorruptible, but also capable of being possessed and sold.

Cadavers of monstrous births were a commodity to be sold privately to interested physicians. In 1670 Jacomo Grandi attempted to purchase a pair of thoracopagus conjoined twins, but was unable to afford the price asked for them, so instead he was given the specimen to embalm. Grandi felt justified in covertly eviscerating the child through the abdominal incision that he made for embalming it: 'I could not dissect them as I would, because they were deliver'd to me to embalm, and the indigent Father of them, who look'd for gain, would not let me have them but for a great Sum of money. Wherefore, not to spoil them for the purpose design'd, having only open'd them upwards from the Navel, which was common to them both, I took out the Intestins, the Stomack, the Heart, the Lungs.' They had a single heart, 'though greater and rounder than ordinary; so that Nature seemed to have united the Matter of two into one.' The embalmed specimen was then returned to the father, presumably for exhibition. Grandi successfully acquired the body of a second child with urogenital malformations, which he dissected 'in the presence of many Noblemen and Physitians at my house.' This social exclusivity – less of a public dissection than a private view – may have made agreeing to the autopsy less distressing (because less reminiscent of public dissections of criminals) to the next-of-kin.

95 Relics are, of course, never actually sold, and any money paid is considered to cover only the cost of the reliquary.
The principal application of the autopsy to monstrous births was in the investigation of conjoined twins, to help solve the conundrum of one-in-two. The question of whether conjoined were one or two individuals was by no means as straightforward as might appear. The scholarly solution, derived from Aristotle, was that when there was one heart there was one child. Not only could it be difficult to decide in living twins what organs were shared, but some thoracopagus twins with two heads four arms and four legs ought, according to the rule, to have been regarded as one person. The view outside the academic world was that one head equalled one child and in practice, each head was baptised separately. Thoracopagus twins were described in ballads as two people, whereas the cephalothoracopagus type, most but not all of whom have shared brain tissue, are described in the singular as a 'child,' whether or not two hearts were present. The heart was often the focus of attention if twins were dissected: the anonymous author of an account of syncephalus conjoined twins (Appendix 1, 1547) reported that the father ‘took the child’s two hearts and kept them as a souvenir.’

In 1533, a pair of conjoined twins was born on the island of Hispaniola, then a Spanish colony. They were baptised Johanna and Melchiora and lived for only eight days. The priest who baptised them gave conditional baptism to the second twin, an ingenious solution which nevertheless left doubts in the minds of the parents - had the twins one soul or two? To help resolve the problem they agreed to an autopsy, the first in the New World. The procedure was conducted in a formal manner, reminiscent of the anatomy schools of the European universities, two physicians supervising, while delegating the manual task of cutting to a surgeon: 'Joan Camacho who held a Bachelor’s Degree and was an excellent surgeon made an incision with a knife in the presence of two doctors of medicine: Hernando de Sepulveda and Rodrigo Navarro.' The girls' father was asked whether the twins had shown any differences in behaviour when alive, as '[t]his will prove, even without having them cut open, that they were two separate persons and two souls.' Different behaviour, even in infants, was thought to be at least as useful as anatomy in determining individuality. Anatomical solutions were hampered by differing opinions as to the seat of the soul. Almost every major organ had been proposed, with the most favoured options being either the ventricles of the heart or the brain, but the liver was another possibility. The prosectors took care to describe a fissure separating the fused livers (the only shared organ in these omphalopagus twins) into two parts, so that neither twin was wanting any major organ. After the autopsy, the parents were told that

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97 Usual practice if it was not known whether a person had been previously baptised.
Johanna and Melchiora were two when they ‘passed from this life to celestial glory where, God willing, we shall see them.’ This is one of the earliest printed accounts of a perinatal autopsy.

If conjoined twins showed behavioural differences, as in the case from Hispaniola, this was usually seen as proof that they were two individuals. Jean Riolan, in a disputation published on his appointment as professor of anatomy and botany at the University of Paris, made the same point with regard to a pair of twins born in Paris in 1605 and gave historical examples of other conjoined twins that lived long enough to show different personalities. Du Plessis described another pair of conjoined twins that showed clear behavioural differences:

That Double Child was Baptised with two Names, Peter and Paul, they had not Both the same Affections nor Passions, the one wept Whilst the other Laffed, The one Slept Whilst the other Waked, the one was Hungary whilst the other Refused Victuals, the one Excremented whilst the other was hard Bound or Constipated &c, it Lived two Yeares and 20 Days, see Mr. M. Milsons Voyages in Germany and Italy Tome 2. Letter 31. Page 342. Dated from Florence the 23d of May 1688.

Riolan anatomised the Paris twins and an intaglio engraving accompanying the tract shows the dissection (Figure 11). Behavioural differences were generally given preference over anatomy in determining individuality, even if major organs such as the heart were shared. Male thoracopagus twins born at Heidelberg in 1544 were baptised John and Jerome and lived a day and a half (Fig. 10). At autopsy, ‘they found in the belly but one hart,’ but in spite of this finding there was no revision of the opinion formed of the twins when living; they were treated as two individuals. Lay people applied the same test that the experts did. A merchant in Ostend who went with some friends to see a pair of cephalopagus conjoined twins wrote: ‘That they are distinct in life, soul and brains appear plainly from the actions which they have.’

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99 Quoted from A. Peña Chavarría and P.G. Shipley, 'The Siamese twins of Españaola (The first known post-mortem examination in the New World)' *Arms of Medical History* vol. 6 (1924), pp. 297-302, their translations. The desire to establish whether the twins had a single soul may reflect popular response to theological statements on the immortality of the soul – which the fifth Lateran Council had pronounced a dogma of the Church in 1512.


103 From an anonymous pamphlet, c1682, in the British Library (N.TAB.2026/23), p. 3.
In 1544 in Milan a pair of female thoracopagus twins 'well formed' and 'corpulent,' died due to birth trauma. The surgeon Gabriel Cuneus made 'an anatomy' and found two uteri, two intestinal tracts except for a shared rectum, two livers, and one heart: 'the which moveth us to think... that nature would have created two, saving that by some defecte she imperfected the whole.' This was an expression of a general belief that conjoined twins resulted from the fusion of two foetuses in utero, and it was thought that this could occur even if twins were conceived on separate occasions.

The sooterkin

An unusual phenomenon described in increasing numbers towards the end of the seventeenth century is the Sooterkin. This creature, also spelled 'sooterkijn' and known as de Soetrekin, was a type of parasitic animal thought to afflict pregnant women, especially in Holland. It was usually expelled with the afterbirth, to the surprise of those present. It became well known in England following the publication of The Female Physician by John Maubray, MD, who claimed to have seen the sooterkin:

That these BIRTHS in those Parts, are often attended and accompany'd with a Monstrous little Animal, the likest of any thing in Shape and Size to a MOODIWARP; having a hooked snout, fiery sparkling Eyes, a long round Neck, and an acuminated Short Tail, of an extraordinary Agility of FEET. At first sight of the World's Light, it commonly Yells and Shrieks fearfully; and seeking for a lurking Hole, runs up and down like a little Daemon, which indeed I took it for, the first time I saw it, and that for none of the better sort...

not many Years ago, in coming from Germany over East and West Friesland, to Holland, I took passage in the ordinary Fare-Vessel, from the City of Harlingen for Amsterdam...

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104 Caspar Schott, Physica Curiosa... (Würzburg, Jobus Hertz for Johann A. Endter & Wolff, 1662), vol. 1, p. 659.

105 See Henry Oldenburg's correspondence: A. Rupert Hall and Marie Boas Hall (eds & transl.), The Correspondence of Henry Oldenburg (Madison, University of Wisconsin Press, 1965-1977), vol. 2, p. 277. During most of the twentieth century the alternative 'fission' theory was prevalent, largely because of extrapolation from the results of experimental studies on lower vertebrates, but recent work has shown that human conjoined twins almost certainly do result from secondary union of initially separate embryonic discs (Rowena Spencer, 'Theoretical and analytical embryology of conjoined twins: part I: embryogenesis' Clinical Anatomy vol. 13 (2000), pp. 36-53). Other notable autopsies on conjoined twins included a rare example of parapagus dibrachius dipus from Tubinga in 1597 (Schott, op. cit., vol. 1, p. 662) and a pair of male cephalothoracopagus Janiceps asymmetros twins born dead on 19th March 1540 in Zarzara, Italy, after a gestation of three months. The bodies of the latter case were given as a present to one of the King of Spain's lieutenants: at autopsy, two livers, two spleens, and one heart were found (Fenton, op. cit., fol. 98r). A single heart is uncommon in this form of twinning but a few comparable cases have been reported subsequently: see T.H. Grundfest and S. Weisenfeld, 'A case of cephalothoracopagus' New York State Medical Journal vol. 50 (1950), pp. 576-9. These examples show that particular attention was paid to the anatomical structure of conjoined twins.
Amongst the better Sort of the Passengers, who possed’d the Cabine, there happen’d to be a Woman big with Child, of a very creditable Aspect, who...was taken all at once, aboard the Ship, with a sudden and surprising LABOUR: upon which occasion, in short I immediately lent her a helping Hand, and upon the Membranes giving way, this forementioned ANIMAL made its wonderful Egress, filling my Ears with dismal SHRIEKS, and my Mind with greater CONSTERNATION...

I heard some of our Accidental Company call it de Suyer, as they went about to kill it: upon which I immediately laid [delivered] the Woman of a pretty plump GIRL; who, notwithstanding all this, had no Deformity upon it, save only many dark, lust SPOTS all over its Body...

AFTERWARDS I had occasion to talk with some of the most learned Men, of the several famous Universities in these Provinces upon this Head: who ingenuously told me, that it was so common a Thing, among the sea-faring, and meaner sort of People, that scarce ONE of these Women in Three escaped this kind of strange BIRTH; which my own small Practice among them afterwards also confirmed: Insomuch, that I always as much expected the Thing de Suyer, as the CHILD it self: And besides the Women in like manner, make a respective suitable Preparation, to receive it warmly, and throw it into the Fire; holding Sheets before the Chimney, that it may not get off; as it always endeavours to save it self, by getting into some dark Hole or Corner, They properly call it de Suyer, which is (in our Language) the SUCKER, because, like a Leech, it sucks up the INFANT’S Blood and Aliment.

His apparent credulousness inspired an anonymous pamphlet, The Sooterkin Dissected, lampooning him. Dutch mothers, it said, called their children ‘sooterkints,’ i.e., sweet children, but there was no creature called de Suyer. A guinea was offered for every sooterkin brought from Holland, and Maubray became known as ‘the sooterkin doctor.’

It is difficult to know how literally the various parties took the sooterkin. The sooterkin had a history of appearance in humorous writing and the earliest use of the term that I have been able to locate is in 1660 in Alexander Brome’s satirical poem Burm-foker. Later, it became another insult to use against the Dutch. Maubray, who had an MD from Edinburgh University and a successful practice in Bond Street, appears to have taken it seriously. Whatever lay at the basis of the sooterkin tales, Maubray would hardly have included them in his book had he expected his belief to be treated humorously. The sooterkin itself, though not known by that name, was older still and was likened to various animals. On 8th May 1646 the Reverend Ralph Josselin heard of: ‘a monster borne about Colchester, first a child, th[e]n a serpent,
In the second book of his *Natural Magick* Giovanni Battista della Porta remarked that ‘neither is it hard to generate Toades of women... for women do breed this kind of cattel, together with their children.’ The sooterkin was distinct from monstrous births as it was a non-human generation, a product of the corrupted womb, which accompanied a normal child as a sort of afterbirth. Della Porta added that the women of Salerno ‘were wont to use the juice of parsley and leeks, at the beginning of their conception... to destroy this kind of vermin.’

James Howell wrote on 10th April 1623 that in Holland women gave birth to ‘a living Creature besides the Child... likest a Bat of any other Creature; which the midwifes throw into the fire.’

Sharp’s *Midwives Book* described sooterkins along with other animals generated in the womb:

As for monsters of all sorts to be formed in the womb all nations can bring some examples; Worms, Toades, Mice, Serpents, Gordonius saith, are common in Lumbardy, and so are those they call Soole kints in the Low Countries, which are certainly caused by the heat of their stoves and menstrual blood to work upon in women that have had company with men; and there are sometimes alive with the infant, and when the Child is brought forth these stay behind, and the woman is sometimes thought to be with Child again; as I knew one there my self, which was after her child-birth delivered of two like Serpents, and both run away into the Burg wall as the woman supposed, but it was at least three months after she was delivered of a Child, and they came forth without any loss of blood, for there was no after burden.

There were similar (or different versions of the same) tales in circulation at that time, in one of which one of the monsters was a serpent that partially devoured the child:

The first monster which came to sight,
Was a live toad, which did them fright,
It sprawled and creped all about,
Which put the women all in doubt.

It had four legs as it is told,
A loathsome creature to behold,
In ugly shape it did appear,
The like no woman e’er did bare.

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109 First printed in 1558; English translation as *Natural Magick... in twenty booke* (London, T. Young & S. Speed, 1658), p. 28.
110 Rollins, *op. cit.*, p. 185.
111 *ibid.*, p. 185.
The next that came unto their view,
As for certain it is just and true,
It was a serpent and a dead child,
Whose life the serpent did beguile.

For why some of it's face and head,
By this monster was devoured,
And it's body injured full sore,
The like was never seen before.

The serpent had ears like a Pig,
Which was considerable big,
It had a great long tail likewise,
With a pair of wings, and eke two eyes.

This monster joyn'd to the childs side,
Which they endeavour'd to divide,
But before they could bring it to pass,
The Midwife sunk down in the place.

But other Woman in the town,
Who having stouter hearts than some,
Without delay they did contrive,
To burn these 2 Monsters alive.\textsuperscript{113}

The woman make a distinction between the 'monsters' and the child, as another ballad makes clear: 'the two foul ugly creatures was burned, but the child descently buried...''\textsuperscript{114} The sooterkins were not human birth defects but non-human co-conceptions: 'Women conceiving with childe have likewise conceived at the same time a Frog, or a Toad, or a Lizard.'\textsuperscript{115} Batman gave an early description of a sooterkin in 1581:

The same day of the tempest, was delivered an aged woman, who hadde to name Alice Perrin of the yeres of 60, being the day before in great pain, of a strange monster: whose head was like to a sallet or head piece, the face somewhat formall, onely the mouth long as a Rat, the fore parte of the body like unto a man, having eight legges, and the one not like the other, a taile in length halfe a yard, like to the tayle of a Rat. A strange sicknesse followed.\textsuperscript{116}

A later example is the lobster-like creature delivered by James Paris Du Plessis's mother-in-law almost a century later: 'this Monster was att his Birth almost as big as a New Born Child, when

\textsuperscript{113} T.L., \textit{The Wonder of Wonders, or, the strange Birth in Hampshire} (London, J. Hose and E. Oliver, c. 1675), reprinted in Rollins, \textit{op. cit.}, pp. 188-9.
\textsuperscript{114} L.W., \textit{True Wonders, and strange news from Romsey in Hampshire...}, reprinted in Rollins, \textit{op. cit.}, pp. 191-4.
\textsuperscript{115} Edward Topsell, \textit{The History of Four-footed Beasts and Serpents} (London, E. Cotes, 1658), pp. 595-6.
\textsuperscript{116} Batman, \textit{op. cit.}, p. 412.
I had this Figure Painted I showed it to her, and she Approved of it, and said it was very much like it. 117 Du Plessis's illustration, based on her description, exactly resembles a lobster, but we are told that it lacked a hard shell.

Sooterkins were not monstrous births in the sense in which the other conditions described in this thesis were. They were not human, nor were they intermediate between the human and non-human states. Their relation to the mother was that of a parasite. The sooterkin was something other than human; it scuttled away, or was killed. It represented the idea that non-human animals could be generated in the womb, which found expression in incidents such as that at Augsburg, Germany (Appendix 1, 1531): 'a woman gave birth first to a human head wrapped in membranes, second to a two-footed serpent, which had the head of a pike, the body and feet of a frog and the tail of a lizard, and thirdly a pig with all its parts complete.' 118

According to Aristotle's Problems:

anything else which is produced from the semen, as for instance, a worm, or the so-called monstrosities, when there is corruption in the womb, are not to be reckoned as offspring. In a word, anything which is produced from corruption is no longer produced from that which is our own but from that which is alien to us, like that which is generated from excretions such as ordure. 119

Géliş has attempted to explain the phenomenon of the sooterkin as a misinterpretation of hydatidiform moles: 'Its [the mole's] irregular shape gave rise to the weirdest interpretations on behalf of the women who had witnessed the event. Some would have 'seen' the woman give birth to a dead animal, rat, mole, or tortoise; others saw a living four-footed animal, armed with claws and hooked nails... 120 In my view there are several problems with this theory. Firstly, hydatidiform mole, known simply as mda, a mass, was well known in the seventeenth century. Mauquest de la Motte (1655-1737) described it as 'a false Conception' and 'a Shapeless mass' and 'The Countess of ........,' two months pregnant, diagnosed her own molar pregnancy, a diagnosis subsequently confirmed at delivery. 121 Secondly, the misinterpretations proposed by Géliş are not feasible - a mole looks nothing like any of them. When molar pregnancies were misinterpreted it was as a 'palpitating marine zoophyte' 122 or

117 Du Plessis op. cit., p. 17.
118 Caspar Peucer, Commentarius de praeceptis divinationem generibus... (Wittenberg, 1553), p. 326.
119 Problems 878a, 18-24. Not, of course, the work of Aristotle. The earliest edition was printed in 1475 in Rome.
120 Géliş, op. cit., p. 259.
121 La Motte, op. cit., p. 24.
122 Remy, op. cit., p. 21.
Countess Margaret's 365 children, each, presumably, in its own gestational sac. Thirdly, the sooterkin was said to emerge after the birth of a baby, a kind of monstrous afterbirth. One of the characteristics of a complete hydatidiform mole is that there is no associated foetus (except for the extremely rare possibility that one of dizygotic twins is a mole). I suggest that the sooterkin may have originated as the abnormal stillborn twin in a twin pregnancy: a *fetus papyracious*, or an acardiac monster. The supposedly liveborn sooterkins may have been imaginative explanations of the origin of these abnormalities invented by midwives or mothers who wanted a story to tell when they exhibited the remains of an almost unrecognisable foetus. Whatever its nature, the sooterkin forms a parallel tradition to the monstrous birth in early modern writing. Unlike monstrous births, it was regarded as totally non-human and therefore non-monstrous as it did not possess the ambiguous nature that characterised monsters: consequently, it was devoid of the monsters' symbolic significance.

**Infanticide**

In ancient Greece and Rome, monstrous births were normally killed. This can be seen partly as a eugenic approach (though many would never have reached reproductive age anyway) but also, as Friedman suggested, a response to the fear that monstrous births were indications of a breakdown in the cosmic order. The Sabines killed children of doubtful sex: 'the halfe males were abominable, and were commanded forthwith to be carried by rafe into the sea.' In Greece, deformed children were killed by exposure, whereas in Rome they were put into the Tiber in a box. Disposal by water, it has been suggested, was intended to cleanse the taboo of a monstrous birth by carrying away pollution and preventing re-birth.

The auncient Romans following the ordinance of Romulus, used to cast suche monsters into Tyber, burning their bodies and blowing away the cinders: wherein the Emperor Mauritius (although he were a Christian) followed in this the lawes of the Auncients, who forthwith upon the sighte of any monstrous childe, caused it not only to be killed, but kissed the knife wherewith he committed the butchery.

Instructions for dealing with monstrous births among the Vikings show two motives for infanticide: severe malformations were taboosed 'and buried where neither men nor cattle go'

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123 see p. 100.
124 The Roman Laws of the Twelve Tables stated: 'A father shall immediately put to death a son recently born, who is a monster, or has a form different from that of the human race.' Quoted in John Block Friedman, *The Monstrous Races in Medieval Art and Thought* (Cambridge, MA, Harvard University Press, 1981), p. 179.
125 See Friedman, *op. cit.*, p. 179.
126 This occurred around 188 BC (Batman, *op. cit.*, p. 76).
(because they might be contagious) and lesser ones were incompatible with independent life. The latter were initiated into the community, and prayed for, but still allowed to die:

Every child which is born into this world shall be reared, baptised, and carried to the church, except that only which is born so deformed that the mother cannot give strength to it, whose heels are in the place of toes [talipes], whose chin is between the shoulders, the neck on his breast, with the calves of his legs turning forward, his eyes on the back of his head, and seal’s fins or a dog’s head. It shall be carried to a beach and buried where neither men nor cattle go; that is the beach of the evil one. Next is the child that is born with a skin-bag on its face; it can be seen by everyone that it cannot get its food though it might grow up; it shall be taken and carried to the church, be prime-signed, laid at the church door; the nearest kinsman shall watch till breath be out of it; it shall be buried in the churchyard and its soul shall be prayed for as well as as possible.129

Gowing suggests that ‘Childbirth in early modern England took place in a female world of ritual and secrecy.’130 Behind the secrecy lay the prospect of infanticide, as for example in the case of Agnes Bowker. The suspicion of infanticide may have been responsible for distrust of midwives and an association between midwifery and witchcraft, but infanticide seems to have been a relatively rare event. At Canterbury in the 1470s only 4 cases were heard over 10 years, and two of these were overlayings and so probably accidental.131 In Nuremberg there were 87 executions for infanticide over 250 years, and in Geneva 25 in 100 years,132 while in Amsterdam only 24 accusations of infanticide were brought before the magistrates between 1680 and 1811.133 In Scotland, 34 women were investigated for infanticide between 1661 and 1700.134 Infanticide was a capital crime not only for the mother but for those who helped to conceal it. In a case from England in 1568 where a mother, midwife and parson had conspired in the murder of a child all were condemned although only one had performed the murder.135

There are a very few documented examples of infanticides of monstrous births in the sixteenth century. Niccoli describes two, one in Florence in 1506, which ‘by order of the Signoria was not fed and died,’ and another in Venice in 1513, who was ‘let die.’136 On the

132 ibid., pp. 5-6.
135 Hoffer and Hull, op. cit., p. 7.
136 Niccoli, op. cit., p. 33.
basis of these examples, Niccoli claims that ‘these were patterns of behaviour for which there is long-standing testimony and which continued into the eighteenth century and probably longer.’ These two cases do not seem to have resulted in prosecution of those responsible for the children’s care: it appears that a legal distinction was drawn, at least in practice, between ‘active’ infanticide and ‘letting die,’ and it is quite possible that there was thought to be a moral distinction also. But these cases were exceptional and the humane treatment of other monstrous births shows that such patterns of behaviour were not societal norms.

Broadsides provide the best source of information regarding attitudes towards, and treatment of, children with birth defects. The ballads show that, even if the parents’ personal sin was said to be the initiating factor in the deformity, the affected child was not seen as sharing their guilt, but was an innocent victim, born, like the man born blind in the gospel, to show the power of God. There is no suggestion that malformed babies were treated any less well than their normal contemporaries, and at least one ballad describes some special treatment: the child born at Much Horkesley was drop fed until mature enough to suckle; despite his deformities he was described as ‘well favoured, and of good and cheareful face’ and the final piece of information in the ballad is that at the time of writing he was doing well. In *A most strange, and true discourse*... the child is initially supposed to have been stillborn, but when it showed signs of life the midwives treated it ‘as a childe ought to be used.’ Added to these are the many assurances that monstrous births had been baptised.

The treatment of children with birth defects in the early modern period was not necessarily dictated by humanitarian considerations: monsters were valued as signs and curiosities, as they were also of potential financial value. We cannot know whether the occasional infanticides were prompted by desire to spare the children suffering or whether parents’ feelings of despair or shame at having to care for a deformed child overcame them. It is impossible to be precise about the incidence of infanticide performed covertly, but we can say that there is more evidence of parents faking monstrous births (an equally serious crime in early modern Europe) than concealing them. In the present day, in most European countries, children with birth defects are certainly not accorded equal status with their normal counterparts. The types of malformations described in this thesis, if diagnosed antenatally, would be regarded as grounds for termination of pregnancy. Conjoined twins may be separated even if the death of one twin is a certain result. In early modern times monstrous births were accepted and valued as part of the divine plan. The re-introduction of the concept of the monster as a mistake,

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suspended for much of the early modern period, relegated the monstrous to a peripheral and less valued rôle. In 1637 readers of a broadside on the Colloredo twins were told to 'Admire the Creator in his Creatures'¹³⁸ but by 1815 the twins were presented as 'this horrid error of nature.'¹³⁹ Of course being valued as an emblem of the power of the creator is not the same as being valued as an individual, but neither is it the same as being marginalised, feared or ridiculed. The ambiguity of monsters – human plus something else – which had led to revulsion and infanticide in some periods, accorded monstrous births in early modern Europe a higher status than they would subsequently enjoy.

¹³⁸ Parker, op. cit.
¹³⁹ Rollins, op. cit., p. 7.
CHAPTER 7 — INTERPRETATION

This chapter groups the cases reported between 1500 and 1700 into modern diagnostic categories. Retrospective diagnosis is now widely suspect, both on pragmatic grounds (the various diagnoses offered for the Ravenna monster cannot all be right) and in general because it forces the material into a conceptual framework which (based as it is on cytogenetics, X-rays and other techniques) is simply not appropriate for cases collected in the early modern period. The chief reason for using retrospective diagnosis at all is as a means to show that early modern writers produced, for the most part, descriptions of actual cases rather than generalised or 'poetical' accounts. Apart from their frequent self-assertions of truthfulness — the constant emphasis on the reliability of witnesses in both ephemeral and journal literature — there is limited corroborative evidence, as plagiarism as a source of multiple accounts is difficult to disprove. My claims that Early Modern accounts were typically reports of actual cases, rather than composite or fictional accounts, therefore depend partly on their consistency with current knowledge — they are just too close to modern accounts of birth defects to have been invented.

It may be helpful to consider three arguments against these accounts being records of actual cases: that they were fakes, intended to mislead; that they were 'poetical' cases, without a factual basis; or that although inspired by actual cases they made no attempt at accurate description. There is no evidence that faked descriptions of monstrous births were ever produced. We know however that there were accusations that monsters themselves were faked, and the prospect of selling a ballad to an audience eager for new monsters might have prompted deception. While the possibility can never be entirely excluded, circumstantial evidence points towards the writers' intention of accuracy: witnesses were named, exact locations given, the reader was encouraged to see for himself, different accounts of the same case appeared, artists were commissioned to make likenesses, and the specimens were sometimes dissected and often seen by many people.

The distinction between actual cases and 'poetical' ones is only slightly more problematic. 'Poetical' accounts did not have lists of witnesses, dates and places, they were not dissected, and they were anatomically implausible. Furthermore, poetic accounts were, I suggest, often 'flagged-up' as such by the inclusion of improbable detail: we do not believe that a 77-year-old can bear a child and any more than did the reader of 1581 (see Chapter 1, pp. 33-4). There is, however, a borderland of cases, such as the Ravenna monster, in which monstrous births appear to have been described in stereotyped, antirealistic ways in order to facilitate their use
as signs or emblems. We can only speculate upon what (if any) actual birth defects they were based. The criterion of ‘plausibility’ as an indicator of veracity creates its own problems. Malgaigne wrote of an account recorded by Paré and others of a man with a parasitic head in his abdomen (Appendix 1, 1516a): ‘[a]ll these stories are probably imaginary, because no such monstrosity has ever been authenticated,’ however a similar case was described by Du Plessis (Appendix 1, 1678) and, if the ‘distance of Places and Times’ of that account are too great for it to be credited, more recently by Biswas and others.

The study of monstrous births in the sixteenth and seventeenth centuries is restricted by what contemporary writers chose to record and the significance of omissions should not be overlooked. Down’s syndrome, for example, the commonest genetic malformation syndrome, affecting some 1 in 600 births, is not represented and does not appear to have been described in print earlier than the nineteenth century. Presumably Down’s, along with many other conditions which led to relatively mild morphological changes, fitted into a much broader range of ‘normality’ accepted by physicians and the public in the Early Modern period. A high infant mortality rate from infective disease could have masked many early deaths due to congenital causes. A child baptised by Archdeacon Joshua Childrey (1623-1670) on 19 April 1668 that had six digits on the hands and feet (‘The five fingers were all in a row, like our common foure, & not the supernumerary finger growing out of the side of the hand, as I have seen in some’)

and which died after ten days probably had more serious internal malformations that went undetected. Conjoined twins appear to have been well represented in all written sources. There are seventeen in the journal literature alone between 1665 and 1700 and if the incidence were the same as in recent years, i.e., between 1 in 50,000 and 1 in 100,000 births there would have been some 1.25 million normal births in the ‘catchment area’ during this period. Preauricular appendages, a common minor malformation, were not described until Saviard reported two cases, one his own niece, in 1702.


Appendix 1 is a list of cases arranged by date, and excludes undated cases (partly on the grounds that they were not necessarily born during the period under consideration). The retrospective diagnoses given are, like all pathological diagnoses, an opinion, one that might be revised or discarded if more information became available. I have reproduced the original descriptions where possible but in some common conditions such as anencephaly I have given only the modern equivalent diagnoses in order to save space but the reader is directed to the original descriptions, which speak for themselves. I have tried to favour common entities over rare ones, except when the description of the case brought to mind a modern equivalent with similar features: a subjective process of pattern recognition.

Conjoined twins

These may be divided, on the basis of documentary and illustrative evidence, according to the classification of Spencer. Of the seven groups, only thoracopagus and omphalopagus are not always readily separable on the basis of macroscopic appearances, and these have been assigned to a 'thoraco/omphalopagus' group. The proportion of the total cases of each major anatomical type of twinning is similar in the early modern group to the data of Spencer; the latter, derived from a very extensive survey of some 1,200 conjoined twins in modern times, showed 5% craniopagus, 37% thoraco/omphalopagus, 11% cephalopagus, 28% parapagus, 11% ischiopagus and 5% pygopagus. Excluding cases of uncertain conjunction, between 1500 and 1700 there were 2 cases of craniopagus twins (2%), 27 cases of thoraco/omphalopagus (31%), 15 cephalopagus (17%) 32 parapagus (38%), 7 ischiopagus (8%) and 3 pygopagus (4%).

Parapagus twins were the most commonly reported. Five of these cases were of diprosopus type (Appendix 1: 1514c, 1540a, 1550a, 1579a, 1684b), only the last of which had an autopsy, which showed an:

exceptionally big head [that] seemed to be made up of two other heads put together; it had four eyes, two hooked noses, two mouths, two tongues and two ears. The interior was also double: it contained two brain-panes, separated by a cartilaginous partition, and two little brains, quite complete. The interior of the chest also contained two lungs and three hearts; the other viscera were single. This little monster lived for an hour, and would perhaps have lived longer if the midwife had not dropped it.  

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We might also note in this group another example of facial duplication (Appendix 1, 1617d) in which there were said to be two eyes, two noses and three mouths. There are no well-documented cases of more than one supernumerary mouth.

Some parapagus twins showed malformations of one or both heads (Appendix 1: 1579b, 1599, 1685b), which are common in this type of twinning. These twins tend to have the longest life expectancies, especially the tetrabrachius dipus type. Other types of conjoined twins in which there are more shared structures do less well. Brief though the description is of adult parapagus twins who came to Basel, probably to exhibit themselves, in 1538, it gives the impression that they were self-sufficient members of society and not dependent upon charity:

There was one borne, and grew to the perfect stature of man having two heades and foure shoulders, so that one heade was before, the other behinde, of a wonderful likenesse one to another: they were both bearded and looked one upon another, their appetite to meate was alike, their hunger alike, their voyce very like, they had one desire to the same wife, the whiche he had, and had the same waye of voyding excrements, and he was thirtie yeares old when he came to Basil.9

Autopsies of parapagus twins revealed something of the tremendous diversity of anatomical variations possible in this group (Appendix 1: 1544a, 1597a, 1677a). The written accounts often pay attention to the extent of shared structures, for example in this description (Appendix 1, 1514b) of tribrachius dipus: 'There is a considerable quantity of long, black hair on the heads. Between the heads arises the hand of the third arm, but it by no means exceeds the ears in length, neither is the whole thing visible.'10 Illustrations also provided this information (Appendix 1, 1517b).

In the thoraco/omphalopagus group, 11 were identifiable as thoracopagus, either from the description of fusion at the thorax (Appendix 1: 1543a, 1550b, 1552a, 1635) or from the presence of a shared heart (Appendix 1: 1544b, 1546c, 1572b, 1605, 1628, c. 1670-1, 1670a). Because they share relatively few body parts, thoraco/omphalopagus twins are most susceptible to analysis of their different appearances and behaviour. The earliest illustration (Appendix 1, 1511a) clearly shows same sex twins, both female. This was shown in the depiction of their hairdressing as well as their genitalia, the artist having advanced their age

10 'In capitibus crines aliquanto longiores, ac nigrantes. Inter utrumque caput ex collimito humerorum tertia porrigebatur manus, sed aures longitudine non excederet, nec integra visebatur omnia.' Caspar Schott, Physica Curiosa... (Wurtzburg, Jobus Hertz for Johann A. Endter & Wolff, 1662), vol. 1, p. 660, citing Ccelius Rhodiginus, Lectorum Antiquarum book 24, ch. 3.
and depicted them as children rather than newborn infants. Other descriptions (Appendix 1, 1614) recorded one twin being of 'indistinct sex.'

Only three cases were unequivocally omphalopagus type: one pair of male twins (Appendix 1, 1692b) underwent an autopsy and were found to share no organs except the liver. The second (Appendix 1, c. 1689) an extreme type known as xiphopagus and joined by 'skin' only were surgically separated, the only example of this procedure in the early modern period. A tight ligature was passed around the joining band, which was then cut (Fig. 18). The third pair (1685a) underwent an autopsy, which showed fused livers and a common duodenum and proximal jejunum: all other organs appeared normal. An interesting aspect of this case is that the viscera were illustrated in a bilaterally symmetrical 'mirror image' fashion. There is perhaps an indication here of the beginning of the long-held but largely erroneous belief that conjoined twins are mirror images, one with sinus inversus visœ mën. 

The cephalopagus group includes nine examples of what is now known as cephalothoracopagus janiceps (Appendix 1: 1536d, 1540b, 1555a, 1560, 1565a, 1569, 1578a, 1674b, 1680a; Fig. 19): the analogy with Janus was first made in the case from 1555. The autopsy of the 1540 case revealed separate livers, two spleens, and a single heart - an uncommon arrangement. Two of the cases had abdominal wall defects (Appendix 1: 1555a, 1578a). One other case of cephalopagus also had an autopsy (Appendix 1, 1664a).

The rarest types of conjoined twins were craniopagus and pygopagus: there were only three examples of the latter (Appendix 1, 1545b, 1613, 1675b), the latest of which had an autopsy. The case of 1613 may have been rachipagus, however the description is insufficient to be certain and pygopagus twins may have been incorrectly illustrated as rachipagus type. Two examples of craniopagus twinning are identified (Appendix 1: 1563 and 1682). One pair was dissected by René Ciret and given to Paré, but the findings were not recorded.

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11 The only successful example. Separation of twins joined at the forehead had been attempted in Worms in 1495 after the death one of them: '... the hurt she received in the separation from her dead sister was the only cause she died immediately,' see Edward Fenton, Certaine secret wonders of Nature... (London, H. Byrnneman, 1569), fol. 15u.
12 See H.H. Newmann, Twins and Super-twins: a study of twins, triplets, quadruplets and quintuplets (Chicago, University of Chicago Press, 1942), pp. 52-62.
14 Rachipagus twinning had been thought not to occur, but was recently demonstrated: Rowena Spencer, 'Rachipagus conjoined twins: they really do occur!' Teratology vol. 52 (1995), pp. 346-56.
Ischiopagus twins can show various arrangements of the lower limbs, one pair of which may be fused (tripus):

In England, not far from Oxford, we are informed that a certain birth occurred with two heads, four arms and hands, one belly and a single set of female genitals. From one side two feet came out sideways, and from the other side, a single, or more correctly a double foot, having ten digits. At the second hour of the fifteenth day first one then the other died. They had rarely cried. One had a cheerful demeanour, while the other was sleepy and sad. The twenty transverse digits were the same length and breadth precisely.16

There are three examples of this type (Appendix 1: 1552b, 1570a, 1572a).

In seven cases of conjoined twins the descriptions are ambiguous and it is not possible to be certain of the mode of union. In two cases it is not possible to reconstruct the anatomy of the twins from the illustration (Appendix 1: 1511b, 1576b). In others there are imprecise descriptions such as ‘joined laterally’ (Appendix 1, 1534). There is a tantalising account of conjoined triplets (Appendix 1, 1536b): ‘... an infant having three heads, three chests, six arms, and the same number of feet was born... this monster had three souls in its breast, as the three hearts suggested.17 Human tricephalus is extremely rare, and parasites account for some cases.18 Although such accounts should not be rejected solely on the grounds of rarity, it must at least be regarded as uncertain. Another unusual account describes an apparent rachipagus parasite attached to one of a pair of thoraco/omphalopagus twins:

Their bellies were grown and joined together, from their breasts to their Navells... And of the backe partes, from the shoulders of the supposed manchild, was a lumpe almoste as bigg as the head, was softe, and verily thought by the Middwife to be the Coddes and members, beings turned on the backe partes, wronge placed, and out of eyther side of the sayd Lumpe was a small legg and a foote, and the feet were turned backwards, but noe thighs to be seen, and had no fundament nor passage for water, but had a prettie face, and head, shoulders, body, breaste, Armes, handes and feete, but the daughter was a large Child, and had all the Proportion of a Child...19

16 ‘in Anglia non procul ab Oxonia informis quidam partus natus est, capitis duobus, brachij quatuor, manib. totidem, ventre vno, membro multiebri, sede vna. Ex vna parte pedes transuersi duo erant, ex altero vnum tantum, rite exporrectus, forma duorum pedum, digitos habens decem. Horum alter diebus quindecim, alter vero vno supernixit. Lachrymarunt hoc tempore raro. Alter ex his laetus ad modum, alter vero somniculosus & tritis exitit. Viginti digitos transuersos erat longitudo & latitudo ipsorum.’ Jacob Rueff, De conceptione et generatione hominis... (Zurich, Christopher Froschauer, 1554), p. 382.


The fact that most conjoined twins can be classified based on the descriptions and illustrations made by early modern authors shows that they recorded the twins’ structure with reasonable detail. The pathogenesis of conjoined twinning was explained in terms of fusion of two foetuses. ‘Mr A.P.’ wrote that that conjoined twins arose at ‘the time of the first Formation of the Foetus’ because the ‘navel-strings’ became joined. He thought that the ‘bigness’ of the afterbirth in a case of thoraco/omphalopagus twins (Appendix 1, 1680b) supported this hypothesis, and he tried to see if ‘there might be distinct, though joined umbilical Vessels,’ however ‘There was such a Crowd of People there, that I could not give myself that Satisfaction I desired’. Cephalothoracopagus twins (Appendix 1, 1555a) were thought to be ‘so huge above order’ that it was suggested that there was a quantity of ‘matter’ sufficient to form two children, which might have happened had the substance not been mingled, ‘so that which should have served for two made but one creature.’

Parasitic twins

It has been suggested that parasitic twins arise from the demise of one of a pair of conjoined twins: they are usually located at one of the normal sites of union.20 Spencer therefore classifies them in the same way as conjoined twins and I have followed this scheme. Early modern writers did not draw a distinction between parasitic and other conjoined twins. According to Spencer the heart and neural tube are the structures least likely to be present in parasites; but she notes that sensory and/or motor innervation is well documented even in some parasites joined ventrally. Observations of this type were made in the early modern period and some accounts considered the possibility of a shared nervous system between parasite and autosite; a possibility that has received little attention in anatomical studies.

Thoracopagus parasites are the commonest form in the early modern literature, the parasite usually being complete except for the head (Appendix 1: 1513, 1514a, 1529a, 1530b, 1566c, 1571, 1617a, 1678). Some degree of limb deformity – perhaps contractures due to spastic paraparesis – is common and this is presumably what was described as: ‘hands like feet that had been shaped into hands.’ All of the cases were male and they seem to have made a living by exhibiting themselves. Some were widely travelled: one man was seen in seen in Valence, Paris, and Montlehery and according to Boaistuau he later appeared ‘whole’ and was asked what had become of the monster.21

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21 Pierre Boaistuau, Histoires prodigieuses... (Paris, pour Vincent Sentenas, 1560), fol. 83r.

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The case seen by Du Plessis resembled the Colloredo brothers in its mode of union:

This man was a Tall and well Shaped man, att his Navel came out of his Body a head and neck Down to the Breast, the face Perfectly well Shaped with Eyes nose mouth chin forehead and Ears, all well Shaped and a Live but Could not Speak Eat nor Drink nor open its Eyes though he had two Eyes and Showed no Sign of Life it had a good Colour and two Long locks of Hair on its head, of a Black Colour, and a Downy Beard it had Teeth wee Could not see if it had a Young for it did not Speak... He was Born about the year 1678, near Ratisbonn in Germany and was seen by me James Paris in London in the Year 1698, in the Mounth of December.22

An extreme form of omphalopagus parasitic twinning in which a parasitic head is present on the ventral abdomen is represented by three cases (Appendix 1, 1516a, 1677b, 1686a). This type of parasitism is rare and there have been few cases in the modern literature.23

Craniopagus conjoined twins are represented by a single example (Appendix 1, 1620b). Bondeson and Allen24 first drew attention to this Hungarian case of 1620 in their discussion of a later case of craniopagus parasiticus, although the description is not sufficient to make a definitive diagnosis. A Bavarian case of 1538, a woman who lived into adulthood, was probably a cephalopagus parasite rather than a dicephalic (Appendix 1, 1538b). 'A well-formed child with an extra head like the head of a cat' (Appendix 1, c.1681) probably also belongs in this group. A broadside of 1645 (see Appendix 1) also describes parasitic twinning but the mode of union is unclear.

Fetus amorphus
The scope for malformation is considerably increased if a foetus can parasitise a normally functioning co-twin via anastomosis of their chorionic circulations (the parasite is termed chorangiopagus parasiticus or fetus amorphus). No two examples of fetus amorphus are identical and a complex morphological classification has been developed.25 Fetus amorphus is

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22 Du Plessis, A Short History of Human Prodigies & Monstrous Births... (1730), pp. 31-2.
23 A baby boy with a cystic umbilical swelling with facial features may be a forme fruste of this condition: S.K. Biswas et al., 'An unusual case of heteropagus twinning' Journal of Pediatric Surgery vol. 27 (1992), pp. 96-7.
24 J. Bondeson and E. Allen, 'Craniopagus parasiticus. Everard Home's two-headed boy of Bengal and some other cases' Surgical Neurology vol. 31 (1989), pp. 426-34.
shown in an anonymous pamphlet of 1551 and a ballad of 1564. The next clearly recorded cases are not until 1690. Fetus amorphus is also a possible explanation for some sooterkin reports (the sooterkin always accompanied a normal pregnancy).

**Craniofacial malformations**

Some characteristic malformations such as cyclopia are readily identified (Appendix 1: 1557a, 1624). Others, such as cleft lip and palate can be inferred from a variety of descriptions (Appendix 1, 1608c). I suggest that children said to have the head of a cat (Appendix 1, 1638) may be interpreted as having cleft lip. A child with ‘awrie mouth’ and ‘a cloven or double tongue’ (Appendix 1, 1553a) may represent an association between cleft lip and palate and bifid tongue. Double tongue alone is also described (Appendix 1, 1659): duplication of the tongue is a relatively common malformation, showing great variability. Despite its relatively high frequency among birth defects in modern times descriptions of cleft palate/facial cleft are few – not until 1668 (Appendix 1, 1668c) was there a clear description. Nor is the lack of reports attributable to the comparatively minor nature of the defect: contemporary accounts indicate that these disfiguring abnormalities had fatal consequences due to impaired feeding (Appendix 1, 1671) and were seen as serious malformations (‘God be thanked, death supervened’). Some descriptions suggest severe facial clefting (Appendix 1, 1557a).

Holoprosencephaly results in a spectrum of failures of facial development the most extreme of which is cyclopia. Descriptions compatible with holoprosencephalic facies include ‘an infant very clearly of the female sex... entirely lacking ears, eyes and nose, having only a mouth in the face’ (Appendix 1, 1503). A similar case in which '[t]he eyes and nose were utterly absent’ occurred eleven years later (Appendix 1, 1514d). The complex of malformations in a third case which had the navel ‘where the nose should stand,’ eyes ‘where should stand the mouth: betweene the which was a certaine opening: hys eares stode on either side the chinne, and his mouthe at the ende of the same’ suggests cyclopia with additional malformations, possibly otocephaly (Appendix 1, 1568a). Cyclopia with encephalocele is also reported.

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30 see Wigglesworth and Singer, *op. cit.*, p. 763.
Encephalocœles occur both alone (Appendix 1, 1530a, 1578c) and in malformation complexes (see below).

Anencephalics are variously described as having the head of a frog, or another animal such as a cow or ape (Appendix 1: 1517a, 1522, 1525, 1544c, 1578d, 1591, 1617b, 1646, 1665, 1666a, c. 1667-1 and 2, c. 1673, c 1677, c. 1690c, c. 1691, 1694, c. 1697a,b & c, 1698, 1700). Another possible case of anencephaly is a child with ‘a rough hairy head like an animal (Appendix 1, 1556b). The first autopsy of an anencephalic, which included a detailed anatomical description and engravings of the head and skull, was published in 1671. The longest-lived of these anencephalics survived only four or five days (Appendix 1, c. 1697c). Anencephalics were sometimes described as ‘without a head’ (e.g., Appendix 1, 1579c) though other malformations might also have been meant by this. The traditional acephalic monster is described by Liceti (Appendix 1, 1562b):

Ambroise Pare acknowledges that in the town of Franca in Vasconia there was a girl without a head, having ears behind her shoulder-blades, a nose between them on her spine resembling a little proboscis, eyes in her shoulders, looking backwards, a strange, high, tongue where the throat ought to have been, a portrait of which monster by Fontano Agenesi, physician, who himself will dogmatically claim to have seen it...  

Schenck described the same case from an illustration:

around the neck region was a subcutaneous swelling. At the rear of the body was a single rudimentary stalk like a nipple, coming out from the spiral line [it is unclear what structure is meant here], and depending from the middle of the rostral end was something not unlike a copy of an elephant’s curved proboscis... the head was entirely absent.

Anencephaly may be combined with cyclopia, but iniencephaly is another possibility. Iniencephalics are however well described elsewhere (Appendix 1: 1640b, 1674a) and the true basis of the traditional ‘cynocephali,’ depicted with a proboscis, eyes in the chest, and ears on the shoulders, (Appendix 1, 1565c) is uncertain.

34 ‘auersa corporis parte singulis scapulis rudimenta quaedam papillarum, ex spirali linea ductarum, apparent, ex quarum demissione regione media rostellum incuruum elephantis proboscidi hau absimile exprimitur... capite in vummersum careat’ Johann Georg. Schenck, Observationum medicam rariorum... (Leyden, Ioanuís-Antonii Hugueran, 1644), p. 7.
Multiple congenital malformations
Complex congenital malformations offer the most scope for retrospective interpretation. The monster of Ravenna has already been discussed at length (Appendix 1, 1512a) and the reader is referred to the sources in Chapter 1 for a discussion of possible diagnoses.

A male child born at Much Horkesley near Colchester (Appendix 1, 1562c) with limb defects, an absent penis and ‘absent’ (short?) tongue has been interpreted by Anderson as the earliest description of Hanhart complex (MIM 103300). This is one possibility, but intra-uterine amputations due to amniotic bands should also be considered, particularly as there is no evidence of micrognathia. The original report attempts to exclude a hereditary condition (limb reduction defects of this type may be autosomal recessive) by pointing out that this was the first child conceived between these parents, though both had other normal children.

In 1672 François Bouchard reported the autopsy of a male infant discovered on public exhibition at Leipzig. The findings of tetraphocomelia more severe in the upper limbs with reduction in the number and length of digits, hydrocephalus, bilateral cleft lip, micrognathia and cryptorchidism are consistent with a diagnosis of Roberts syndrome. Bouchard did not find internal abnormalities other than hydrocephalus, which he attempted to demonstrate by showing decreased specific gravity of the brain. Death was due to umbilical vein haemorrhage following birth trauma. Bouchard, Professor of Medicine at the University of Besançon in France, sent the account of his findings in a letter to Miscellanea Curiosa. His description enables a probable diagnosis of Roberts syndrome to be made, and appears to represent the earliest accurate documentation of this syndrome. The case is also of interest for the information it provides on the methods used to study congenital malformations at autopsy in the seventeenth century.

A monstrous child exposed in a public street at Leiden on 5 March 1671
A monster is anything that appears outside the normal course and order of nature, such as a child with two heads, or which has three or more arms or other superfluous members, mutilated or maimed.

37 Anon., The true reporte of the forme and shape of a monstrous Childe borne at Muche Horkesley, a village three myles from Colchester, in the Countye of Essex, the xxi daye of Aprill in this yeare (London, Thomas Marshe, 1562), reprinted in Philobiblon Society (ed). Ancient Ballads & Broadsides published in England in the sixteenth century, chiefly in the earlier years of the reign of Queen Elizabeth (London, Whittingham & Wilkins, 1867), pp. 38-42.
A prodigy is that which goes totally against nature, such as if a woman gives birth to a
beast, whether four-footed, aquatic, flying, reptilian, or of some other kind. These can be
seen in Historia de Monstris of Ulyssis Aldrovandi and in Ambroise Pare's book 25, de
Monstris.

Among the causes of monsters authors place the Glory of God, in which group are those
born blind, and His anger; because men and women do not live according to the laws of
God and of nature laid down for them. This often happens in these times, just as the
prophet Esdras says.

The remaining causes of monsters are many, from defects of material to the force of the
imagination on the formative faculty.

The present monster has an unusually large head, the hair of the head being as long as
that of a child of ten or twelve months. Unnaturally, the brain floated in serum without
water, this was owing to hydrocephalus or water-tumour. The two superolateral parts of
the cranium were unnaturally prominent, because of contact with the floating brain.

The quantity of water in the head had also separated the cranial bones from one another.

His ears were both ugly and defective in their composition, shape, and site, like a single
mass (as the figures show), without any cartilage, but with two small foramina, and very
much compressed, as is the face.

The upper lip is fissured on both sides, and its bone made of two parts, like that of a
rabbit; skin and flesh surround the middle part. This same upper lip has one incisor tooth
on the left side, still covered by a small piece of skin.

His nipples were somewhat low-set, but otherwise normal.

His hands resemble those of an ape, without thumbs, and only two of the fingers of the
right hand have their nails. The third has neither bones nor joints, but there was a
proximal phalanx at its base.

The left hand also lacks a thumb, and has only two digits with nails; the third is mutilated,
and the first and last bones are lacking.

His hands are linked to the humerus or arm-bone by simple ligaments, both lacking the
bones that make up the first part or forearm.

He has a good back as far down as the coccyx.

The anterior part of his lower belly is reasonably natural; from the umbilicus to the penis
is a space the breadth of three fingers, and the same from there to the extremity.

From the posterior parts around the coccyx has grown out an extra piece of flesh which
appears very pliant, and from there to its end it resembles more nearly the tail of a duck
or a goose: it bears neither femora or tibiae.

His feet arise directly from the os coccyx, are attached there by simple ligaments, and
resemble the feet of a duck.
The ductus from the mouth to the chest is fair and open, as is the other canal that leads from the mouth to the stomach. The way from the stomach to the extremity is completely open, and is healthy and free everywhere.

The ureters or canals that carry urine from the kidneys to the bladder are both patent and free, as is the canal from the bladder to the tip of the penis.

The whole abdomen was swimming in blood from a ruptured umbilical vein, which probably happened during the mother’s difficult labour and delivery, which happened against nature, in that the feet came out first, and, on account of the violence in dragging him out (because the head was so large egress was not possible) the vein ruptured.

Otherwise the remaining parts were nobly formed and healthy, and if he had been able to come forth into the light uninjured he would have been undoubtedly capable of begetting offspring as well-formed as he was, to the small extremities and other defective parts, since I see the maimed and crippled all conceive freely because of their complete parts.

The monster here could never have carried itself upright, nor have sat down, and furthermore his hands were too little for him to have learned a trade, as these observations make clear.\(^{39}\)

An engraving of the case appears to show micrognathia and cryptorchidism (Fig. 20). The principal findings may therefore be summarised as hydrocephalus, bilateral cleft lip, malformed ears, tetraphocomelia with absence of the forearm bones and all long bones of the legs, and oligodactyly with absent thumbs. Minor findings include low-set nipples and possible hypertrichosis. The features described suggest a diagnosis of Roberts syndrome, of which Hydrocephalus is an uncommon but recognised association.\(^{40}\) Cystic hygroma in the neck is also documented\(^{41}\) but it is arguable whether the illustration of Bouchard’s case in fact shows this feature. Growth retardation cannot be assessed as neither the measurements nor the gestational age are known, but the dramatic limb shortening and craniofacial abnormalities place this case at the severe end of the Roberts spectrum. Inheritance is usually autosomal recessive, though sporadic cases are frequent.\(^{42}\) The differential diagnosis includes Cornelia de Lange syndrome, which in a minority of cases shows phocomelia. The facial features — downturned angles of the mouth, depressed nasal bridge, micrognathia, and possibly

\(^{39}\) The original text is given in appendix 3.


synophrys — resemble those of this syndrome, as does the apparent hypertrichosis and low posterior hair line. Hydrocephalus is not a feature of de Lange syndrome, and, though occasional cases with lower limb defects have been recorded, limb defects of the severity of the present case are not seen.

The autopsy findings indicate that the child would have died shortly after delivery. It was therefore exhibited dead in the public street. Bouchard probably purchased the body from the parents in order to perform the autopsy. The autopsy report emphasizes the patency of the oesophagus, trachea, and gastrointestinal tract, suggesting a knowledge of the association between atresia and other abnormalities of these structures and skeletal defects. The test for hydrocephalus described by Bouchard has not, to my knowledge, been described earlier than 1673, though Bouchard does not treat it as innovative. It depends upon the observation that the specific gravity of the hydrocephalic brain is less than that of the normal, owing to its greater water content. The brain therefore floated in serum. The brain may have been obviously hydrocephalic, in which case Bouchard would have mentioned its low specific gravity for completeness, but it may be that removal of the intact brain was not possible, and that the observation was intended to confirm hydrocephalus in a brain that could not be reliably assessed morphologically. Though the finding is unlikely to have been particularly reliable, it is of interest as it anticipates modern work on the increased water content of the hydrocephalic brain.

Roberts syndrome is characterized by a human mitotic mutation that results in a wide spectrum of secondary developmental defects, therefore the phenotype is highly variable. Roberts and SC phocomelia syndrome are generally regarded as nosologically identical, though the absence of cleft palate in the SC syndrome may be a difference. The eponymous

45 H.W. Bothe et al., 'Relationship between specific gravity, water content, and serum protein extravasation in various types of vasogenic brain edema' *Acta Neuropathologica (Berlin)* vol. 64 (1984), pp. 37-42.
46 Hydrocephalic dog brain has a specific gravity of around 1.035, compared with a normal value of 1.043: see H. Hiratsuka et al., 'Evaluation of periventricular hypodensity in experimental hydrocephalus by metrizamide CT ventriculography' *Journal of Neurosurgery* vol. 56 (1982), pp. 235-40.
48 Van Den Berg and Francke, op. cit.
description of Roberts’s syndrome was made in 1919 but more recently further cases have been identified from the literature before that date. Mayer’s case of 1829 was recognized as Roberts’s syndrome by Van Den Berg and Francke, who in an extensive review of the literature identified five other cases of the syndrome prior to 1919. Geoffroy Saint Hillaire’s description of ‘seal limb’ syndrome in 1838 (‘hands or feet of unusual size and commonly even completely normal, which, supported by excessively short limbs usually emerge directly from the shoulders or hips’) also seems to anticipate Roberts. A fetus described by Virchow in 1898 has recently been interpreted as Roberts’s syndrome after re-examination of the specimen and another case has been identified amongst the specimens in the teratological collection of the Museum Vrolik in Amsterdam. A retrospective diagnosis of Roberts’s syndrome has also been proposed in a case reported in Germany in 1737.

Amongst the older literature, the case of the child born to Annis Figge at Chichester in Sussex in 1580 merits consideration of the diagnosis of Roberts syndrome, particularly as the brief description mentions absent long bones in the leg:

In February the first day, at Chichester in the County of Sussex was borne in the suburbs a monstrous child of little shape of body, trussed together, the head very great, bigger than the body, the body in compass 9 inches, the arm an inch long, and two inches about the face, of indifferent favour, on the cheek and chin the likeness of a black beard, the legs wanted thighs, the toes crooked.

But from this short account and relatively simple illustration (Fig. 21) it is not possible to render a firm diagnosis. It is likely that Bouchard’s case is the earliest in which the features of Roberts’s syndrome are well described.

A child with multiple malformations including cleft lip and spina bifida (Appendix 1, 1568b) has been interpreted by Anderson as showing arthrogryposis multiplex congenita or Larsen

50 J.B. Roberts, 'A child with double cleft lip and palate, protrusion of the intermaxillary portion of the upper jaw and imperfect development of the bones of the four extremities' Annals of Surgery vol. 70 (1919), pp. 252-3.
51 Van Den Berg and Francke, op. cit.
52 Grundy et al., op. cit.
56 Batman, op. cit., p. 415.
I think that the description of ‘stumps on the hands’ suggests syndactyly and that this, coupled with the apparent microcephaly shown in the figure, are compatible with trisomy 13 (Fig. 22), though it is not possible to reach a definitive diagnosis. Despite their relative frequency, trisomies do not appear to have been described until the nineteenth century.

Three cases with multiple congenital malformations may be examples of Meckel-Gruber syndrome. The first is a child born in Piedmont (Appendix 1, 1578b), which:

the face being well-proportioned in all its parts... was found to be monstrous on the rest of the head, in that five horns approximating to those of a ram came out of it, the horns being arranged one against the other on the top of the forehead and at the rear a long piece of flesh hanging along the back, like a maiden’s hood. It had around its neck a flap of double-layered flesh like a shirt collar all of one piece, the extremities of the fingers resembling the talons of some bird of prey, its knees like hams.

and another born the following year (Appendix 1, 1579e): ‘with a single head, from the occiput of which a large piece of flesh hung down: in the mouth 2 tongues...’ In both cases a possible diagnosis is Meckel-Gruber syndrome, combining occipital encephalocele with malformations of the hands and lower limbs in the first case and lobulated tongue in the second. In neither however are the details sufficient to make a definitive diagnosis. Perhaps the best candidate for this syndrome (Appendix 1, c. 1690b) had a posterior encephalocele, a large abdominal wall defect with the liver, stomach and intestines exteriorised, right-sided cleft lip, and mutilated digits.

Another horrible accident in pregnancy happened at Arnstadt... a girl gave birth to a stillborn child. Except for the calvarium and forehead, the membranes of the brain formed a high, red crest, with a fleshy sac hanging down from the occiput, prominent eyes, a rounded left ear and hare lip. The palate and also the nose were disfigured on the right side... From a round hole in the breast the heart hung out exposed and divided into two parts, a shapeless liver and a huge stomach lay underneath, the intestines were displaced above the fissure in the left hypogastrium, the fingers were partly mutilated, and bent back towards the nails. This monster was quickly taken away and buried; I myself had the opportunity to look carefully all over it, the internal parts as well as the external.

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60 Pare, op. cit., pp. 10-11.
61 Liceti, op. cit., p. 91.
62 This underwent an autopsy: see Jacob Augustin Hinnenwolff, *De foemellis duabus monstrosis* *Miscellanea Curiosa* 2nd series, vol. 9 (1690), pp. 170-1.
63 ‘Alius horribilis casus in praegnante contigit Arnstadi... pendulos intentis oculis contemplans, peperit mortuum, absq; calvaria & fronte, membranis cerebri cristae instar erectis rubentibus, cum sacco de occipite pendente carnoso, oculis prominentibus, aure sinistra orbiculari, labio leporino, palatum etiam & narem
A well-documented case of a child of uncertain sex born in Herefordshire (Appendix 1, 1600) died at three days of age. Turnpenny and Hole\textsuperscript{64} who made a diagnosis of Bartsocas-Papas syndrome have extensively discussed the original case.

**Urogenital malformations**

Hermaphroditism was used for sexual indifference due to immaturity and also for other malformations: exstrophic bladder in a male infant was interpreted as the presence of external genitalia of both kinds (Appendix 1, 1519):

... an hermaphrodite or androgene was born, above the umbilicus well-favoured, but around the umbilicus was a mass of reddish flesh, beneath which was the female member, and beneath that, in an appropriate place, the male\textsuperscript{65}

Schmidt\textsuperscript{66} described a child with encephalocæle and exstrophic bladder.


\textsuperscript{65} 'Tiguri Hermaphroditus vel androynos natus est, supra vmbilicum egregie formatus, sed circa vmbilicum rubeam carnis massam habens, sub qua membrum muliebre, & infra hoc, loco convenienti, virile quoque.' Rueff, *op. cit.*, vol 1, p. 382

\textsuperscript{66} Johann Schmidt, 'De monstro foeminini sexus' *Miscellanea Curiosa* vol. 3 (1672), 27-9.
CONCLUSION

Others have dream'd, that the first Man has taken his Origin from Mud, putrified by the Corruption of certain Monkeys, Swine, and Frogs; and thence (they say) proceeds the great Resemblance there is betwixt our Flesh and Propensions, and those of those Creatures.¹

So, according to his detractors, wrote Lucilio Vanini. It was Vanini’s pantheistic (as we would now call them) views that Nature and its laws were the same as Divine Providence and that Man was nothing more than a part of Nature that led ultimately to his execution for atheism. He had shared with Liceti a great admiration for the works of Aristotle – who he called ‘the God of Philosophers’² – and had ‘studied much’³ the work of Jerome Cardan, including his controversial horoscope of Christ.⁴ Cardan, like many physicians, was well-versed in astrology and he used horoscopes as a prognostic tool in his medical practice. At times this was not without risk; his casting the horoscope of Edward VI (and apparently correctly predicting his death) was potentially treasonable as it was a form of spying. Horoscopes were also difficult to reconcile with the doctrine of free will and this made astrology a particular problem for Catholic theologians. Any suggestion that the life of Christ might have been subject to astrological influence was perilous at a time when there was no practical distinction between pantheism and atheism, and Cardan was perhaps fortunate to escape a more drastic punishment than imprisonment from which patronage gained him early release.

For early modern observers monstrous births were evidence par excellence for divine providence. If monstrous births were not evidence of divine intervention, then nothing was. By classifying them under ‘natural’ causes, which included astrological influences, Vanini was attempting to remove an established defence of divine intervention in the natural world. Presumably it was co-incidental that his classification was published in the same year as Liceti’s De Monstrorum, but it is interesting to compare them. Both were influenced by Aristotle, but whereas Liceti avoided the controversy over divine intervention by setting aside from his discussion the rôle of God as ‘the sole, efficient Cause’⁵ and confining his attention to ‘lower’ levels of causation (see Chapter 3, p. 66),

¹ Giulio Cesare Vanini (ed. Pierre Bayle), The life of L... Vanini...With an abstract of his writings...with a Confutation of the same, and Mr. Bayle’s arguments in behalf of Vaininus...answered (London, W. Meadows, 1730), p. 64.
² ibid., p. 10. Vanini referred to Cardan’s horoscope of Christ, as ‘impious’ (ibid., p. 45).
³ ibid., p. 10.
⁴ see ch. 5, p 112.
⁵ Fortunio Liceti, De Monstrorum... (Padua, Paul Frambott, 1634), pp. 51-2.
Vanini courted controversy by dispensing altogether with God or divine providence as a cause of monstrous births.\textsuperscript{6} Monstrous births were, according to Thomas Bedford, 'the subject matter on which [God] stampeth the marks of his providence, either in hindering or in altering the ordinary course of nature...\textsuperscript{7}', an argument which lost its force if they could be explained in terms of the laws of nature. Vanini's thesis was that Nature was a mechanism that, once set in motion, ran itself without the need for divine intervention, the opposite of the view expressed in the astrological aphorism \textit{regit astra Deus}: 'God overruleth the stars.\textsuperscript{8}'

The accepted view of monstrous births in the sixteenth century was as unnatural events, unusual happenings outside the normal course or law of nature, produced by direct intervention of the Creator in the natural world. This is not to say that monstrous births were seen as being God-given in a way that 'normal' births or other events were not, but that because their rarity drew attention to them they were the most obvious evidence of God's ongoing creative activity in the world. Monstrous births were public occurrences, calls to 'the forgetful world' that in its over-familiarity sometimes took divine providence for granted – they were signs of God seeking the sinner, wisdom crying in the streets. Each one showed God's handiwork so clearly that it was, in a small way, an emblem of the Incarnation. Like the man born blind (and like the Incarnation), monsters were created so that men might see and believe. God Himself was the truth under the veil of a monstrous birth. To see a monster was to witness the power of God: 'These straunge and monstrous thinges, almighty GOD sendeth amongst us, that we should not be forgetful of his almighty power...\textsuperscript{9}'

The attention given to monstrous births, the 'obsession' with monsters that occurred in early modern Europe can be seen as a sustained attempt to use unnatural events to examine and to justify religious beliefs. Protestants – the authors of many broadsides and wonder books – interpreted monstrous births as signs. Protestant theology required that they be clear and unambiguous: there was no room for subtle symbolism or 'allegorical fancies' of the sort popular with Catholics and other 'abusers of the Scriptures.' In

\textsuperscript{6} See Lynn Thorndike, \textit{A History of Magic and Experimental Science} (New York, Columbia University Press, 1941), vol. 6, p. 571.

\textsuperscript{7} Th[omas] B[edford], \textit{A true and certain relation of a strange birth...} (London, Anne Griffin, 1635).

\textsuperscript{8} \textit{Ibid.}

Protestant societies, 'curiosity' and 'illicit' knowledge were more often seen as vices rather than virtues. Certain subjects – notably divination, magic and witchcraft – were always suspect, and to be legitimate areas of interest monsters had to have an obvious, a 'true,' meaning, however contrived. That meaning could be 'hidden': but it was an agreeable surprise rather than a conundrum: 'which nature had kept unknowne from us (as it should seeme of set purpose)...

The counterreformation strove to establish a 'licit' tradition of ancient, hidden knowledge supposedly handed down since the time of Adam, a counterpart of the body of unscriptural theological tradition that was essential to the Catholic Church's teaching. Hidden or occult knowledge was an important tool of the counterreformation, which 'used anatomy as a kind of subtle instrument for the rediscovery of God' part of 'an edifying and devout mission' to explore the greatest of the works of God, whose 'bold bizarreness of invention' the human body was. Anatomical discoveries were emblems of divine plenitude, as testified in Jan Swammerdam's well known dedication of his study of the anatomy of the louse: 'I present to you herewith the Almighty Finger of God in the anatomy of a louse; in which you will find wonder piled upon wonder and God's Wisdom clearly exposed in one minute particle.' The human body too was a microcosm of the universe: 'wee carry with us the wonders we seeke without us: There is all Africa and her prodigies in us' as Thomas Browne observed.

The rôle of anatomy as a tool for theological study is most persuasively argued by Camporesi, who sees anatomy in the sixteenth and seventeenth centuries as: 'a theological and anthropological science... [i]t was an essential discipline for knowing man as the Son of God, and the divine image in humanity, and was used by Catholic intellectuals and the Church to underscore the most extraordinary miracle ever performed by divine power: the creation of man.' The atheist, it was felt, would be converted by the miracle of creation that anatomy could reveal (astronomy flourished for the same reason): 'When each is in his

11 Edward Fenton, Certaine secrete wonders of Nature, containing a description of sundry strange things, serving monstrous ... Gathered out of divers learned authors as well Greeke as Latine, etc. (London, H. Bynneman, 1569), sig. A2u.
12 See Chap. 3, p. 65.
14 Giovanni Campoli, Del Corpo Humano (1676) quoted in Camporesi, op. cit., p. 94.
15 Thomas Browne, Religio Medici part 1, section 15.
appointed position,' wrote T. Gazzoni in his *Piazza* (1662) [^17] 'let the anatomical operation commence in the name of the Lord.' The anatomy of a monstrous birth, the exposure of each organ, muscle and vessel, the laying bare of secrets, the probing of that which lay concealed, was an emblem of the action of the creator, metaphorically laying bare the heart of the sinner, on his creation. Anatomy was a work of discovery, creative rather than destructive, and Christ himself could be compared to the anatomist: 'O sinner, here is Christ, he has become your anatomist...' [^18] As both priest and victim, it is only to be expected that Christ's image was also found in the anatomised body. A crucifixion scene from Berengario de Carpi's commentary on the anatomy of Mondino (1521) depicted a flayed and crucified anatomy, an écorché Christ, with every muscle displayed for our inspection. [^19]

Monstrous births, which showed bizarreness and unnaturalness of form and yet – most especially in the case of conjoined twins – internal order and symmetry, were more than just evidence of the involvement of the Great Architect in fashioning the human form. The most important part of the world, according to Aristotle, is not the centre but the periphery [^20] – it is the edge that shows us what the middle is like. Monstrous births occupied this periphery, where they defined the morphological limits of humanity. [^21] But they were not, as they have now become, subjects at the periphery of knowledge, nor were they 'marginalized' in society. Costly and sought after, monstrous births were not only evidence of the power of their creator but emblems representing key topics of theological importance: sin, heresy, charity, the Incarnation. Although they occupied and defined the boundaries of humanity, from bestiality below to demons above, the monstrous birth was very much human, a descendent of the first man created. [^22]

No phenomenon subjected to the attentions of so many observers could retain its attributes of mystery and wonder. Stow considered monstrous births to be of such

[^17]: ibid., p. 132.
[^18]: ibid., p. 117.
[^20]: Aristotle *De Caelo* 2 293a.
[^22]: Zakiya Hanafi, *The Monster in the Machine: magic, medicine and the marvelous in the time of the scientific revolution* (Durham, Duke University Press, 2000), p. 2, puts forward the contrary view that monsters were seen as 'not human.'
importance that he recorded them alongside wars, coronations and executions in the annals of Britain. By the end of the seventeenth century there were probably not more monstrous births, but accounts of them were more accessible. They were the commonplaces of the medical literature, the stock-in-trade of showmen. The reader who finds that the catalogue of monstrous births becomes tedious with constant repetition of types (see Appendix 1) may perhaps share something of the loss of wonder experienced by readers of Liceti or Schott, or of the journals of learned societies. Monsters classified, recorded and preserved in collections seemed to lose their strangeness, their unnatural status, that apparent originality on the part of their Creator that first supplied the reason to study them. Collections of monsters could no longer pile wonder upon wonder: only so many malformations were possible, and patterns began to emerge. By the seventeenth century there were enough natural explanations of monstrous births for classifications to be formed that consisted entirely of natural causes. Although Liceti did not follow this approach, his reintroduction of the classical concept of monsters as slips of nature was just as inimical to their use as signs of divine intervention or emblems of divine plenitude. The place of monstrous births in a creation 'good, common, regular and orderly' had been overturned by the possibility that Nature could make a mistake.

The idea that nature could fail to achieve its ends was a troubling one. Reproduction was especially vulnerable to failure, and there was speculation that, without any unnatural intervention, the human semen and perhaps even the human foetus had the potential to degenerate. Humanity contained, literally, the seeds of its own destruction. Compared to this, monstrous births as a sign of the anger of God had been comforting. For Vanini's persecutors, if not for Vanini himself, a God who did not intervene in the affairs of the world was not very different from no God at all: 'If mankind had to choose between a universe that ignored him and one that noticed him to do him harm,' wrote E.M.W. Tillyard, 'it might well choose the second.'

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APPENDIX 1 — HUMAN BIRTH DEFECTS 1500-1700

1503 'In Hessen [Germany] an infant very clearly of the female sex was born, entirely lacking ears, eyes and nose, having only a mouth in the face...'

1511a Female twins born near Strasbourg, France, joined from the xiphisternum downwards. A single umbilicus was noted. Thoraco/omphalopagus.

1511b Conjoined twins having two faces (side by side), three arms and four legs. The location of the third arm, originating from the left side of the thorax, suggests that the woodcut – in which the twins are depicted alive and in a landscape (Fig. 8) – was derived from the text.

1512a The Ravenna monster. 'At Ravenna a monster was born which had a horn on the head, two wings, no arms, one foot like a bird of prey, an eye in the knee, ambiguous sex, in the middle of its chest epsilon and a cross portrayed.'

1512b Female conjoined twins, drawn by Dürer, also shown in an anonymous drawing with the heraldic arms of their families. Parapagus tetrabrachius dipus.

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1 'in Hassia infans quidam foeminei sexus bene distinctis mebris natus est, nisi quod auribus, oculis & naribus in vniuersum careret, & in facie solum os haberet' Jacob Rueff, De Conceptu et Generatione Hominis, et iis que circa hanc potissimum consideranatem. In: OynaecknisiwedeAMierim.Afkübvs... (Basle, Conradvm Waldkirch, 1586), p. 382.

2 Also described by Fortunio Liceti, Demonstris. Ex reoensione Gerardi BlasU... (Amsterdam, Andre Fris, 1665), p. 55 and illustrated on p. 57.

3 See Hollander, op. cit., p. 77: the primary source is unclear.


1513 A 13-year-old boy, seen in Florence: ‘He had another creature coming out of his body, who had his head inside the boy’s body, with his legs and his genitals and part of his body hanging outside.’ Thoracopagus parasite.

1514a A male child born at Colmar, Alsatia: ‘... from its chest arose a complete human body, of the same sex with all its members complete, hanging down to the knees, only the head fixed into the body...’ Thoracopagus parasite.


1514c A girl born in Bologna, January, having two ‘orifices’ in the face and four eyes: ‘Cardinal de Grassis then Bishop of Bononia made atonement to heaven, and called her Mary, and she lived for four days.’ Diprosopus twins.

1514d A female child born on 10th May 1514 at Bologna. ‘The eyes and nose were utterly absent, relates Cornelius Gemma [1535-1577] in his Cosmocrit. delata fuit puella ignoti cuiusdam civis Bononiensis, ad D. Petri templum, ut baptismi sacramento renasceretur...’ Schott, op. cit., vol. 1, p. 675. after Aldrovandi.

1516a ‘In Germany was seen a proper man, who had another head protruding from the umbilicus and which, in the fashion of this world, actually took food. Jacob Rueff and Ambrose Paré relate this.’

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7 ‘ex cujus pectore alius integri hominis, ejusdemque sexus corpus omnibus membris absolutum ad genua usque propendebat, solo capite in alio corpore infixo...’ Liceti, op. cit., p. 81.
9 ‘quam Cardinalis de Grassis tunc Bononiae Episcopus coelesti lavacro expiavit, & Mariam appellavit; sed vitam ad quartum tantum diem protraxit...’ Schott, op. cit., vol. 1, p. 675, after Aldrovandi.
10 Anvers, 1575.
12 Jacob Rueff, De conceptu et generatione hominis... (Zurich, Christopher Froschauer, 1554), p. 44.
13 op. cit., p. 21.
14 ‘In Germania visus est justae vir aetatis, cui alius caput ex umbilico exertum prominebat; quod in morem superioris etiam cibum assumebat: Hujus meminerunt itidem Jacobus Rueffus & Ambrosius Pareus.’ Conrad
1516b Born at Tettnang, Germany, 8th April, a child with an omphalopagus type parasitic twin that consisted of one well-formed lower limb. The child died after 9 days.  

1517a A female infant born at Bois-le-Roi, France, having the face of a frog.  

1517b Conjoined twins born at Landshut au der Donau, Bavaria. The conjoined arm and part of the forearms were fused and pointed upwards. There was a single umbilicus. The external genitalia are not clearly shown. They look realistically drawn and are recognisably dead. They were described by a Dr Wilhelm Rosenzweydt. Parapagus tribrachius dipus.  

1519 A male infant born at Zurich. Exstrophic bladder.  

1522 Anencephalic born at Villefranche, France.  

1523 A monster born at Lüneburg near Hamburg: 'it had a human face, a long stretched out nose, the crown of the head was smooth and hairless like a monastic tonsure, with a circlet or crown as of a monarch, and the neck of a crane. It had normal human arms, legs, feet and breasts, a round, swollen belly; the arms were furnished with wings, and the legs were feathered...'
1525 'Another at Wittenberg without a head.'

1528 'Later a girl appeared elsewhere, who was entirely deprived of arms, the rest of the body very well-formed. Her feet, by means of which she had thrived for many years, she used instead of hands, and marvellously well...'

1529a '...in the Mittelberg region of Germany a child was born, and in appearance and stature grew up as a man, the whole body having the proper form and shape of a man, except that it had from its breast another body hanging down, without head and arms, the forearms stretched out, hands like feet that had been shaped into hands... ' Thoracopagus parasite.

1529b Born on 9th January at Esselingen am Neckar, Germany: male conjoined twins with one head four arms and four legs. Probably cephalothoracopagus.

1530a A child born at Freiburg '...of horrific aspect... in the frontal and occipital areas masses of hard flesh sticking out...'

1530b A man aged about forty years, with a twin attached in the umbilical region. He carried the twin’s body in his arms and ‘great troupe’ came to see him. Thoracopagus parasite.

1531a Born 26th August at Gossau, near Zürich, Switzerland. Conjoined twins with two heads, three arms and three feet. Parapagus tribrachius tripus.

22 'Tuellus alibi postea exoritur, qui brachiius penisus orbatus, relicka corporis forma rectissima fruebatur; pedibus, quum ad vigesimum aetatis annum pervenisset, vice manuum mire utebatur, accipiendo, fecando, ori inferendo, nec non etiam alea, & chartis colludeno.' Schenck, op. cit., p. 629; Schott, op. cit. vol. 1, p. 678; Liceti, op. cit., p. 55.
23 '... in quodam Hercyniae sylvae superioris pago infans natus est, & in instae staturae virum excrenit, vniuersa corporis figura mas recte habens, nisi quod vbera haberet, & exipsius pectore corpus alterius proponderet, sine capite & humeris, brachiorum informem figuram pretendens, manibus plus ad pedum quam manuum formam accedentibus.' Rueff, op. cit., vol. 1, p. 382. Liceti, op. cit., p. 83 may also describe the same case.
24 Schott, op. cit., vol. 1, p. 683; Liceti, op. cit., p. 83, dates them 1531. Paré's illustration is fanciful, as is his attribution of the report to Giovanni Pontano, who died in 1503.
Schott op. cit., vol. 1, p. 673 places the birth in 1550.
1531b Augsburg, Germany: 'a woman gave birth first to a human head wrapped in membranes, second to a two-footed serpent, which had the head of a pike, the body and feet of a frog and the tail of a lizard, and thirdly a pig with all its parts complete'.

C. 1533 Fetus amorphus (acardiac twin).

1534 Born at Sackingen, near Basel, twins 'joined laterally.'

1535 Born in the Brandenburg district, a child with a body 'overflowing' with a mass of loose flesh, like a 'German military cloak' wrapped around it.

1536a Born not far from Tegernsee, Germany. 'A child' with one body, two heads, three hands and three feet. Parapagus tribrachius tripus.


1536c Born at Löwen, Germany, parapagus tetrabrachius dipus.

1536d Florence. 'They were two females joyned and stuck together, one toward the other in such a way that half the chest of one along with that of the other made up a single chest, & thus they formed two chests, one joining up with the other; their backs were not shared, but each had its own: it had its head turned directly towards one of the two chests, & on the other side, in the place of the face it had two ears that were joined one to the other, & they

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29 Alessandro Benedetti, *De singulis corporis humani morbis a capite ad pedes* (1533) book 26, ch. 34, p. 407.


31 *ibid.*


touched... ‘They were dissected: ‘They found two hearts, two livers, & two lungs, & finally everything was doubled, just as for two bodies, but the windpipes, which began at the [level of the] heart, joyned up near the entrance to the throat and became one...’

Cephalothoracopagus janiceps asymmetros.

1537 Born in the village of ‘Nepritz’ nr ‘Wurtzensisto ad Moldam,’ an infant without feet.\textsuperscript{36}

1538a Parapagus tetrabrachius dipus.\textsuperscript{37}

1538b ‘I [Lycosthenes] saw also the like monster in Bavaria... a woman of five and twentie yeares of age with two heades, one of which notwithstanding was very deformed: when she got her living by begging from doore to dore, she was commaunded (by reason of women with child) to departe out of the Countrey, in giving her money to paye hir charges.’ She lived for twenty-five years.\textsuperscript{38}

1540a At Hessen, Germany, a child two heads: ‘whole faces stending [sic] one against the other.’\textsuperscript{39} Diprosopus.

1540b A boy born at ‘Zarzara,’ Italy on 19th March, after a gestation of three months: ‘Secondarily, he had two faire heades well proportioned, and two faces joyned one to an other... and betwene the two heades, he had a thirde heade, whiche exceeded not the length of an eare.’ After he had sojourned a certain time in this miserable world he died wherein, as he was made a present to one of the King of Spain’s lieutenants governing in that country.\textsuperscript{40} An


\textsuperscript{36} Schott, \textit{op. cit.}, vol. 1, p. 678.

\textsuperscript{37} Batman, \textit{op. cit.}, p.330; Schenck, \textit{op. cit.}, p. 7; Schott, \textit{op. cit.} vol. 1, p. 661; Rueff book 5, ch. 3.

\textsuperscript{38} Batman, \textit{op. cit.}, p. 330. Paré refers to Lycosthenes’ account of this case, stating that it is the same one described by Coelius Rhodiginus (1450-1525) in \textit{Antiquarum lectionum commentarii repentini} (Venice, in aedibus Aldi, et Andreae soceri, 1516). Schenck, \textit{op. cit.}, p. 7 writes that she was seen in 1541.

\textsuperscript{39} Batman, \textit{op. cit.}, p. 332; Schott, \textit{op. cit.}, vol. 1, p. 661; Liceti, \textit{op. cit.}, p. 85.

\textsuperscript{40} A single heart is uncommon but other cases have been reported: see T.H. Grundfest, and S. Weisenfeld, ‘A case of cephalothoracopagus’ \textit{New York State Medical Journal} vol. 50 (1950), pp. 576-9. Rhodiginus \textit{Antiquarum}, book 24, ch 3. Fenton, \textit{op. cit.}, p. 98v incorrectly illustrates a parapagus; Paré, \textit{op. cit.}, p. 19 has the same case, also shown as dicephalus.

\textsuperscript{41} C.J.S. Thompson, \textit{The Mystery and Lore of monsters} (London, Williams and Norgate Ltd., 1930), p. 41.
autopsy showed two livers, two spleens and one heart. Cephalothoracopagus janiceps asymmetros

1541a A weaver's wife at Freiburg, in St Francis Street, gave birth to twins joined in the foreparts of the body, embracing one another, on 19th February. There followed a sudden fall in the price of wheat. Thoraco/omphalopagus.

1541b Twins born in the Dukedom of Wittenberg: 'their bodies knit togethier as far as the Navil' Thoraco/omphalopagus.

1542 Born in Pilsen, Czech Republic: 'A child was born who was the image of Christ our Saviour crucified, as when the Blessed Virgin held him at the deposition from the Cross: the feet were bent inwards one over the other, and if moved they immediately sprang back to their place, and the neck was also bent, so that it was difficult to put food in the mouth. For a time it lived in Vienna, Austria.'

1543a Born at 5am on 22nd February at Schaffhausen, Switzerland, female twins with two heads, four arms, four feet, one body from neck to navel, one umbilical cord. Thoracopagus.

1543b Born in the village of Rinach near Basel a boy with four arms and two feet. Parapagus tetrabrachius dipus.

1544a Born in January in Milan a female child with two heads, two breasts, four hands, two thighs, two feet, one belly; one from the navel downwards, 'well formed' and 'corpulent,' which died due to birth trauma. The surgeon Gabriel Cuneus made an anatomy which showed two uteri, double intestines except for the rectum, two livers and one heart; 'the which moveth

42 Peucer 1553, p. 328; Batman op. cit., p. 334; Liceti, op. cit., p. 85 states that the birth took place on 14th January.
43 Batman op. cit., p. 334.
44 Caspar Bauhin, Hermaphroditorum monstrorumque partium natura ex Theologorum, Jurisconsultorum, Medicorum, Philosophorum, & Rabbinorum (Frankfurt, Mathaeus Becker, 1600), p. 119; see also Caspar Peucer, Commentarius de principis divisionum generibus... (Wittenberg, 1553), p. 329; Schenck, op. cit., p. 9.
45 Jacob Rueff, De conceptione et generatione hominis... (Zurich, Christopher Froschauer 1554), p. 381; Batman, op. cit., p. 335 (places the birth on 8th February); Liceti, op. cit., p. 85.
46 Batman, op. cit., p. 336 from Sebastian Münster's Cosmographia (Basel, 1544).
us to think (sayth Cardan) that Nature wold haue created two, saving that by some defecte she imperfected the whole." Parapagus tetrabrachius dipus.

1544b Male conjoined twins born at Heidelberg with two bodies 'closed by the belly part,' two heads, four hands and four feet (Fig. 10). They were baptised John and Jerome and lived a day and a half: '...when they were dead, they found in the belly but one hart.' Thoracopagus rather than omphalopagus – the former usually have a common heart.

1544c A female child born 28th August at Strasburg, Germany, the head 'wide open in the uppermost part,' a 'brode mouth,' 'Oxe eyes,' and 'Eagels nostrels.' Anencephalic.

1545a Born Saxony, February, a child 'with a grisly looke, having a whole body and well compacte, but all his limmes were brused, torne and loose, saving that his head was copped like a sugarloaf, and as it were set out with a Turkish cap. Macerated, with moulding of the head.

1545b Born at Achem, in Saxony, conjoined twins '... together by their hips on one side, where the hips were fastened to the huckle bone... the right arme overcompasseth the left, as if they had embraced ech other.' Pygopagus with posterolateral union.

1546a Born at Lovaine, Belgium, 25th April, conjoined twins with two bodies and one head. Cephalopagus.

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52 Batman, *op. cit.*, p. 342; Liceti, *op. cit.*, p. 86. The huckle bone may mean either the ischium or the whole innominate bone.

1546b Born at Plön, a child with ‘neither back nor belly,’ entrails hanging down, and a pointed ‘Sugar-Lofe’ head." Macerated.

1546c Born at Paris, conjoined twins with two heads, two arms, four legs – dissection showed one heart therefore only one child ‘as Aristotle says.’ Thoracopagus.

1547a Born at Löwen, Germany, Maunday Thursday [7 April]; conjoined twins, depicted as one male, one female: ‘with two bodies under one head, four arms, four legs and with two hearts... Cephalopagus.

1547b A boy born on the feast of the conversion of St Paul: ‘At Kraków a very curious monster was born, and lived for three days: the head was not unlike that of a human, but it had blazing eyes and a long, hooked nose like a flute. At the joints of its members, the elbors and knees, heads stood out resembling a dog, the hands and feet were like those of a goose, two eyes above the umbilicus. The tail... curled back at the end like a fish-hook. The sex was male. It is said that this monster was caused of God’s making; nonetheless, through the sin of Sodomy, this detestable monster was of our own making.’ (Fig. 13) Multiple congenital malformations.

1548a Born at Meißen, 14th April, a child with the skull divided in the forehead, one thigh, without lips, and maimed in the rest of his body. The division of the skull suggests amniotic bands, and possible maceration. The illustration shows a siren with absence of the upper limbs.

54 Batman, op. cit., p. 345; Schott, op. cit., vol. 1, p. 687; Liceti, op. cit., p. 129 (gives 1547).
59 Batman, op. cit., p. 348; Schott, op. cit., vol 1, p. 678.

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1548b Germany. A male child having the head divided from the body, one lower limb only, and no upper limbs; attributed to 'want or default in the seede.'

1550a Modena. An embalmed male baby with 'two child's faces, and for the rest a single body, very beautiful to see... Diprosopus.

1550b In the dominion of the Abbot of Urcium in the village of Rieden, 3 miles from Knaßburin in Sweden, a Smith's wife delivered a twin perfect in all parts, joined in the belly as far as the neck. It was longer than three quarters of a Swedish ell. Thoracopagus.

1550c In Horchsham in the valley of Zelliu a girl was born: 'without eyes or ears and a broad open mouth, a body torn and wounded everywhere.' Macerated, perhaps an intra-uterine death due to holoprosencephaly?

1551a Born at Damenwald in Marchia near Wodstocke to a farmer's wife, a male child whose 'body was of a bright Bay, his heade had hornes, his eyes were greate and hanging out, he had no nose, his mouth broad a span long... a white tong... no neck... all his body was puffed up, and full of wrinkles, hys armes did sticke in his loynes... from his Navill there hung down to his feete a kinde of loose bowel.' Macerated: a span is some 20 cm, the crown-heel length of a 19 week gestation foetus. The reddish-brown colour, abdominal wall defect and skin slippage suggest intra-uterine death of several days' standing.

1551b Fetus amorphus.


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60 Fenton, *op. cit.*, fol. 140v.
63 Batman, *op. cit.*, p. 354; Liceti, *op. cit.*, p. 57 gives the date as 1552: 'In ditione Principis Palatini Electoris, in pago Horchhan, in valle Zellina infans muliebri sexu ortum habuit monstroso aspectu, sine oculis, carens auribus, aperto, & lato ore, corpore ubique lacerum, ac in plerisque membris excoriato similar.'
1552b Born in August, a child with two bodies, two heads, two hands, one belly, one navel and three legs. Two legs were normal, one had a foot 'made like two, tyed the one gainst the other with ten toes.' (Fig. 23) Ischiopagus tripus, see p. 157.

1552c Born at Windensbach nr. Schlensing, Germany, a child without feet, in place whereof it had 'a poynte' and 'from the thyghs also, it had sharpe poynte standing out.' Sirenomelia.

1552d A child born at Witzenhausen, Hessen, Germany, the third day after the feast of the Three Kings (9th January) with two heads and necks, the rest complete. Parapagus dibrachius dipus.

1553a At Lüneberg, Germany a child was born 'with awrie mouth' and 'a cloven or double tong, the like monster was borne there the yeare before.'

1553b At Herbsleben, Thuringen, Germany, 20th March, a twin with 'throe [sic] bellies together.' Baptised and lived two hours. Thoraco/omphalopagus conjoined twins are described.

1553c Conjoined twins born 19th June at Zichist, in Meißen. Parapagus dibrachius dipus.

1554a 'At Stettin [Prussia] it happened that a child being borne was christened in the night... he had upon the toppe of his head a lumpe of flesh bearing the Image of a red snayle in the neck: he had a fleshly tayle like a Ratte, but witish, like unto the skinne withoute heares: his
head was deformed, and his eyes stood out. He had a great mass of flesh in place of a head, and where one of his ears should have been, came out an arm and a hand. He had upon his face with his hair like to the Moostachos of a cat. The other arm appeared out of one side. He had no form of body nor breast, saving a line along the ridge of his back. There could not be discerned any figure or likeness of either sex, nor joints in his arms or legs. The ends of his hands and feet were soft and somewhat hanging as appeareth by his portrait.

1554b At Meißen, a child without a head, having "the forme of eyes standing in his brest."

1555a At Genoa [Geneva] among the Allobroges. Conjoined twins, with liver and intestines exteriorised, the right side male and the left side female. Two faces 'as... Janus hadde', 'two greate pocketts hangying upon hys backe, wherein were hys bowelles: he was 'utriusque generis,' one side male, the other female. Also he was so huge above order, that it was impossible to draw him whole from the bellie of his mother.' The drawing (Fig. 16) shows the results of the embiyotomy - two legs cut off. [T]he painter Gaspar Masserius, who had arrived along with many other people, made a careful pencil drawing of the whole thing. 'This monster had two faces; these are two-headed, like Janus was painted in olden times: with respect to both sides the skin hung puffed out, the intestines were protruding from the back, and also the lower part hung from the belly, along with the liver... Cephalothoracopagus janiceps.

1555b Conjoined twins born near Oxford Parapagus dibrachius dipus.

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73 Liceti op. cit., p. 130: "...cui capitis loco massa informis erat, mobilis, ut exta ovilla; loco unius auriculae brachium stabet; loco faciei cinnus similis pilis felinis; & lupi piscis ova, per quae inferius lucebant ocellii vitrei, & renidentes; os contractissimo erat foramine, sine labiis, nasus quoque minutissimus erat; absque collo; alterum brachium e latere prominebat: sed neque pectoris, neque dorsi effiges aderat; lineola solum notabatur rachi; nullus erat omnio sexus: brachia, & longa crura continuo rigebant osse sine juncturis, cubitis, & poplitibus: manus, & imi pedes erant molles, & penduli tanquam bis fracti, similes imguibus curvis, & aduncis Lutrae: mortuum mater peperit, Ut et in utero viverat.'

74 Thompson, op. cit., pp. 47-8, his translation.


76 Fenton, op. cit., fol. 142z; Batman op. cit., p. 373 [374]; Aldrovandi, op. cit., pp. 408-9.

77 Fortunio Liceti, De Monstrom Caussis, Natura, & Differentis (Padua, Paul Frambott, 1634), p. 88.

78 Schott, op. cit., vol. 1, p. 673.

79 ibid., p. 684.
1555c Conjoined twins born 27th September in Freywerk: four arms, four feet, two heads, one umbilicus. ⁸⁰ Thoracopagus.

1556a Born at Leipzig; conjoined twins with two heads, four hands, four feet, one body. Sexually indifferent ("utroque sexu"). ⁸¹ Thoraco/omphalopagus.

1556b Born at Basel, a male child, its 'body well enough compact' with a 'rough hairy head like an animal.' It lived an hour and a half. ⁸² Schenck compares it to a 'dog, cat, or ape.' ⁸³ ?Anencephaly.

1556c Born at Basel, a boy with five fingers on each hand. ⁸⁴

1556d Born at Tundorf, Czech Republic, 4am 5th November, to a Potter's wife. A child whose 'mouth stood out like a dog's,' 'below the navel was in the form of a pyramid, the point having the likeness of a wrinkled tail of a sow,' and on his back was 'the form of a navel standing out as a tail.' There were no external genitalia. ⁸⁶ Sirenomelia. The structure resembling a tail is probably a rudimentary penis: ⁸⁶ the mouth like a dog could be anteriorly displaced bilateral cleft lip. ⁸⁷

1556e Born at Basel, 4th December, a male child with no ears, only two holes, so shut up he could hear nothing, lived till August. ⁸⁸

1556f Wein[s]burg. Hydrocephalic. ⁸⁹ Probably not congenital, or would not have survived delivery.

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⁸⁰ Aldrovandi, op. cit., p. 408 (has 7 September); Schott, op. cit., vol. 1, p. 662; Liceti, op. cit., p. 111.
⁸¹ Batman, op. cit., p. 375; Liceti 1665, op. cit., p. 111.
⁸² Batman, op. cit., p. 377.
⁸³ op. cit., p. 9, as does Schott, op. cit., vol. 1, p. 668.
⁸⁵ Batman, op. cit., p. 379.
⁸⁶ see E. Gilbert-Barness, Potter's Pathology of the Fetus and Infant (St Louis, Mosby, 1997), vol. 1, p. 77
⁸⁷ Sirenomelia and cleft lip are associated, see Rodriguez et al., 'Sirenomelia and anencephaly' American Journal of Medical Genetics vol. 39 (1991), pp. 25-7.
1557a Born at Pfedelbach, February, a cyclopic stillbirth, ‘forthwith buried.’

1557b Born at Basel, Easter, a child with cloven nostrils, so that the brain could be seen. Severe facial clefts.

1557c Born Basel, 26 August, a male anencephalic. Died at birth.


1561a Johannes ?Brinistorff and Magdalene Rudofs Thuinbui of Stockholm, both without arms, were shown in broadsides of this date performing a variety of tasks with their feet.

1561b Conjoined twins, born July: ‘On each foot there were seven digits (the great toe, for instance, was double on each foot). On each hand there were six digits.’

1562a A ‘monstrous birth’ at Colchester. (Fig. 7) I have suggested elsewhere that it was a morphologically normal macerated male infant.

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88 Batman, op. cit., p. 380, Liceti, op. cit., p. 58, Schott, op. cit. vol. 1, p. 674. Absent pinnae and atresia of the ear canals is unusual as an isolated phenomenon.
89 *Ein wahrhaftige und wunderliche...* (1556), see Holländer, op. cit., p. 284.
90 Fincelius, cited by Batman, op. cit., p. 370.
92 Batman, op. cit., p. 381; Schenck 1644, op. cit., p. 9; Schott, op. cit., vol. 1, p. 674 gives 1556.
96 Jhon D., *A discription of a monstrous Chyld* (1562). Drawn actual size, so some 17 weeks gestation, and as she went to her full time the child had been dead 204+ weeks – see Philobiblon Society (eds), *Ancient Ballads & Broadsides published in England in the sixteenth century, chiefly in the earlier years of the reign of Queen Elizabeth* (London, Whittingham & Wilkins Society, 1867), p. 299, also Howes, op. cit., p. 1096. Batman, op. cit., p. 390 perhaps conflates it with, or re-interprets it in the light of, *The true discription of a Chylde with Ruffes* (1566). Mentioned in Machyn’s diary (ed. John Gough Nichols, 1848): ‘ther was a chylb birth to the cowrte in a boxe, of a strange fegur, with a longe strynge commyng from the navyll, – browth from Chchester...’
1562b Born 1st November at Ville-franche-de-Beyran in Gascony, a monster without a head. Given to Paré by Monsieur Hautin, regent doctor of the faculty of medicine in Paris. See p. 161.

1562c ‘On Tuysday being the xxi day of Apryll, in this yeare of our Lorde God [1562], there was borne a man-childe of this maymed forme at Muche Horkesley in Essex, a village about thre myles from Colchester, betwene a naturall father and a naturall mother, having neither hande, foote, legge, nor arme, but on the left syde it hath a stumpe growynge out of the shoulder, and the end thereof is rounde, and not so long as it should go to the elbowe; and on the right syde no mencion of any thing where the arm should be, but a litel stumpe of one ynche in length; also on the left buttocke there is a stumpe coming out of the length of the thygh almost to the knee, and rounde at the ende, and groweth something overthwart towards the place where the right legge should be, that is no mencion of anye legge or stumpe. Also it hath a codde and stones, but no yearde, but a lytell hole for water to issue out. Finallye, it hath by estimation no tongue, by reason whereof it sucketh not, but is succoured wyth liquid substance put into the mouth by droppes, and nowe begynneth to feede wyth pappe, beyng very well favoured, and of good and cheareful face.

The aforesayde Anthony Smyth of Much Horkesley, husbandman, and his wyfe, were both maryed to others before, and have dyvers chyldren, but this deformed childe is the fyrst that the sayd Anthony and his wyfe had betweene them two; it is a man chylde. This chylde was begot out of matrimony, but borne in matrimonye; and at the making hereof was living, and like to continue. Tetradysmelia, absent penis and ‘absent’ (short) tongue. Anderson made a diagnosis of Hanhart complex (oromandibular limb hypogenesis).

1563 Born at Straßberg; male twins joined at their heads posteriorly. The illustration shows them alive. Craniopagus.

1564 Born on the Isle of Wight, October, a male fetus amorphus.

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98 Anon., The true reporte... [1562], see Philobiblon Society, op. cit., pp. 38-42.
100 Warhoffe und Eignliche... M.D.LXIII, see Holländer, op. cit., p. 75.
1565a Female conjoined twins born at Stony Stratford, Northamptonshire.\textsuperscript{102} Cephalothoracopagus janiceps asymmetros.

1565b Born at Herne in Kent. Conjoined twins of unspecified type.\textsuperscript{103}

1565c Born at Schmitz, 16th May 1565, a female infant with no head, the mouth on the left shoulder and an ear on the right shoulder.\textsuperscript{104}

1566a Born at Swanburne, Buckinghamshire, 4th April 1566; conjoined twins, one male, one female. They lived for half an hour and were baptised. The stylised illustration shows them as young children embracing one another, clearly of opposite sexes.\textsuperscript{105} Thoracopagus.

1566b Born at Micheham, Surrey, a child with: 'fleshy skin behinde like unto a neckerchef growing from the veins of the back up unto the neck, as it were with many ruffes set one after another, and beeing as it were something gathered, every ruff about an inch brode, having here growing on the edges of the same, and so with ruffes coming over the shoulders and covering some part of the armes, proceding up unto the nape of the neck behinde, and almoste round about the neck, like a many womens gownes be...\textsuperscript{106} The illustration does not resemble skin slippage occurring owing to maceration. It may possibly be an example of gyrate skin, a congenital anomaly typically involving the vertex of the skull.\textsuperscript{107}

\textsuperscript{101} John Barkar, \textit{The true description of a monstorous Childe...} (London, Wylliam Gryffith, 1564).
\textsuperscript{103} Anon., \textit{The true discription of two monstorous Chylde Born at Herne in Kent. The xxvi. day of Auguste In the yeare of Lorde M.CCCCC.LXV...} (London, T. Colwell, 1565).
\textsuperscript{105} John Mellys, \textit{The truediscriptioncftmonsiouscherldren Borne at Herne iri Kent The xxvi. day of A u^stelndoeyereof Lorde. M .CXXXX1LXV...} (London, T. Colwell, 1565).
\textsuperscript{106} H.B., \textit{Thetruediscriptionofa Childe with R...} (London, John Allde, 1566); see Philobiblon Society, \textit{op. cit.}, p. 360.
\textsuperscript{107} see Gilbert-Barness, \textit{op. cit.}, vol. 2, p. 1361.
1566c An adult male with a parasitic twin fused at the xiphistemum, complete except for the head.\(^{108}\)

1567 Born at Flanders, conjoined female twins: two heads, four arms, two legs. Parapagus tetrabrachius dipus.\(^{109}\)

1568a Born at Arles, a hirsute child (planugo hair) with two horns, the navel where the nose should stand, eyes where should stand the mouth: betweene the which was a certaine opening: hys eares stode on either side the chinne, and his mouthe at the ende of the same.’ (Fig. 24) The mother was one Jeanne Verdiere, the father Pierre Conlion, a tailor.\(^{110}\) Cyclopia.

1568b A male child born at Maidstone, Kent, 24th October 1568, with cleft lip and spina bifida. ‘At Maydstone in Kent there was one Marget Mere, daughter to Richard Mere, of the sayd towne of Maydstone, who, being unmaried, played the naughty packe, and was gotten with childe, being delivered of the same childe the xxiiij daye of October last past, in the yeare of our Lorde 1568, at vij of the clocke in the afternoone... which child, being a man-child, had first the mouth slitted on the right side, like a libardes mouth, terrible to beholde, the left arme lying upon the brest, fast thereto joyned, having as it were stumps on the handes, the left leg growing upward toward the head, and the ryght leg bending toward the left leg, the foote thereof growing into the buttocke of the sayd left leg. In the middest of the back there was a broade lump of flesh, in fashion like a rose, in the myddest whereof was a hole, which voyded like an issue. The sayd childe was borne alyve, and lyved xxiiij howres, and then departed this lyfe, – which may be a terror as well to all such workers of filthiness and iniquity...\(^{111}\) (Fig. 22) There are features of arthrogryposis multiplex congenita or Larsen syndrome\(^{112}\), although Trisomy 13 would be a more commonly occurring alternative.\(^{113}\)

\(^{108}\) Anon., Ahnsetzung der Wiundheiln gesalt / so Hans Kaltenbrun... (1566) reproduced in Holländer, op. cit., p. 102.

\(^{109}\) Batman, op. cit., p. 393.

\(^{110}\) Fenton, op. cit., fol. 146r; Batman op. cit., p. 395 (has 1569).

\(^{111}\) Anon. The forme and shape... (London, John Awdeley, 1568).


1569 Born at Tours, twins conjoined at the head, embracing one another. There was a single heart.\textsuperscript{114} Cephalothoracopagus.

1570a In Germany, conjoined twins, with ten toes on the shared foot: 'in vico Gravillierorum ex Petro Germano, & Mathea Petronilla natos esse ait duos infantes perineo ad nates conjunctos, communem umbilicum.'\textsuperscript{115} Ischiopagus tripus.

1570b Born in Paris, 20th July, Rue des Gravelliers, at the sign of the Bell. Male and female conjoined twins, baptised Louis and Louise.\textsuperscript{116} Ischiopagus.

1571 Born at Gascoigne nr Beaumont de Lomaigne, France, a boy with a parasitic twin attached at the upper chest by the head, with a dependent body. It was described by Seignior Camboline, doctor and 'consul,' and also seen by M. Arnault Sylle, doctor of medicine and Jean Torneil, apothecary. The mother, aged 35, and the father, 40, were poor peasants.\textsuperscript{117}

1572a Conjoined twins born at Viabon on the road from Paris to Chartres, at the place of the Petites Bordes, to a woman named Cypriane Girande, wife of Jacques Marchant, a farmer.\textsuperscript{118} They had one umbilicus, two chests, four arms, and three legs. An illustration shows them with only one set of female external genitalia; they lived until the following Sunday. Ischiopagus tripus.

1572b Conjoined twins born 10th July at Pont de Cé near Angers; they lived for half an hour and received baptism. They were fused anteriorly from chin to umbilicus; well formed except the left hand had only four fingers. Dissection showed one heart and a four-lobed liver.\textsuperscript{119} Thoracopagus.

\textsuperscript{114} 'Cujus monstri cadaver quum diffecuisset, unicum cor reperit. Ex quo scire licet, unicum eum infantem extitisse': Liceti, \textit{op. cit.}, p. 118; Paré \textit{op. cit.}, p. 15.

\textsuperscript{115} Liceti, \textit{op. cit.}, p. 90.

\textsuperscript{116} Anon., \textit{L'Androgyn né a Paris...} (Lyon, Michael Jove, 1570). Boaistuau's illustration shows them both androgynous-looking, with only one cord: Pierre Boaistuau, \textit{Histoires prodigieuses...} (Chez G. Janssens, Anvers, 1594), p. 471; also Paré, \textit{op. cit.}, p. 17.

\textsuperscript{117} Boaistuau, \textit{op. cit.}, p. 477.

\textsuperscript{118} 'Viabani Paroecia, qua Carnatum Lutetia itur, in pagnio Parvam Bordarum, Cyprianae Girandae Jacobo Mercatoris agricoleae uxorem peperisse gemellae ad nates junctas.' Liceti \textit{op. cit.}, p. 90; Paré \textit{op. cit.}, pp. 21-2.

\textsuperscript{119} Liceti, \textit{op. cit.}, p. 111.
1573 At Paris, a 9-year-old boy illustrated by Paré. Delaunay offered a diagnosis of caudal regression syndrome, with which P.D. Pallister concurred. Pallister writes that the ears are abnormal, though the illustration does not seem to me to show this. Walton et al. suggest femur-fibuloulna dysostosis. Cornelia de Lange syndrome also seems to me a possible diagnosis, though the lower limb defects are rather severe.

1575a 'A two-headed child was born.' Ischiopagus tetrapus.

1575b Born 12th November at Arnheim; a monster that 'ranne under the bed.' It had a 'roughe bodie hairie and blacke,' a belly 'like a swan,' 'clawed' feet, large eyes, a mouth like a stork, 'two bending homes on his heade,' an ox tail and 'clawes' on the hands. A sooterkin, resembling traditional images of devils.

1576a Born at Taunton, England, a male child with one head, two bodies and four legs. Cephalopagus.

1576b Conjoined twins; two heads, four arms and four legs but one trunk and abdomen with two umbilici and two nipples. Probably omphalopagus.

1577 'We saw a youth, born without arms and hunchbacked, who nevertheless could write with his toes..."
1578a Conjoined twins from Germany.  Cephalothoracopagus janiceps asymmetros with one cyclopic face (Fig. 19).

1578b Born 10th January at Piedmont: a child with five horns and a fleshy bag on the back of the head. It was dark green and red. The father was a doctor. See p. 167.

1578c Born 25th September at ‘Clodiae,’ a child with a large fleshy excrescence at the front, which totally covered the face. FrONTAL ENCEPHALOCELE.

1578d A child born at Mecklenburg: ‘All the bones of the head and cranium were absent, from which it is reasonable to infer that the brain was absent also. It also lacked ears, which could be distinguished by a protuberance of skin. The cutaneous covering could be seen hanging down from the head.’ The eyes were always open and the tongue absent. ANENCEPHALIC, although it is not clear why absence of the brain would have had to be inferred. Acalvaria is another possibility.

1579a Born dead at Aberwick, Northumberland, 5th January to John and Elinor Urine, aged 26 and 28, male conjoined twins ‘two heades,’ ‘two eares like a horse,’ ‘joined together in the hinder parte of the two faces, a double body, that is two joined in one, two armes, two legs.’ The father was ‘a lewde Minstre or Idle vagabonde.’ PARAPAGUS DIPROSOPUS.

1579b Born at Lutsoiof, Germany, 1 July: -1 a child with no hands, one sword one rodde [Paré described a limb of the child seen in 1573 as resembling a rodde], of blackish colour, lived three days, -2 conjoined twins with 2 heads, one body, one head swarte coloured, lived three

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128 see Holländer, op. cit., p. 353.
129 Anon., Briefe discours d'un merveilous monstre né a Eusride... (Châmbéry, F. Poumard, 1578); Anon., Vray pourtraict, et sommaire description d'un horrible et merveilleux monstre, né a Cher, terre de Piedmont, le 10. de Janvier 1578... (Châmbéry, 1578); Batman, op. cit., p. 405. Paré, op. cit., p. 10 puts the birth at 8pm on 17 January; Schott, op. cit., vol. 1, p. 676, has 1577.
130 Schenck, op. cit., p. 12 after Garnierius.
131 ibid., p. 13.
132 Anon., A true report of a straung... (London, Thomas Gosson, 1580); Batman, op. cit., p. 408.
days. The father of these children was named Baltus Maler, the mother Katherine was aged 40.\textsuperscript{130} Parapagus.

\textbf{1579c} Born Tuesday 4th August, at Manchester, a child without a head and the belly open.\textsuperscript{134}

\textbf{1579d} Born at Angiers; a child with seven heads.\textsuperscript{135}

\textbf{1579e} 'In an obscure lake-island, called Ferrières, came forth a monstrous female with a single head, from the occiput of which a large piece of flesh hung down: in the mouth two tongues... Posterior encephalocèle, with possibly the 'lobulated' tongue of Meckel syndrome.\textsuperscript{137}

c. 1580 Thomas Schweicker, an armless man, is shown writing 'Deus est mirabilis in operibus suis' with his feet.\textsuperscript{138} Examples of his writing were preserved until the eighteenth century.\textsuperscript{139}

\textbf{1580a} Yorkshire, 18th June, Alice Perin, aged 60, gave birth to a monster with a head was like 'a sallet' [a 'light globular head-piece' - OED], 'the mouth long as a Rat,' eight legs all different, a tail half a yard long.\textsuperscript{140}

\textbf{1580b} Born at Fennestanton in Huntingtonshire, 23rd September, a child with 'a face blacke, mouth and eyes like a lyon, and both male and female.'\textsuperscript{141}

\begin{itemize}
\item \textsuperscript{133} \textit{ibid.}
\item \textsuperscript{134} \textit{ibid.}, p. 407
\item \textsuperscript{135} \textit{ibid.}, p. 407. Schott, \textit{op. cit.}, vol. 1, p. 664, cites Aldrovandi, giving 1587.
\item \textsuperscript{136} 'In insula obscuri lacus, Ferrariensi ditione, ortum est ex muliere monstrum uno capite, cui ad occipitum frustum grande carnis dependebat: in ore due linguae...' Liceti, \textit{op. cit.} p. 91; also Schenck 1644, \textit{op. cit.}, p. 13.
\item \textsuperscript{137} see P. Moerman et al., 'The Meckel Syndrome. Pathological and cytogenetic observations in eight cases' \textit{Human Genetics} vol. 62 (1982), pp. 240-5.
\item \textsuperscript{138} Holländcr, \textit{op. cit.}, p. 115; Schott, \textit{op. cit.}, vol. 1, p. 680; Schenck, \textit{op. cit.}, p. 629
\item \textsuperscript{139} Du Plessis, \textit{A Short History of Human Prodigious & Monstrous Births...} (1730), p. 215.
\item \textsuperscript{140} Batman, \textit{op. cit.}, p. 412: 'The XVII day of June last past... in the parish of Blamsdon, in Yorkshire, after a great tempest of lightning and thunder, a woman of foure score years old named Ales Perin, was delivered of a strange and hideous Monster, whose heade was like unto a sallet or heade-peece... Which Monster brought into the world no other news, but an admiration of the devine works of God.'
\item \textsuperscript{141} See: Anon., \textit{The description of monstrous childe borne at Ffenny stanton in Huntingdonshire} (London, Henry Bynneman, 1580); Batman, \textit{op. cit.}, p. 414; also Richard Burton, \textit{Admirable Curiosities} (1702), p. 93; \textit{Notes and Queries} 10th series, vol. 9, p. 249.
\end{itemize}
1580c Born at Chichester in Sussex, a child with the head bigger than the body, the body 9” in compass, 1” arms, the legs ‘wanted thighs.’ The mother, Annis Figge, was an adulteress. Possibly Roberts syndrome but there is insufficient detail for diagnosis (Fig. 21).

1585a At Rome, a man aged 32 with a parasitic twin: ‘a man was seen in his 32nd year, the hips and legs and feet of an infant in the buttock region; the size was unequal; above the organ of generation a large mass was present’.

1585b A legless young adult male exhibited in Rome. The rest of his body was well formed but without legs or thighs.

1591 Born November, Frankfurt, a male child with a large head without eyes, ears, nose, mouth, cranium, and forehead. This child died from being observed by the masses and was buried in St Peter’s cemetery.

1593a On 6th October at ‘Monasterii Wolwerstalt... a woman gave birth to a girl with two heads, which, though dead, Valentinus Wager depicted in the colours of life’.

1593b Born at Konigsburg: ‘a boy with the ears of a rabbit, with a piece of flesh like a felt cap.’

1596 A child with all limbs absent except the left leg.

1596 Magdalena Emohre, an adult woman without arms.

142 Batman, op. cit., p. 415. There are two extant ballads describing monstrous births in Chichester, but neither corresponds to this case.
143 ‘... visus est vir trigesimum secundum natus annum, coxis, & cruribus, pedibusque infantis nuper nati partes consimiles magnitudine non aequantibus, supernis membris debitam aetati molem obtinentibus’: Liceti, op. cit., p. 58
144 See Hollander, op. cit., p. 127
145 ‘mortuus his puer à multis conspiciebatur’: Schenck, op. cit., p. 9.
146 ‘uxor cujusdam cauponis puellam bicipitem peperit; quam mortuam Valentinus Wager vivis coloribus delineavit’: Schott, op. cit., vol. 1, p. 662.
147 ‘masculus aure leporinâ, cum portione carnis instar pilei’: Schott, op. cit., vol. 1, p. 676.
1597a Born 29 May near Tubingen, a child with two heads and necks, ambiguous genitalia: ‘the head was not much different from the skull of a dead man... a double heart and lungs [four lungs?] and a double liver with a single stomach and intestine’.\textsuperscript{150} Parapagus dibrachius dipus.

1597b A woman born in England who in 1613 was seen in Straßburg: her whole body was well-formed, except the feet. The right leg was three times bigger than the body and weighed fifty-two [pounds?]; the left, similarly, weighed twenty-two. On one foot there were six digits and on the other three.\textsuperscript{151} The limb swelling is probably acquired lymphœdema, the oligo- and polydactyly incidental.

1598 Born between Augerium and Tortonam, 26th October, a child with two heads, four arms, two legs and a tail. No virile member, therefore regarded as female.\textsuperscript{152} Thoraco/omphalopagus conjoined twins.

1599a Born at Zeitem near Brussels, August, a male child with two heads, the rest well formed, and a rudimentary wolf’s tail. ‘This went to full term in the uterus, it came from a farmhouse, the birth was troubled with much pain and the land where it died was immediately seized with trembling... for both heads had faces like apes: the rest of the girl was well-formed except the arms, which somehow seemed to arise from the hands; the feet were like the feet of an ape’.\textsuperscript{153} Parapagus dibrachius dipus.
1599b Born 6th January: 'a monstrous deformed infant.' It was baptised 'What Godwill' and died on the third day.154

1600 A child of uncertain sex, born in Herefordshire, 5th January. Died on the third day. Said not to have slept because 'it had no eyelids.' The original description by Jones (1600) is quoted by Turnpenny and Hole, who made a diagnosis of Bartsocas-Papas syndrome.155

1605 Female thoracopagus twins born in Paris. Autopsy showed a single heart and liver.156

1606 Born at Hagenau in Alsatia, a boy with a hole in his belly.157 Omphalocele, gastroschisis, or simple maceration could all produce this.

1608a Born 27th November at Modbury, Devonshire; a female child without eyes, nose, or ears, the body scored full of red strokes. Where the ribs met there was a seam of flesh.158 Macerated, Harlequin foetus (congenital ichthyosis).

1608b A male child, born 3rd December at Plymouth to Susan, wife of Andrew White, a butcher. Above the forehead was a broad, misshapen bone growing out of the skull, covered with flesh. It also had a misshapen mouth, and a 'pipe' growing out of the pit of its throat.159

1608c Born at Hagenau, Alsatia, September. A child with its upper lip and nose replaced by a mass of flesh. It fed normally.160 Bilateral cleft lip.

alia ex parte mane videbantur; pedes formam potius pedem simiaru...': Schenck, op.cit.; Aldrovandi, op.cit., p. 410 describes it as female.

154 R.J., A most strange and true discourse... (London, 1600).
157 Schott, op.cit., vol. 1, p. 687.
158 Anon., Two most strange Births (London, R.B., 1608); see also Harleian Miscellany, vol. 10, p. 462.
159 Anon., Two most strange Births (London, R.B., 1608).
c. 1609 Strange news out of Kent, of a monstrous and misshapen child... 161

1610 'In March 1610 at Mens in Pistoriensi the wife of a charcoal burner gave birth to children joined around the pudenda and buttocks, of similar appearance, though it was not possible to tell their sexes however hard the women looked.162 Ischiopagus.

1613 Born 17th April at Standish, Lancaster, conjoined twins 'Testified by the reverend divine, Mr W. Leigh, bachelor of divinitie.'163 Rachipagus are shown, but probably pygopagus.

1614 Born 3rd June in Villa Porcetti near Cologny of 'rustic' parents: conjoined twins joined at the abdomen. One a well-formed male, the other, malformed, with one lower limb and of indistinct sex. 'They died at birth. This illustration was made within two hours.164 Thoracopagus or omphalopagus.

1616 A young girl lacking upper limbs.165

1617a Born 19th March, Genoa. Lazarus and John Baptiste Colloredo.166

1617b Anencephalic.167

1617c At Venice, to a Hebrew mother, twins joined at the buttocks, 'utroque sexu.'168 Probably ischiopagus.

161 Broadside in BL, C31 b16.
162 'Deinde monstra dividi solent ratione sexus, ut si aliquud incerti nascitur sexus, & an mas et foemina sit dignosciri nequit. Sic anno 1610 Mens, Martio in agro Pistoriensi ex conjugibus cardonariam factitantibus, nati sunt infantes pariter circa pudenda & nates adaeq. connexi, faciebant similiter oppositis, ut sexus distinguiri non possebatur, quamvis sexum potius foemineum participare viderentur.' Johann Caspar Rausch, Disputato Physica de Monstris (Jena, Johann Jacob Bauhofer, 1665), sig. A5v.
164 Liceti, op. cit., p. 116
165 Abbildung einer Jungfrau... (1616), see Holländer, op. cit., p. 123.
166 This very well documented case is considered in Chapter 6, pp. 134-5. See also Martin Parker, The two inseparable brothers (London, Thomas Lambert, 1637); Christoph Wallrich, Disputato Physica de Monstris quam Deo Juvante (Wittenberg, Johann Borckardt, 1655); Jan Bondeson, The Two-Headed Boy, and other Medical Marvels (Ithaca, NY, Cornell University Press, 2000), pp. viii-xix; Liceti, op. cit., pp. 114, 274; Thomas Bartholin, Historiaren Anatomicaen Rationen Centria I et II (Amsterdam, Joann Henriici, 1654), p. 117.
167 Anon., A Wonder worth the reading... (London, William Jones, 1617).
1617d Born February, at Berolini, a female child with two noses, three deformed mouths, three chins, two small, distorted eyes set close together, on the skin of the top of the head was a little net of hair, & the face red and horrible, almost the colour of blood.\textsuperscript{169}

1620a Male conjoined twins.\textsuperscript{170} Parapagus tetrabrachius tripus.

1620b Born 14th August at Marck, Hungary; a child with a parasitic head.\textsuperscript{171} Craniopagus parasiticus.

1624 Born 12th July at Firme, Italy; a female cyclops that ‘fortunately’ died almost at once. The prefect of Genoa had the body exhumed but the face had decomposed. A painter who had seen the child alive and after death made an engraving which was owned by Cardinal Barberini. Liceti’s illustration, presumably adapted from this, appears very detailed, down to the absent philtrum.\textsuperscript{172} (Fig. 25).

1628 Holland. Thoracopagus conjoined twins depicted in life and after autopsy in a painting by Everardt Crynz van der Maes (1577-1656).\textsuperscript{173} There was a common heart.

1631 Born at Gossaw, Sweden; conjoined twins with three arms and three legs.\textsuperscript{174} Parapagus tribrachius tripus.

1635 Born 20th October, Plymouth, to Mrs John Persons, wife of a fisherman. Male twins joined at the breastbone. A single umbilical cord is mentioned.\textsuperscript{175} Thoracopagus.

\textsuperscript{168} Licet, op. cit., p. 113.
\textsuperscript{170} Anon., Warhafftie und eignliche Contrastact einer selbszen zuverzeichneten Wunder Mickbesort... (Nurnburg, Peter Isselburg, 1620). It is very well illustrated: reproduced in Hollander, op. cit., p. 52.
\textsuperscript{172} Liceti 1634, op. cit., pp. 132-3.
\textsuperscript{174} Johann Caspar Rausch, Disputacio Physica de Monstris (Jena, Johann Jacob Bauhofer, 1665), sig. B2r
1638 At Leiden, a peasant woman delivered a fetus with the head of a cat. Cleft lip/palate.

1640a Bononia. A male beggar whose right arm terminated at the elbow in a rudimentary digit. On 28th June the same year a girl was born with a similar abnormality of her left arm.

1640b Born 4th September 1640 at Stuttgart, a child with iniencephaly or ?cranioschisis as Holländer suggests.

1642 Born at Mears-Ashby, Northamptonshire: ‘A child without a head.’ Anencephaly, but perhaps an obstetric mishap is referred to.

1645 Born Tuesday 16th September, Shoe Lane, London: two children, one arising from the ‘upper part’ of the other. The first had neither head nor feet but stumps for legs and branches for arms without hands. The nails grew out of the hips on each side. There arose from the neck a hollow lump of flesh, and from there a perfect man child. The other appeared destined to be female. Parasitic twin or fetus in fetu.

1646 A male anencephalic child that died in utero, delivered 9th March 1646, Nuremberg. An autopsy was performed. (Fig. 26).

c. 1648 A woman delivered a living mass of flesh with a vast mouth like that of a tench at the upper extremity. It died ‘like a fish out of water.’

1655 Born 1st December, Yorkshire; conjoined twins, one female, one a ‘supposed manchild’ with a parasitic twin.184

c. 1656 Conjoined twins born in England.185 Thoracopagus or omphalopagus.

c. 1657 Male child was born in Züllichau (Sulechów, Poland) ‘The head had a little lump, but not very big, and besides the contorted feet... between which scraps of flesh protruded... underneath a shapeless mass, normally hidden, on the back.’186 Encephaloccele, perhaps with additional neural tube defect.

1658a Female conjoined twins, born 13th November at ‘Broden in Haynesi’ [Brodten in Germany], the third ‘arm’ a rudimentary single bone sticking straight up.187 There were separate hearts. (Fig. 27) Parapagus tribrachius dipus.

1658b Conjoined twins with ‘two heads, two necks, four arms,’ born to a soldier’s wife at ‘Werted near Ardemburg.’188

1659 Born Smithfield, London, a male infant with two tongues.189

1660 A child with two hearts and two [pairs of] lungs born at Bologna in April 1660, ‘but it did not extend the double principle to life, dying a few hours after her birth.’190

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185 Anon., A terponie with four hands and 4 heedes, 2 heades, 2 bodyes, two mouthes, 4 eyes and 4 ears (London, Wm. Gilbertson, 1656).
188 Gods JudgerneraJ in Heaven; O ', A Very Strani^ Wonder to be declared of a Monster in Flanders, a t a place calH Sluœ (1658) reprinted in Rollins, op. cit., p. 139
189 Anon., The true and most miraculous narrative... (London, R. Harper, 1659).
1664a Female conjoined twins born in March. An illustration shows them fused side to side. Two fused heads, two arms, four legs and two ears. An autopsy showed one stomach, one heart, four kidneys, two uteri and two backbones. Cephalopagus dibrachius tetrapus.

1664b Born 26th October near Salisbury, conjoined twins with two heads, four arms, one belly and two feet: 'They were baptized at 3 a clock the same Morning... Martin and Mary... It was dissected, and there were found two Hearts, two Livers, and all the inward parts complete, as the outward to the Navel, except only that it had but two Kidneys. They were baptised and lived for two days, Martin/Martha surviving her sister by fifteen minutes. They were opened by a physician, who found all parts perfect except for the trunk. They had a common caecum, bladder, and matrix, but two livers, two spleens, and two stomachs. The physicians remark that Rueff described a similar case near Oxford in 1552. Parapagus tetrabrachius dipus.

1665 A child born with neither cranium nor neck, only a mass of flesh in their place. The child came into the world alive, but soon died. Anencephaly.

1666a An anencephalic female child born dead 15th February 1666, and exhibited.

1666b A hydropic baby born 26 October 1666 at Thorn, The Netherlands. Hydrops fetalis of unknown cause.

1666c A hydrocephalic infant, died at Leiden.
c. 1667-1 A monster in the form of an ape was exhibited in the house of M. Bourdelot. Born after 5 months gestation 'having all over its shoulders, almost to his Middle, a Mass of Flesh that came from the hinder part of the head...the Woman which brought it forth had seen on the Stage an Ape so clothed...'. 2 A little while after, another such monster was produced: 'having instead of a Head and Brains, a Mass of flesh like any Liver; and was found to move. And this Foetus occasioned a Question for the Cartesians, how the motion could be performed, and yet the Glandula pinealis, or Conarium be wanting; nor any nerves visible, which come from the Brain? 199

1668a Born 6th August 1668 at Öls in Prussia (now Olesnica, Poland), a child with multiple congenital abnormalities. 199

1668b Born at Grasby, Nottinghamshire: 'Its head was long and sharp, proportioned after the fashion of a Sugar loaf [moulding]. It had no nose, eyes like a fish, eight fingers upon each hand, webbed like a goose, ears hanging down like the ears of a hound, and long black hair down its neck. 200

1668c Born in June, a child with cleft lip and palate. 'God be thanked, death supervened. 201

1669a Born 5th January 1669, female conjoined twins. They were dissected and contained 'two perfect hearts.' 202 Parapagus tribrachius dipus.

1669b A child born dead 13th October 1669 at Brandenburg. The left arm tapered to a point without hand or digits, there was a large left-sided abdominal wall defect with a hernial sac [omphalocoele] and a tail. Attributed to maternal imagination. 203

199 Henric Vollgnad. 'De monstroso foetu.' Miscellanea Curiosa vol. 3 (1672), pp. 446-447.
200 Anon., The strange monster... (London, Peter Lillicrap, 1668).
201 Eberhard Gockel, 'Foetus monstruosus cum superiori maxilla & labio in utroque latere fisso' Miscellanea Curiosa 2nd series, vol. 7 (1688), pp. 237-8.
202 'bina cernebantur corda': Carol Rayger, 'De anatomia monstri bicipitis' Miscellanea Curiosa 1st series, vol. 1 (1670), pp. 21-3.
c. 1670-1 Female conjoined twins fastened together at the breast. Their chins were united, seeming ‘to kiss one another’. An autopsy showed one heart ‘though greater and rounder than ordinary; so that Nature seemed to have united the Matter of two into one,’ two lungs, and an intestinal tract single as far as the pylorus. There was a single liver, four kidneys, two spleens and two sets of female internal genitalia. Thoracopagus. -2 A monstrous boy, born with the breast open, ‘bowels out of the belly,’ legs distorted, testicles close to the kidneys. An autopsy was ‘made in the presence of many Noblemen and Physitians’.\(^\text{204}\)

1670a Conjoined twins fastened together at the breast, born 22nd October to Grace Battered of Plymouth, a woman ‘of honest repute’, mother of five children. The ribs were united without a sternum, to give a common chest cavity. The twins weighed 8 1/4 lbs, crown-heel length 18 1/2”. At autopsy there was found to be a single liver and gall-bladder, four kidneys, two bladders, a common intestinal tract as far as the rectum and two oesophagi, one communicating with the stomach and one blind-ending. Lungs were not identified, there was a single malformed heart, double aortic arches and two sets of female internal genitalia.\(^\text{205}\) Thoracopagus.

1670b Born 4th March at Bad Waltersdorf, Austria.\(^\text{206}\) Cyclopia with encephalocoele.

1671 A male infant born 25th March at Eisenberg, Germany, with bilateral cleft lip and palate. It was unable to feed. An autopsy was carried out.\(^\text{207}\)

1672 A male child born with a large ‘hydrocephalic’ head, low-set, abnormal, forward-facing ears, bilateral cleft lip and facial clefts. There were no thumbs, and only three fingers each hand, the third finger on the right small. There were four toes on each foot, short limbs.

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\(^{205}\) William Durston (Doctor in Physick), ‘A Narrative of a Monstrous Birth in Plymouth, Octob. 22. 1670; together with the Anatomical Observations, taken thereupon’ Philosophical Transactions vol. 5 (1670), pp. 2096-7.

\(^{206}\) Johann Jaenis, ‘De infante sine capite’ Miscellanea Curiosa vol. 3 (1672), pp. 442-4.

microgastria, absent radii and no femora or leg bones – the feet were attached to pelvis directly. An autopsy was performed and it was exhibited after death. See chap. 7, pp 162-6.

c. 1672a A child with multiple abnormalities: no ears, no skull only a membrane through which the brain was visible, a distorted fractured arm. Maceration seems the most likely explanation, with separation of the skull bones, though acalvaria is possible.

c. 1672b Anencephaly.

c. 1672c ‘A prodigious infant born in the village of Mans, with a beard and ‘other parts like a man of 30 years of age.’ The child lived three and a half years, and his body was three feet long at the time of death.


1674a Born at ‘Wiegelöbianum,’ a male iniencephalic with posterior encephalocoele and a massive omphalocele. An autopsy was performed but not described in detail.

1674b Born at Köln near Meißen; female conjoined twins. The illustration shows one well-formed face anteriorly and two ears only posteriorly. Cephalothoracopagus janiceps asymmetros type.

c. 1674 A female child with hydrocephalus and bladder exstrophy.

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211 The Table générale des matières contenues dans le journal des savans de l’édition de Paris, depuis l’année 1665 (Paris, Briasson, 10 vols 1753-) lists a letter from M. Gerberon, a physician, (Journal des Savans 1672, supplement, p. 8) concerning this case. I have yet to see the original.
212 An extract of a letter, written by Monsieur Denys Novemb. 17. Last from Paris, concerning an odd foetus lately born there & English’ out of French’ Philosophical Transactions, vol. 8 (1673), p. 6157. Denys was called to attend the woman post partum, and he asked to see her stillborn child.
1675a Born 1st May, to the wife of a labourer, aged 36, a child whose: ‘whole abdomen was so transparent that the entire course of the intestine, with its proper coils protruding like a large hernia, was visible to the eye. Indeed, the anal opening was visible above the female parts. Liquid green excrement was produced. The right foot had only two digits, and the thumb was horribly bent back to the wrist...

1675b Born at Schaffhausen, Germany; female twins: ‘joined at the sacrum and obscene parts... each had a uterus and vagina, but a common vulva; also two recta, but one anus. Pygopagus.

1677a Twin female infants united below the diaphragm, stillborn 20th December at Petworth in Sussex to Joan Peto: ‘the Left Head was the bigger, and stayed longer in the Bearing. The Right Head was perceived to breath, but not heard to cry. Betwixt the heads was a protuberance like another Shoulder.’ There were two upper and two lower limbs. An autopsy showed that the spine was double to the loins; there were two hearts, the left bigger, two pairs of lungs, and a Y-shaped inferior vena cava. The two stomachs contained: ‘Meconium, as is usual in Children newly born.’ There was a single liver, spleen, and uterus.

1677b At Bresce, Italy; a man aged about 20 years, with a parasitic head in his chest.

c. 1677 An anencephalic child, attributed to maternal imagination.

214 Johann Matthias Nester, ‘De foetu monstroso’ Miscellanea Curiosa vol. 6 (1675), p. 60.
216 ‘abdomen totum, pellucidum adeo, ut intestinorum, suo ordine convolutorum, gyri oculis cerui possent, ingentis herniae instar prominebat; ani enim orificium supra muliebria exstat, idque ad latus dextrum nonnihil declinans atque prominulm, (unde ortum de sexu dubium) conspiciebatur, per quod excrementa alvi liquida, colore subvirda, cum obscurâ flavidine, subinda prodibant. In dextro pede duo omnino digitii desiderabantur, & pollux reflexus metacarpio turpiter incumberland...’; Georg Abraham Mercklin, ‘De gravidae imaginatione foetui noxia’ Miscellanea Curiosa, vol. 8 (1677), pp. 73-5.
218 S. Morris, ‘A Relation of a Monstrous Birth (Sent to Dr Charles Goodall of London, both of the College of Physicians), Philosophical Transactions, no. 138 (1678), pp. 961-2.
1678 Born at Ratisbon, a boy with a parasitic twin attached at the epigastrium.221

c. 1679a Born at “Tullio”222 Iniencephalic with posterior encephalocoele. A detailed autopsy was performed.223

c. 1679b A foetus of nine months gestation with a monstrous head.224 Hydrocephaly.

1680a Born at Ebeleben, Germany, 1st May 1680; conjoined twins.225 Cephalothoracopagus, shown with two fused faces and three eyes. No mention is made of a posterior face, and the illustration does not show this aspect.

1680b Born 19th May 1680 (to a mother para 5), female conjoined twins, joined from breast to navel, baptised Aquila and Priscilla: ‘... they suck and cry heartily, exonerate apart freely, and are likely to live, if the Multitudes that come to see them (sometimes 500 in a Day) do not occasion the shortening of their Lives.’ A similar case had occurred some 40 years previously in Wales: ‘the Children lived so long as to be able to talk to one another, and that in Tears, when the one thought what the other should do when either should happen to die; and that both died together.’226 Thoracopagus. See p. 158.

c. 1681 A case of a well-formed child with an extra head like the head of a cat. M. Vescher, who preserved it in his cabinet, said that he had seen it alive. M. Helvetius told of two children

221 Du Plessis 1730, op. cit., pp. 31-2; Bondeson 2000, op. cit., p. xvi.
222 Possibly Tulln, Austria, which was known as ‘Tullina’ and ‘Tulna’ (see Graesse, 1922).
seen, one with the head ‘cut, as if a knife had passed through it’ (amniotic bands) and
another that came forth from the womb like a monkey.

1682 7th May (old style) ‘A monstrous birth, of two female children joyned together at the
crowne of their heads as in the figure. They are both liveing sometimes one sleeps whilst the
other wakes, Cryes or Eats &ct.’ Craniopagus conjoined twins.

c. 1683

1684a Friday 29th February 1684 at Heisagger, nr Haderslben in Denmark: a soldier’s wife
gave birth to a child which died immediately. There were fleshy excrescences on the legs, six
toes on the right foot, a tail a quarter of a Zealandish ell long, and excrescences on the
forehead resembling ‘artificial laces: which the Painter, who 3 Days after it was dead, did draw
the Scheme, testifieth to have been almost spoiled or rotten by the touching of so many
Hundreds of People that went to see this Creature. But before, when the Head of the Child
was turned against the Light of the Sun, these physical Laces seemed to be very artificially
done.’ It had a hood, ‘as women wear.’

1684b Twins born in Normandy, 20th July. One normal twin lived for 6 hours. The other was
dissected, see pp. 154-5. Diprosopus.

c. 1685a Female conjoined twins. They had one liver and small intestine, but the rest of the
organs, including the rectum, were double. Omphalopagus.

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227 ‘tranchee, comme si le couteau y avoit passe’
229 A high quality engraving shows one awake and the other asleep. BL N.TAB.2026/25. p.2.
230 Edw. Tyson (MD, Fellow of the Coll. Of Physicians, and of the R. Society) An extract of two letters from
Mr. Sampson Birch, an Alderman and Apothecary at Stafford, concerning an extraordinary birth in Staffordshire,
with reflections thereon. Philosophical Transactions (1683), pp. 281- (plate facing p. 275).
599-600.
232 Salgues, op. cit., vol 3, pp. 118-19; see also Gelis, op. cit., p. 268. Du Plessis mentions an account from a
French periodical ‘le mercure sailant... January 1684’ which I have yet to see.
233 Johann Maurice Hoffmann, ‘De monstro gemello’ Miscellanea Curiosa 2nd series, vol. 4 (1685), pp. 288-90,
begins with Liceti’s statement that a monster is something that excites admiration. Plates show detailed
dissections of their thoracic and abdominal viscera. This is the earliest illustration I have seen where the intestines
are arranged in a mirror-image fashion.

208
c. 1685b ‘I saw here twelve years ago an infant with two heads, on one of which there was a kind of pocket resembling the hood of a Benedictine. The infant lived fifteen days. Parapagus.

1686a James Poro born at Genna. He had a parasitic head attached just below the xiphisternum. He exhibited in London.

1686b Two cases born in Aberdeen, both female –1: Twins joined at the breast and belly, with a common umbilicus. ‘It is thought they might have been brought forth alive, but that they stayed so long in the Birth; for that both heads presenting together, the Midwife thought they had been Twins, and thrust one of them always back.’ Thoracopagus or omphalopagus. –2: A child normal except for the presence of two heads, one behind the other, the posterior higher and wanting a face. Probably an encephalocoele.

1686c A female infant born 19th December the previous year near ‘Ultenthan.’ A teratoma, somewhat smaller than the child’s head, apparently arising from the mouth, obscures the face.

c. 1686 An infant born without nostrils, leading Vander Weil to suggest that a foetus in the belly of its mother breathes via the mouth.

c. 1687 Berenstattensis, Ulm Umbilical hernia/gastroschisis.

234 ‘On y voyeil il y a douze ans un enfant qui avoit deux têtes; l’une éttoit une espece de poche qui ressembloit à un capuchon de Benedictin... Le Sieur la Pierre Chirurgien juré l’ouvrît en presence de M. Bayle Docteur en Medecine, & Professeur aux Arts, & du Sieur Carbeneau Chirurgien juré.’ Monsieur Galliard (docteur en medecine de la faculté de Toulouse), ‘Observations particulières sur différentes maladies’ Journal des Scavans (1697), pp. 338-.


238 Vander Wiel, ‘Extrait des nouv. de la rep. des lettres’ Journal des Scavans (1686), pp. 263-4. M. Mappus in his Traité des Acéphales wrote that the foetus is not nourished via the umbilical cord but via the mouth.
1687a A child with two heads. Parapagus.

1687b Conjoined twins.\textsuperscript{241}

1688a Born 7th November at Stuttgart: a ‘horrible’ male monster, which died shortly after. The second day the dead body was opened up for study.\textsuperscript{242} Cleft lip and palate.

1688b Born 5th June in Endenburg (NE of Basel), Germany. A child with a large sacral tumour, probably a teratoma.\textsuperscript{243}

1689a ‘A Man with very Flat Leggs... This Man was a very poor Man, who begged his Bread about London Streets his two Leggs were as flat as an Inch Board att the Calf of his Leggs joyned together in the Manner of a Taylors Leggs and foalded under him But Could not be parted nor Extended. He was born thus in Sussex in the Year 1689 and I James Paris have seen him many Times in London...’\textsuperscript{244}

1689b Male infant born 10th May nr. Stuttgart ‘with a good colour,’ and baptised. The angles of the mouth extended too far laterally, especially to the left. ‘It breathed well, ate, drank, and excreted.’\textsuperscript{245}

1689c Born 10th May at ‘Euphrosinae,’ a male child with tetra-amelia.\textsuperscript{246}

c. 1689 Xiphopagus conjoined twins, joined by skin only. They were separated by placing a tight ligature around the bridge, which was then cut (Fig. 18).\textsuperscript{247}

\textsuperscript{239} Eberhard Gockel, ‘Infans ex fortissima matris imaginatione, monstrosa umbilici relaxatione, ac intestinorum extra corpus propendentium prolapsu, natus’ \textit{Miscellanea Curiosa} 2nd series, vol. 6 (1687), pp. 263-4.

\textsuperscript{240} Attributed in general terms in this very short article to the ‘vehement terrors of the imagination of women.’ Carol Joseph Myller, ‘Foetus quodammodo monstrosus à partu’ \textit{Miscellanea Curiosa} 2nd series, vol. 7 (1688), p. 429.

\textsuperscript{241} Anon., \textit{The Wonder of this present Age...} (1687), reprinted in Rollins, \textit{op. cit.}, p. 139.

\textsuperscript{242} Salomon Reisel, ‘De labiis leporinis geminis, oculis dausis & coecis, & fovea cranii in vertice’ \textit{Miscellanea Curiosa} 2nd series, vol. 8 (1689), pp. 135-6.

\textsuperscript{243} Johann Maurice Hoffmann, ‘Foetu monstroso ex imaginatione matris’ \textit{Miscellanea Curiosa} 2nd series, vol. 8 (1689), pp. 483-5. The figures said to describe it were missing from the copies I have so far examined.

\textsuperscript{244} Du Plessis 1730, \textit{op. cit.}, p. 91.

1690a Born dead 13th February at Presburg, Germany. A macerated female infant with a large encephalocele and bilateral cleft lip.  

1690b Born 25th October, Magdeburg. ‘Two hours after [the birth of the monster], she first produced a well formed but weak premature girl.’ The head was absent and there were abnormalities of the upper limbs (fetus amorphus). Two months before there was another case, a macerated female, with a right-sided facial fissure. The drawing may be intended to show an encephalocele, or a macerated head.  

C. 1690a A child with a ‘tumour’ in the abdomen, which had a very thin wall. b A second ‘horrible’ case, also illustrated, had a posterior encephalocele, a large abdominal wall defect with the liver, stomach and intestines exteriorised, right-sided cleft lip, and mutilated digits. Unlike the first, this underwent an autopsy. See p. 168.  

c. 1690c A 45-year-old mother had her first baby five years previously. In her second pregnancy she had felt foetal movements until nine days before term. The child was stillborn, and was about a foot long. It was not possible to distinguish the sex. The eyes were prominent and the back of the head flat and dark, like a cow. ‘Such a great deformity of the head cast doubt upon the conformation of the brain, which is the seat of the soul. Had the infant been born alive, the difficulty would have been whether to baptise it. Several ecclesiastics who I consulted agreed that it would have been proper to give it sub conditione.’ Attributed to maternal impressions: ‘this woman had, some months previously, lost a cow with a black poll, and she had been much affected by this loss.’  

Anencephaly.

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246 ibid.  
248 Andreae Löw, ‘Foetus, qui caput, monstruosus’ Miscellanea Curiosa 2nd series, vol. 9 (1690); pp. 200-2.  
251 ‘ette grande difformité de la teste fit douter la conformation du cerveau, qui est le siege de l’ame. Si l’enfant avoit eu vie, la difficulität auroit esté plus grande pour lui donner le baptême. Quelques ecclesiastiques qui se trouverent présens, jugerent qu’il aurif fallu lui donner sous condition... Cette femme avoit perdu depuis
c. 1690d Fetus amorphus.252

1691a Born 8th December, a male child with two heads. 'The foetus, expelled alive, was soon dead, though happily fortified with baptism.' Parapagus.

1691b A child born between the 14th and 15th of November with sirenomelia.254

c. 1691 A macerated anencephalic.255

1692 A child with right-sided cleft lip and palate, born 31st February among the Jews of Rome.256

1692 Male conjoined twins born 10th July.257 Omphalopagus type, with no shared organs except the liver.

1694 A female anencephalic born in France in July 1694: 'According to Descartes, this child, who had as fine a face, as any new-born child I ever saw, could not be a reasonable human

quelque mois une vache de poil noir, & avoit senti cette perte avec beaucoup de douleur.' Le Prieur de Lugeris, 'Extrait d'une lettre de monsieur le Prieur de Lugeris en Champagne, sur un enfantement arrivé au mois de Mai dernier' Journal des Scavans (1690), pp. 53-4.


253 Carol Patini, 'Monstrum biceps masculinum' Miscellanea Curiosa 2nd series, vol. 10 (1691), pp. 72-3. An illustration shows them alive, standing and smiling.

254 Philipp Jacob Hartmann, 'Anatome monstri' Miscellanea Curiosa 2nd series, vol. 10 (1691), pp. 258-62. A detailed autopsy was performed: the abnormality was attributed to maternal impressions.

255 Anon., 'Embryi intra uterum mortui & conquassati effiges monstrum praee se ferens' Miscellanea Curiosa 2nd series, vol. 10 (1691), p. 419.


257 ibid. An autopsy was performed.
creature; for as she wanted the glandula pinealis, which according to him, is the seat of the soul, she could have no soul at all.  

259

c. 1697a A child born alive without a brain and the observables in it on dissection.  

c. 1697b An infant, where the brain was depressed into the hollow of the vertebrae of the neck.  

c. 1697c Monsieur Soye, a surgeon from Toulouse, attended a newborn term male infant on whom there was no trace of the occipital, parietal, or the greater part of the frontal bones. The infant lived four or five days.  

260 Anencephaly.

1698 An anencephalic child born to a French woman living at ‘Dung-hill.’ Monsieur Bussiere ‘was sent for to open this Child’s head.’  

1699 London: conjoined twins, probably thoracopagus or omphalopagus.

c. 1700 Sirenomelia. A detailed autopsy was performed and it was found to be ‘sexless.’

1700 An anencephalic child born 7th May, France.


260 Described in an article by Edward Tyson (Philosophical Transactions 1697, p.533) and indexed in Reuss vol. 10, p. 280.


262 Bussiere, ‘An anatomical account of a child’s head, born without a brain in October last, 1698’ Philosophical Transactions vol. 21 (1700), pp. 141-4.

263 Anon., By his Majesty’s Authority. At the sign of Charing-Cross, at Charing Cross. There is to be seen a strange and monstrous Child, with one Body and one Belly, and yet otherwise it hath all the Proportions of two children... (London, 1699).


265 La Motte, op. cit., p. 457.
Appendix 2 — Birth Defects Reported in Journals Until 1700

Miscellanea Curiosa

1st Decade: vol. 1 (1670; published 1684)

Carol Rayger, ‘De anatomia monstri bicipitis,’ pp. 21-3.


Alard Hermann Cumm, ‘De hydrocephalo dissecto,’ p. 120.


Vol. 2, 1671, published in the same year


Vol. 3, 1672, published 1681


Johann Jacob Wepfer, ‘De pvella sine cerebro nata, historia,’ pp. 175-203.

Melchior Fribe, ‘De partv monstroso bicipiti,’ p. 254 + figure.

Henric Sampson, ‘De foetu monstrosissimo,’ p. 279.

Johannes Sculteti, ‘De duobus monstris,’ pp. 346-51 [review].

Johann Jaenis, ‘De infante sine capite,’ pp. 442-4 + figure.


Heinrich Vollgnad, ‘De monstroso foetv,’ pp. 446-7 + figure.

Vol. 4, 1674, published 1676


Vol. 6 & 7 1675 and 1676, published 1677 (volumes 6 & 7 have continuous pagination: there appears not to have been a vol. 5)

Johann Matthias Nester, ‘De foetu monstroso,’ p. 60.

Vol. 8 1677, published 1678 (Wratislavia, Johannis Christophor Jacob)

Georg Abraham Mercklin, ‘De gravidæ imaginatione foetui noxia,’ pp. 73-5.

Vol. 9 & 10, 1678 and 1679, published 1680

Alphons Khon, ‘Partu monstroso miranda imaginationis vi oborto,’ p. 74.

2nd Decade, vol. 2, 1683 published 1684 (Nürnberg, Wolfgangi Mauritii Endtetri)

Benjamin Scharf, ‘Monstrum à constrictione,’ pp. 254-6+1 figure.


Vol. 4, 1685, published 1686, details as previous


Vol. 6, 1687, published 1688


Joh. Mauric Hoffmann, ‘De foetu monstroso,’ pp. 333-6+1 figure.

Appendix: Christian Franz Paulin, ‘Observationes medico-physicae, selectae & curiosae, variis antiquitatis historico-Germanicis bonâ fide interdum conspersae 1687,’ pp. 53-4 + 1 figure.

Vol. 7, 1688, published 1689


Caroli Josephi Myller, ‘Foetus quodammodo monstrosus à partu,’ p. 429.
Vol. 8, 1689, published 1690
Salomon Reisel, 'De labiis leporinis geminis, oculis clausis & coecis, & fovea cranii in vertice,' pp. 135-6.

Salomon Reisel, 'Infans truncus sine artubus;' pp. 136-7 + figure.

Johann Mauric Hoffmann, 'Foetu monstroso ex imaginatione matris,' pp. 483-5.

G. Konig, 'Sibi invicem adnati feliciter separati. Obs 145.

Vol. 9, 1690, published 1691 details as above

Jacob August Hünerwolff, 'De foemellis duabus monstrosis,' pp. 170-1 + figure.

Andreae Löw, 'Foetus, quà caput, monstruosus,' pp. 200-2 + figure.

Günther Christophor Scheihammer, 'Monstrum acephalum,' pp. 258-9 + figure.

Vol. 10, 1691, published 1692.

Karl Patin, 'Monstrum biceps masculinum,' pp. 72-3 + figure.

Addendum to vol. 5, 'Embryi intra uterum mortui & conquassati effiges monstrum praes se ferens,' p. 419 + facing figure.

Philipp Jacob Hartmann, 'Anatome monstri,' pp. 258-62 + figure.

3rd Decade, vol. 1, 1694 (Leipzig, Thomas Fritsch, n.d.)

Joseph Lanzoni, 'De monstro mentulato & bicorpori,' pp. 185-6 + figure.

Vols 9 & 10, 1700 & 1701, published 1706 (Nürnberg, Engelbert Streck)

Johann Henric Hottinger, 'Monstruo humano absque sexu, pedibus, &c. in ex crescementiam caudiformem definente' pp. 413-16 + figure.

The Philosophical Transactions of the Royal Society of London


William Durston (Doctor in Physick), 'A Narrative of a Monstrous Birth in Plymouth, Octob. 22. 1670; together with the Anatomical Observations, taken thereupon' vol. 5, no. 65 (1670), p. 2096.


A. P., ‘A letter from Mr A.P. in Somersetshire, giving an account of a strange birth that in May last happened at Hillbrewers in that county’ Philosophical Collections vol. 2 (1681), pp. 21-2.


Christopher Krahe, ‘The description of a monstrous child, born Friday the 29th. of February 1684. at a village called Heisagger, distant about 4 English miles from Hattersleben, a town in South-Jutland, under the King of Denmark’s dominion’ vol. 14, no. 160 (1684), pp. 599-600.


Edward Tyson [An observation of an infant, where the brain was depressed into the hollow of the vertebræ of the neck.] (1697), p.533 (Indexed in Reuss vol. 10, p. 280).

(Monsieur) Bussiere, ‘An anatomical account of a child’s head, born without a brain in October last, 1698’ vol. 21 (1700), p.141-4.

Journal des Savans


[The Table générale des matières contenues dans le journal des savans de l’édition de Paris, depuis l’année 1663 (Paris, Briasson, 1753) lists a letter from M. Gerberon, a physician, (1672, supplement, p. 8) concerning a prodigious infant born in the village of Mans, with a beard and 'other parts like a man of 30 years of age.' The child lived three and a half years, and his body was three feet long at the time of death. I have yet to see the original.]


Anon., ‘Histoire de l’enfant de vilne en Lithuanie, à la dent d’or’ (1681), pp. 401-2.

Le Prieur de Lugeris, ‘Extrait d’une lettre de monsieur le Prieur de Lugeris en Champagne, sur un enfantement arrivé au mois de Mai dernier’ (1690), pp. 53-4.

Anon., ‘Suite des observations faites à Toulouse’ (1697), pp. 359-60.


M. Galliard (docteur en medecine de la faculté de Toulouse), ‘Observations particulieres sur differentes maladies’ (1697) pp. 338-.


Infante monstroso Lugduni in viam publicam die V. Martii A. MDCLXXI. exposito.

Monstrum est omne id, quod praeter cursum & ordinem Naturae apparet; Velut infans biceps, vel qui habet tria aut plura brachia seu alia membra superfusa mutila vel manca.

Prodigiorum est, quod prorsùs contra naturam venit, velut si mulier pariar brutum, sive sit quadrupes, aquatico, volatile, reptile, sive prodigiosum alium. Velut videre est in Historia de Monstris Ulyssis Aldrovandi & in Ambrosii Parei Lib. 25. de Monstris.

Inter causas monstrorum Auctores ponunt Gloriam Dei, velut in eo, qui caecus erat natus; seu iram ejus, quemadmodum si viri & mulieres non habitat ratione temporis aut aliarum à Deo & natura praescriptarum legum sibi cohabitent. Id quod saepè accidit tempore Mensium, prout extat in Prophetæ Esdræ.

Reliquae causae Monstrorum sunt abundantia aut defectus materiae & vis imaginationis circa hanc facultatem formatricem.

Praesens monstrum habet inusitatae magnitudinis caput, cranium capillis aeque longis contum velut infans decem aut duodecim mensium. Cerebrum natabat in sero sitatibus sive aquis contra naturam, quae Hydrocephalum seu tumorem aquo sum in eo causa verant: Partes duae laterales superiores crani formant eminentiam praeternaturalem propter attactum cerebri natantem.

Quantitas aquis in capite ipsius separavit ossa crani ab invicem.

Aures ejus ambae vitiosae sunt & defectuosae quoad earum compositionem, conformationem & situm, ita ut effigies repraesentat, cùm sit quasi una eademque massa, nec cartilaginem ullam habent, verùm duo exigua foraminæ, & sunt compressæ admodum, velit tota facies.

Labrum superius utrinque est fisium, atque ita os leporinum duplex efficat, cujus medietas est circumdata cute & carne; idem labrum superius ad latus sinistram habet unum ex dentibus incisoris, qui adhuc exiguà cuticulà est opertus.

Mammillae ejus paulò inferiores sitæ sunt, quàm aliàs solent.

Manus ejus propemodiùm ad instar manus simiae alicujus conformatae sunt, pollice tamen carent, & digitis tantùm duo in manu dextrâ ungues suos habent, tertius nullum habet os nec articulum aut phalangem priorem in radice suà.

Manus sinistra itidem pollice caret, duos tantùm digitos cum unguibus suis habens, tertius mutilus est, & tàm primo, quàm ultimo osse destituitur.

Manus ejus humero sive magno brachii Ossi cohaerent simplici ligamento, destitutae duobus illis Ossibus, quae constituunt & formant brachium anterius seu ulnam.

Dorsum bene se habet usque ad coxendicem.

Venter infimus in parte anteriore figuram satis naturalem praefert; ab umbilico usque ad penem est intervallum latitudinis trium digitorum, & tantundem usque ad extremitatem.
Quoad posteriorem partem circa Os Coxendicis enascebatur appendix carnosa speciem habens majoris cujusdam lentis, & inde usque ad finem repraesentabat praeter propter posteriora Anatis sive Anseris: porro nec femora habet, nec tibiae.

Pedes ejus immediatè procedunt ab Osse Coxendicis, cui adhaerent serie continuà simplici ligamento, & quodammodo pedes Anatis referunt.

Ductus ex ore ad pectus usque liber satis & apertus est, perinde ut alter canalis, qui ex ore ad Stomachum ducit; Via ex Stomacho usque ad extremitatem patens prorsusque libera est, & utrinque sana & libera omnia.

Ureteres seu canales, qui Urinam ex renibus in vesicam deducunt, itidem patentes & liberi sunt, perinde ut canalis ex vesicâ ad extremitatem penis.

Totum abdomen natabat in sanguine extravasato per rupturam Venae Umbilicalis, id quod procul dubio accidit propter laboriosum & difficilem partum matris, qui cum esset contra naturae ordinem, siquidem pedes primò exiverant, propter violentiam in extrahendo eo commissam (etiam caput ob magnitudinem insolitam exire non poterat) vena haec rupta suit.

Caeterùm reliquae Partes omnes nobiliores sanae & integrae fuerunt, & si potuisset in lucem edì indemnís, capax fuisset procreandae Sobolis sine dubio perfectioris quàm ipse suit, ad minimum quoad extremitates & alias partes vitiosas, quandoquidem videmus, mancos & mutilos gignere solere liberos omni ex parte integros.

Monstrum hoc nunquam erecto corpore ingredi potuisset, nec sedere, parùm etiam manuum ministerio uti didicisset, prout ex Observatione recensitâ liquet.
APPENDIX 4 — MONSTROUS BIRTHS FROM THE BOOK LITERATURE

1. LYCOSTHENES/BATMAN

A. Cases included by Lycosthenes

1531a; 1536a; 1538a, b; 1540a; 1541a, 1543a, b; 1544a, b, c; 1545a, b; 1546a, b; 1548a; 1550a, b; 1551a; 1552a, c; 1553a, b, c; 1554a, b; 1555a; 1556a, b, c, d, e; 1557a, b, c.

B. Cases added by Batman

1562a; 1567; 1568a; 1575b; 1576a; 1578b; 1579a, b, c, d; 1580a, b, c.

2. BOIASTUAU

1530b; 1538b; 1540b; 1544a; 1547b; 1548b; 1552b; 1554a; 1555e; 1568a.

Added in the 1594 edition:

Book 3 - 1570b; 1571b.

Book 4 - 1551a.

3. RUEFF

1503; 1512a; 1519; 1529a; 1552b; 1547b.
Appendix 5 — A bibliography of broadsides and pamphlets on the subject of monstrous births, 1500-1700.

{} Title only survives


Anon. [1517] Am XXIII Tag des Mai, also am Sankt-Urbans-Tag, zwischen fü nf und sechs vormittags, hat eine siebenundzwanzigjährige Frau in der stadt Landsbut an der Donau in Bayern... n.p.

Melanchthon, Philip and Martin Luther (1523) Deutung der zuo gewalde Figgren, Baptiseals zu Rom und Munchkalbs zu jreyhurg in Meyssen fanden. Wittenburg.


Anon. (1552) Thou shalt understande, Chrysten Reader, that the thyrde daye of August last past, Anno. MCCCCLII... in a toune called Myddleton stonye... at the In, called the Sygne of the Egle, there the good wyfe of the same, was delivred of thys double Chylde, begotten of her late housbonde John Kenner... London.


{Anon. (1561) A picture of a monstors chylde which was borne at Choochester, 1561. London, Fran. Godliff.}

{Anon. (1561) A picture of a monstors chylde which was borne in Suffolke. 1561. London, Thomas Marsh.}

F[ulwood], W[illiam] (1562) The shape of, ii, monsters, MDlxii. London.

Anon. (1562) The description of a monstrous Pig, the which was farrowed at Hamstede bysend London, the xvi day of October this present yeare of our Lord God. M.D.LXII. London, Alexander Lacy for Garat Dewes.

Anon. [1562] The true reporte of the forme and shape of a monstrous Childe borne at Muche Horkesley, a village three myles from Colchester, in the Countey of Essex, the xxi daye of Aprill in this yeare. London, Thomas Marshé.
D, Jhon. (1562) *A description of a monstrous Chylde, borne at Chichester in Sussex, the xxiii. day of May. This being the very length, and bygnes of the same.* London, Leonard Askel for Fraunces Godlyf.


Barkar, John (1564) *The true description of a monstrous Chylde/ Borne in the Ile of Wight, in this present yeare of our Lord God, M.D.LXIII. the month of October, after this forme a duster cflofry heare about the Natælly the Fathers name is Iames Johnson, in the parys of Freswuter.* London, WyBiam Gryffith.

Anon. (1565) *The true fourme and shape of a monstorous Chylde, Whiche was borne in Stony Stratfdrde, in North Hamptonshire. The yeare of our Lord, M.CCCC.LXV.* London.


{Anon. (1565) *A true Dyscription of two children borne at Herne in Kente the xxvijth Day of Auguste anno 1565.* London, Owen Rogers.}

Mellys, John [1566] *The true description of two monstrous children, lawfully begotten between George Stevens and Mangerie his wyf, and borne in the parish of Swanburne in Buckeynghamshyre the iiij. of April. Anno Domini 1566. the two children having their belies fast ioned together, and imbracing one an other with their armes: which children wer both a bye by the space of half an hower, and wer baptized, and named the one John, and the other Ioan.* London, Alexander Lacy.


Anon. [1566] *Abzönerfetsung der Wunderbaren gestalt / so Hans Katenbomn... Im 1566 ... n.p.*

Anon. (1568) *The forme and shape of a Monstrous Child, borne at Maydstone in Kent, the xxiiiij. of October, 1568.* London, John Aweley.


Anon. (1575) *Novu et ridicolosa esposizione del Monstro nato in Ghetto. Con il Lamento di suo pade per la morte di quello; Et quello voglio pronosticare a gli Hebrei non le huando potuto Circoncider. Venice.*

Anon. (1575) *Discorso sopra li accidenti del parto mostruoso nato di una Hebreia in Venetia. Venetia, Domenico Farri.* [Describes the same case as the above.]

{Anon. (1576) The description and figure of a monstrous child borne at Taunton the viij of November 1576. London, Hugh Jackson.}

{Anon. (1577) The description of a monstrous child named John Efremley. London, Henry Bynneman.}


Anon. (1578) Vray pourtraict, et sommaire description d'un horrible et merveilleux monstre, né a Che; terre de Piedmond, le 10. de Janvier 1578. A bint heures du soir, de la femme d'un docteur, aux sept cornes, celle qui pend jusques a la sainture et celle qui est autour du col sont de chair. Chambéry.


{Anon. (1580) The description of monstrous child borne at Pffenny stanton in Huntingdonshire. London, Henry Bynneman.}


Anon. (1582) La grande et merveilleuse histoire d'un monstre advenue au pais de Gueldes, ceste fort admirable depuis peu de temps. Ensemble avec l'approbation de plusieurs gens de bien lesquels trouverez en escript dans le present discours par nol[m]s et sermonns. Paris.

{Anon. (1584) A Strange example of A maidenchild borne vpon Sondaye the third of January. 1584. in the Mynoryes without Allgate of London. London, Walter Venge.}
Anon. (1587) *Nouvelles admirables d'un enfant Monstre-nay...* Paris, M. Buffet.


Jonas, Richard (1600) *A most strange and true discourse of the wonderfull Judgement of God, of a monstrous deformed infant, begotten by incestuous copulation, between the brother's sonne, and the sister's daughter, being both unwed persons. Which child was born at Cokwall, in the county and diocese of Hereford, upon the feast of the Epiphany, commonly called twelfth-day, 1599. A notable and most terrible example of incest and whorem.* London.

Anon. [c. 1600] *Discours prodigieux et veritable, d'une fille de chambre, laquelle a produit un montre...* Paris, F. Bourriquant.


Anon. (1606) *Traite merveilleux d'un monstre engendre dans le corps d'un homme...* Rouen, J. Petit. [A fancifull account of a man giving birth to a monster.]

Anon. (1608) *Two most strange Births.* London, R.B.

Anon. (1609) *Strange news out of Kent of a monstrous child... borne in old Sandwicche upon Sunday the 30th of July 1609.* [London], Wm. Barley.

Anon. (1609) *A ballad made by Thomas Brew of the Two monstrous births in Devon and Plymouth in November last.* [London], Tho. Pavier.

Anon. (1609) *Histoire miraculeuse, advenue dans la ville de Geneve...* Lyon, C. Farine.

Leigh, W. (1613) *Strange news of a prodigious monster born on the Township of Addlington, in the Parish of Standish, in the County of Lancaster, the 17 day of April, 1613. Testified by the reverend divine, Mr W. Leigh, bachelor of divinitie, and preacher of God's word at Standish aforesaid.* n.p., J.P. &c.


Anon. (1616) *Eine rechte warhaffte Abcontrefactur...* 1596... Prague.

Anon. (1617) *A Wonder worth the reading, or, A true and faithful relation of a woman, now dwelling in Kent Street, who, upon Thursday, being the 21 of August last, was deliver'd of a prodigious and Monstrous, Child, in the presence of divers honest, and religious women to their wonderfull feare and astonishment.* London, William Jones.
Anon. [c. 1620] Wirhaffige und eigentliche Contrafactur einer selblichem zwintopfigen Wunder
Mickegeburt... 1620... Nurnburg, Peter Isselburg.

Anon. (1628) La Naissance d’un Monstre Ayant la Face Humaine, la Teste et le Reste du Corps Couvert
d’uune Armure Fapon Descailles... Paris, M. Mondiere.

B[edford], Th[omas] (1635) A true and certain relation of a strange birth, which was born at Stonehouse,
in the parish of Plimouth, the 20th of Oct. 1635; together with the notes of a sermon preached, Oct. 23d, in
the church of Plimouth, at the intering of the said birth. London, Anne Griffin.

Parker, Martin (1637) The two inseparable brothers. London, Thomas Lambert.

Anon. (1638) A Lamentable List, of certaine Hidious, Frightfull, and Prodigious Signes... London,
Tho. Lambert.

Anon. (1640) A Monstrous Shape or a Shapeless Monster. A description of a female creature born in
Holland, compleat in every part, save only a head like a swine, who hath transealed into many parts, and is now
to be seen in London. London.

Anon. (1640) Wirhaffiges Abkonntmant und Beschreibung / der vor Augen stehendcn erszrocklichen
Mikgeburt... 1640. Wurtemberg, Johann Benrich Roslein.

Locke, John. (1642) A strange and lamentable accident that happened lately at Mears-Ashby in
Northamptonshire 1642. Of one Mary Winmore, wife to John Winmore, rough mason, who was delivered of a
childe without a head, and credibly reported to have a flame crosse on the brest, as this ensuing story shall relate.

Anon. (1645) The most strange and wunderfull apperation of blood in a poole at Garraton... London,
I.H.

Anon. (1647) Strange news from Scotland... London, E.P. for W. Lee.

Anon. (1659) The true and most miraculous narrative, of a child born with two tongues, at the lower end of
East-Smithfield [sic] in the suburbs of London... who three days after his birth, was heard plainly, expressly to
cry out, A king, a king, a king... London, R. Harper.

Anon. (1656) A temperie with foure hands and 4 heele, 2 heades, 2 bodyes, two mouthes, 4 eyes and 4
eares. [London], Wm. Gilbertson.


Anon. (1662) Histoire de deux monstres nouveaulement vus a Paris... Paris.

Anon [1664] Nature’s wonder? A True Account how the Wife of one John Waterman an Ostler in the
Parish of Fisherton-Anger, near Salisbury, was Delivered of a strange Monster upon the 26th of October
1664. which liued untill the 27th of the same Moneth. It had two Heads, foure Armes, and two Legs. The

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Heads standing contrary each to the other; and the Loines, Hipps, and Leggs Issuing out of the middle, betwixt both. They were bothe perfect to the Navell, and there joined in one, being but one Sex, which was the Female. She had another child born before it (of the Female Sex) which is yet living, and is a very comely Child in all proportions. This is attested for truth, by several Persons which were eyewitnesses. n.p.

Anon. (1668) *The Strange Monster or, True News from Nottingham-Shire of a strange monster born at Grasky in Nottingham-Shire, three miles from Nottingham, with a relation of his strange and wonderful shape, the time his mother was in travail with him, with several other things of note. Together with a brief relation of Several Monstrous and Prodigious births which happened heretofore in this our nation.* London, Peter Lillicrap.

Anon. [c.1669] *Censure du discours prononcé sur le changement d’un Fetus humain en Singe.*

Anon. (1677) *True wonders and strange news.*

Anon., (1677) *The world’s wonder.*

Anon. (1679) *New news of a strange monster.* London.

Anon. [c.1680] *A true relation of a monstrous female-child, with two heads, four eyes, four ears, two noses, two mouths, and four arms, four legs, and all things else proportionally, fixed to one body: born about the 19 of May last, at a village called Ill-Brewers near Taunton-Dean in Somerset-Shire: likewise a true and perfect account of its form so prodigiously strange... as it was faithfully communicated in a letter, by a person of worth, living in Taunton-Dean, to a gentleman here in London...* London, D. Mallet.

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Fig. 1 – The title page of Aldrovandi’s *Monstrorum Historia* (1642). His ermine robe and crown of wisdom convey an impression of high social status as well as scholarly distinction.
Fig. 2 – Left, a monster attributed to the sin of sodomy (Appendix 1, 1547b); right, Luther’s monk-calf. Illustrations from Schott’s *Physica Curiosa* (1667).
Fig. 3 – The placenta as the rose of Jericho, a plant used in difficult labours, from Johan von Hoorn’s *Jorde-Gianna* (1697).
Fig. 4 – The evolution of the monster of Ravenna as illustrated in Schott’s *Physica Curiosa* (1667, p. 614). The figure on the top left represents the ‘original’ form of the monster – two lower limbs, male external genitalia, and a leopard’s face. The version top right is the one that established itself in the later literature. Note that the monster has become an hermaphrodite, symbolised by the depiction of both male and female genitalia.
Fig. 5 – Lilith, as depicted in the Burney relief.
Fig. 6 – 'a manne chylde, having three armes, three legges and very terrible to beholde’ (Batman, 1581).
Fig. 7 – An anonymous broadside of 1562 describing a monstrous child (Appendix 1, 1562a). Features of maceration include skin slippage, skull deformation, and a 'skeletal' appearance of the limbs.
Fig. 8 – Conjoined twins (Appendix 1, 1511b). Parapagus tribrachius tetrapus – an anatomical impossibility produced from a misunderstood description. Holländer 1921, p. 77.
Fig. 9 – Title page of Liceti’s De Monstrorum (Padua, 1634).
Fig. 10 – Thoracopagus twins born in Heidelberg (Appendix 1, 1544b). Although they lived a day and a half they are shown much older, embracing one another. Holländer 1921, p. 345.
Fig. 11 – An intaglio engraving from Riolan’s thesis. The anatomised twins are shown alive (Appendix 1, 1605). C is the stomach, E the liver, and F the heart.
Fig. 12 – A macerated child with a large encephalocoele and bilateral cleft lip, and a locust’s wing bearing a Hebrew inscription (Miscellanea Curiosa, 1690).
Fig. 13 – *Daemones*. In the centre, a monster born at Krakow (Appendix 1, 1547b). To the right is Melanchthon’s ‘popish ass’ and to the left a child with the head of a rabbit. Liceti, *De Monstrorum*, 1665, p. 256, adapted from an illustration in Lycosthenes’ *Prodigiones*. 
Fig. 14 – Specimens from Ruysch’s collection.
Fig. 15 – One of Ruysch’s dioramas showing foetal skeletons grieving (they have handkerchiefs of placental membranes) over disordered human remains. *A maneto mori* to the layman, for the anatomist this scene celebrates the capacity of preserved human material to evade the degradations of time.
Fig. 16 - Cephalothoracopagus janiceps twins born at Genoa (Appendix 1, 1555a) and delivered by embryotomy. They are, by convention, depicted as if living. Boaistuau, *Histoires Prodigieuses*, fol. 142v
Fig 17 - A stillbirth at Heisagger, Denmark, 'which the Painter, who 3 Days after it was dead, did draw... ' From *Philosophical Transactions* vol. 14 (1684), pp. 599-600.
Fig. 18 – Separation of conjoined twins (*Miscellanea Curiosa*, 1689).
Fig. 19 – Two views of cephalothoracopagus janiceps asymmetros twins (Appendix 1, 1578a). One twin has an abdominal hernia sac (or just possibly a sacral teratoma). Holländer 1921, p. 353.
Fig. 20 – An engraving of a child with tetraphocomelia. Note, in addition to the features described by Bouchard (see Appendix 3), cryptorchidism and micrognathia.
Fig. 21 – Woodcut of a ‘mishapen child’ born to ‘an adulteresse named Annis Figge,’ from Batman’s *The Doome Waming All Men to the Judgement* 1581, p. 415.
Fig. 22 - A warning to England. An anonymous English broadside of 1568 (Appendix 1, 1568b). Trisomy 13 is a possible diagnosis.
Fig. 23 – Ischiopagus tetrabrachius tripus conjoined twins (Appendix 1, 1552b). Fenton, *Certaine Secrete Wonders of Nature*... 1569, fol. 141r.
Fig. 24 – A hirsute cyclops (Appendix 1, 1568a). Fenton, *Certaine Secrete Wonders of Nature...* 1569, fol. 146r.
Fig. 25 – Three views of a cyclopic female. Based on a life drawing, this engraving includes details such as the absent philtrum, but locates an additional eye in the posterior fontanelle. Liceti, *De Monstrorum*, 1634, p. 132.
Fig. 26 – The head of an anencephalic (Appendix 1, 1646), with drawings of the bones of the skull base. These skeletal preparations would have taken some time to produce. Hofmann, *Miscellanea Curiosa* vol. 2 (1671), p. 60.
Fig. 27 – Parapagus tribrachius dipus illustrated in *Miscellanea curiosa* vol. 3 (1672), p. 254 (Appendix 1, 1658). They are recognisably dead.