

Becoming Human: From the Embryo to the Newborn Child

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Abstract and Keywords

Since antiquity, speculations on the emergence of human life and the status of the embryo have prompted intense debates. How does fetal matter grow into a human being? When does it have a soul? Was it treated as a potential person or as just an extension of the mother's body? No general agreement existed, but there was a plurality of viewpoints according to different medical, philosophical, and legal perspectives and to gender. Neither aborted nor newborn babies had their own right to life before social recognition by the father about one week after delivery. The absence of legal provision on infanticide until the third century CE is consistent with the uncertainties of the human status of the unborn displayed in ancient literature. Various written and iconographic sources, however, reflect the possible perception of the unborn child as a living being, worthy of divine protection, and directly addressed.

Keywords: Abortion, birthmark, Caesarean section, contraception, embryo, exposure, gynecology, infanticide, multiple births, twins, obstetrics, superfetation

Introduction

Since antiquity, speculations on the emergence of human life and the status of the embryo have prompted intense medical, philosophical, religious, and legal debates. How does fetal matter grow into a human being? When does it have a soul? Is it from conception, gradually, or at birth only? What kind of faculties and capacities were attributed to it? Was it treated as a potential person or just as an extension of the mother's body? The status of the embryo raises important issues on the definition of life and human identity.

Fetal Growth and Ensoulment

The modern distinction between a fetus (until three months of pregnancy) and an embryo (from three months until delivery) does not apply to ancient categories. Hippocrates, Aristotle, Galen, and most ancient medical authors adopt a gradualist view. They define three main stages in the development of the embryo: first the coagulation of the seed; then the formation of fetal parts, progressively associated with movements; and finally the achievement of all body parts. An age-specific terminology relating to the growth process is not clearly fixed. *Kuoumenon*, *kuema*, *to kata gastros*, "what is carried in the womb," is usually the product of conception. For the Hippocratics, *embruon* and *paidion* are both used for the different stages of formation (e.g., Hippoc. *Oct.* [*De Octimestri partu*], 7.452–60 Littré). Galen is more precise and distinguishes the semen, *gone*, from the coagulated seed, *kuema*, which becomes a living being, *kuoumenon zoon*, when the heart starts beating (Gal. *De Sem.* 4.542–3 Kühn); *embruon* is applied to the formation stage, *brephos*, "baby," and *paidion*, "child," to the embryo in its last stage as well as to the small child in his first seven years (Hanson 2003; Boudon-Millot 2008).

Two schools of thought dominate regarding the preliminary stage of conception. For the Hippocratics, man and wife each produce a seed (*gonos*) that is both male and female, coming from all parts of the body, and these seeds mix together in the uterus (*Gen.* [*De Genitura*] 3–8, 7.474–82 Littré). The more vigorous of the two determines the main characteristics of the child, such as sex and physical resemblance (Dean-Jones 1994: 153–76; Bonnard 2006). For Aristotle, only the male seed possesses a creative principle. It breathes life into the menstrual blood thanks to the generative heat of the *pneuma* providing form (*eidos*) to passive (*pathetikon*) female matter (*Gen. An.* 729a30). Menstrual blood is the final residue of the blood, but less perfectly concocted than the male seed, and it contributes only nutritive soul to the child. In this respect, the woman is only a receptacle (Balme 1990; Dean-Jones 1994: 176–99; Morel 2008).

In both schools, the transformation of seed into an embryo is an extended process that takes several days. Seed then acquires breath (*pneuma*) on account of the warmth of the womb. The uterus is compared to an oven (*kaminos*) where heated seed rises like bread, a long-lived metaphor also found in Aristotle and in popular imagery.¹ The process is also likened to a sort of coagulation; male seed "sets" female residue, as rennet sets milk (Arist. *Gen. An.* 739b20–5). Two descriptions of aborted fetuses with recognizable limbs occur in *Nature of the Child* (*Nat. puer.* 13, 7.488–92 Littré) and *Fleshes* (*Carn.* 19, 8.608–12 Littré; fifth century BCE); they are both believed to be six or seven days old (King 1990: 10–11; Hanson 1992; King 1998: 136).

In the second stage, the embryo slowly becomes a living being with visible limbs. The Hippocratic treatise *Nature of the Child* uses vegetal analogies to explain the growth process in humans. Like a plant, the health of the child depends on its "soil," the womb. Sickly or too-small children result either from

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a blow or from a deficient womb providing not enough space or food (*Gen.* 9–10, 7.482–4 Littré; Bien 1997).

A common belief is that the timing of formation differs according to the sex of the child. In *Nature of the Child*, boys are formed after thirty days and girls after forty-two days because the latter are colder, weaker, and slower to coagulate (*Nat. puer.* 18, 7.498–500 Littré). Hippocratics relate the formation time to that of the lochial flows following delivery: longer for girls than for boys (*Nat. Puer.* 18, 7.504–6 Littré; *Morb. mul.* [*De morbis mulierum*] 1.72, 8.152 Littré). For most authors, the *embruon* becomes a living being as soon as the first movements appear. For boys, this takes place in the third month and for girls in the fourth month or later (e.g., *Nat. Puer.* 21, 7.510–12 Littré).

Ancient medical texts do not discuss the question of ensoulment, but Hippocratics acknowledge that the embryo is endowed with feelings. It can suffer (*kakopathein*), especially in the eighth month, the most critical of all, and suffers too (*ponein*) before delivery takes place (*De septimestri partu* 3, 7.438 Littré; *Oct.* 10, 7.452–4 Littré). For practitioners, however, the notion of completion is important; until birth, the embryo is treated as a potential human being only (Boudon-Millot 2008: 94).

The time of ensoulment was much debated in philosophical schools. For the gradualists, such as Aristotle, human life starts at a certain point during the course of pregnancy, when the fetal parts are formed and movements perceptible. The unborn then becomes a living being. For Aristotle, the soul (*nous*) is potentially present since the time of conception because it is transmitted by the male seed (*Gen. An.* 736a–b, 737a33), but the faculties of the embryo develop gradually: first it is plant-like, with a vegetative soul; then it gets a sentient or sensitive soul, like an animal, and after that a rational soul, when the embryo has acquired a human shape, at forty days for a male and ninety for a female (*HA* 7, 583b14–23; Congourdeau 2007: 138–44; 306–8).

The Platonic school believed in animation at conception, as did the Pythagoreans. The pseudo-Galenic author of *Whether What Is Carried in the Womb Is a Living Being* (*An animal sit quod est in utero* 19.158–81 Kühn) explains that the soul is contained in the seed and the embryo is human from the start; he ends with a direct address to the embryos, as if they were in the audience: “Let me address the embryos themselves, since they have acquired full human form. Come out of the recesses” (Kapparis 2002: Appendix 1, 201–13, with translation).

The gradualist and Platonic views were opposed by the Presocratics, such as Empedocles, and later by the Stoics, who defended the idea that human life starts at birth. Pseudo-Plutarch offers a useful survey of their different opinions (*Ps.-Plut. Mor. De placit. phil.* 5.15, 907): for the Stoics, the embryo is just a part of the maternal viscera and not a living being (*zoon*); it is compared to a fruit that falls when it is ripe. Empedocles also does not regard it as an animal, for it does not breathe (*apnoun*). For Diogenes, the embryo is inanimate although it has a natural heat. Herophilus observes its motion but regards it as mechanical and not due to an animal life. For all, the soul, which is cold, enters through the mouth with the first breath of air, the basis of life.² Astrologers appealed to the notion to explain the diverging fates of twins, born successively, some minutes or hours apart from the other, and with different natal charts (Dasen 2008a).

Most medieval theologians and doctors accepted the Aristotelian principles with the succession of three souls; they Christianized the last one, created and infused by God when the embryo has human shape. For Thomas Aquinas in the thirteenth century, the soul enters the body at formation forty days after conception for a male and ninety days for a female (Pouderon 2007). But in the Eastern Christian Empire, animation takes place at conception: the soul is created at the same time as the body; they must be simultaneous because man is only one (Kapparis 2002: 39–41; Congourdeau 2007).

In Roman law, the unborn is regarded as a living being (*in rerum natura esse: Dig.* 1.5.26, Julian; *in rebus humanis esse: Dig.* 1.5.7, Paul), and in case of the father's death its succession rights are guaranteed until delivery. Birth activates its potential rights if it is born alive, even malformed with an animal-like shape (*si non integrum animal editum sit*) as long as it has senses (*cum spiritu tamen: Dig.* 28.2.12, Ulpian).

The Limits of Human Procreation: One Child or More?

The birth of more than one child at a time has long been a source of reflections on the definition of normality in procreation. Greek medical theories provide contrasting views about twinning, varying from rejection to valuation; some see it as the result of an ideal conception, and others relate it to notions of monstrosity and excess.

For the Hippocratic author of *On Regimen* 1.30, twinning is a natural phenomenon that occurs when the circumstances are very favorable. It is related to the structure of the womb, symmetrically divided into two parts. If both parts of the womb are equally developed and if the seed from both parents is “abundant and strong,” twins may be formed through one act of intercourse. This positive image is stressed by the idea that the two breasts correspond to the bipartite structure of the uterus. This belief is repeated by authors of later periods, including nonmedical authors such as pseudo-Plutarch, who asserts that wisely “nature has fashioned women's breasts double, so that, if there be twins, they may have a double source of nutrition” (*Mor.* 3D; Dasen 2005a).

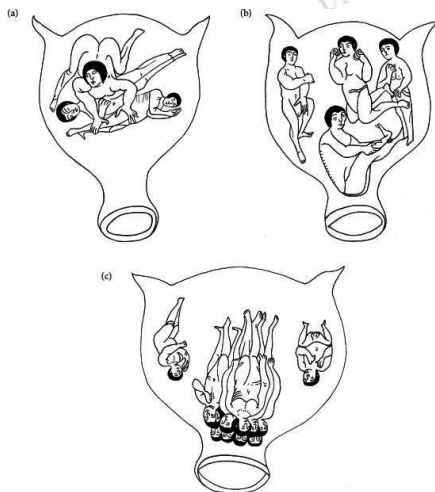
Aristotle agrees with the Hippocratic theory that twins are generally produced from one act of intercourse, when the male emits an unusually large amount of sperm that meets a similar quantity of female material. But he regards twinning in man as an abnormal phenomenon that belongs to the category of monstrosities because man, like large animals, normally has only one child at a time (*Gen. An.* 4.4.772a36–b1). Aristotle adds that multiple births are often associated with physical malformations because numerous embryos “hamper each other's being brought to perfection” (*Gen. An.* 4.4.770b25–7). Physical anomalies were thus believed to occur more often in countries where women often give birth to twins, as in Egypt (*Gen. An.* 4.4.770a35).

The notion of unlike twins (now known as dizygotic) appears in theories on superfetation. Aristotle describes a rare phenomenon (now known as superfecundation) that occurs when a woman has intercourse with different partners within a short space of time, leading to two distinct conceptions. When the second conception occurs during pregnancy, the second embryo is stillborn because of its retarded growth (*HA* 7.4.585a). These theories

throw an ambiguous light on twinning because all examples are cases of adultery. Thus, Aristotle describes a woman who gave birth to twins, one of whom looked like her husband and the other like her lover (*HA* 7.4.585a; see also Pliny *HN* 7.49). The ancients assumed the existence of two different fathers because this could explain the physical differences of dizygotic twins. However, no legal text mentions cases of superfecundation or of double paternity, though Roman law envisages the most rare and delicate situations (and a double paternity would cause many problems of succession). This topic seems to have belonged only to the field of medical speculation and popular beliefs.

Where did the ancients place the physiological limit to the multiplication of embryos? Aristotle asserts that five is the highest number of children that can be born at one time (*HA* 7.4.584b). This remark corresponds to modern observations: there is no theoretical limit to the number of embryos that may be formed, but if there are over five, the fetuses are born prematurely before they become viable. A few cases of births of more than five children at a time are reported. Pompeius Trogus (first century BCE), for example, mentions the birth of seven infants in Egypt, but he does not say if they were born alive or survived (Pliny *HN* 7.33; Strabo 15.1.22, citing Aristotle). Aristotle reports the extraordinary case of a miscarriage with twelve stillborn infants (Arist. *HA* 7.4.585a; see also Pliny *HN* 7.48); this case may be depicted in the ninth-century CE manuscript preserved in Brussels (Figure 1.1).³ Ancient authors also mention cases where the phenomenon of twinning is multiplied by an exceptional fecundity. Soranus tells of a woman who gave birth three times to five children, but “with difficulty,” whereas Aristotle reports that a woman “had twenty children at four births; each time she had five, and most of them grew up” (Sor. *Gyn.* 4.1; Arist. *HA* 7.4.584b; Pliny *HN* 7.33).

The social and religious reception of multiple births varies in time and space. The mortality of the mother and the babies was much higher than for single births: “at the birth of twins neither the mother nor more than one of the two children usually lives” (Pliny *HN* 7.37; see also Sor. *Gyn.* 4.1). The risks were believed to be even higher in twins of different sexes because male and female fetuses do not develop at the same rhythm (Pliny *HN* 7.37; see also Arist. *Gen. An.* 4.6.775a; *Problemata* 10.894a). Many ancient texts and inscriptions refer to such dramatic deliveries, ending with the death of the mother or children or both.⁴ The risk of miscarriage is reflected by the name *Vopiscus*, given to the “twin born after being retained in the womb when the other twin had been killed by premature delivery” (Pliny *HN* 7.47; Dasen 2005a: 47–9).



[Click to view larger](#)

Figure 1.1 Ninth-century manuscript, illustrating the different positions of the child in the womb. Bibliothèque royale, Codex Bruxellensis Lat. 3714, fol. 27 recto, 28 verso, 29 recto. Author's line drawing.

Twins are best documented in the Roman period where they seem to have been welcomed, probably because fecundity was an explicit political concern in Roman society. Tacitus describes the birth of twins as “a rare felicity, even in modest households” (Tac. *Ann.* 2.84; cf. Plut. *Sull.* 34.5). On the other hand, the delivery of more than two children at a time was an ill omen (Dasen 2005b). Pliny reports that the birth of quadruplets, two boys and two girls, at Ostia at the end of the reign of Augustus “portended the food shortage that followed” (Pliny *HN* 7.33). These births were regarded as anomalous because they did not fit with the Hippocratic model of a bipartite uterus; the number of children did not correspond to the two breasts. An excessive fecundity was not synonymous with prosperity, but with its opposite, famine. However, no law seems to have prescribed the killing or exposure of quadruplets and quintuplets as portentous, possibly because these children are numerous but physically normal.

In the Roman republican period, abnormal physical marks are interpreted as signs that manifest a rupture of cosmic order, the *pax deorum*. Malformed children are dangerous. Their birth announces a calamity threatening the whole community, like war or sterility, and they are ritually put to death (see Laes in this volume).

In his *Book of Prodigies*, Julius Obsequens reports several births of children with supernumerary limbs who are very likely conjoined twins, such as a boy in Rhegion with four hands, feet, eyes, and ears and two sexual organs. This case is interesting because two successive deaths were inflicted on the child. We read that “the boy was burned by order of the soothsayers, and his ashes were thrown into the sea” (*Liber prodigiorum* 25). The superstitious fear aroused by physical abnormality seems to have declined under the Empire, and the elite acquired human “monsters” as pleasant human curiosities. Two cases may refer to public show. Pliny reports that in Egypt “it was decided to rear a portent, a boy with two eyes at the back of his head, although he could not see with them” (*HN* 11.272). In the *City of God*, Augustine describes a boy born in the East “with his upper limbs double, but with a single set of lower limbs.” The boy lived long enough “to attract many visitors,” which may allude to some freak exhibition (*De civ. Dei* 16.8; Dasen 2005a: 275–7).

The Length of Pregnancy

The question of the delivery term was much debated, especially because of its legal issues. It was widely assumed that birth could take place any time between the seventh and tenth months of pregnancy (Arist. *Gen. An.* 772 b7–11). Medical authors recognized two types of pregnancy—a shorter one of seven months and a longer one lasting ten months—a reasoning based on numerological speculations based on seven-day periods attributed to Pythagoras (e.g., Censorinus *De die natali* 9). The seven-month child, though weaker, was likely to survive, whereas the eight-month child could not live (Hippoc. *Carn.* 19, 8.612.1–10 Littré).

Ann Hanson (1987: 600) demonstrates the social importance of this convention in a society of high infant mortality, relieving the responsibility of the mother and of those who attended the delivery. Other medical authors rely not on theory but on their observations. In the embryological calendar of Damastes, *On the Care of Pregnant Women and of Infants*, the eight-month child is viable (Parker 1999). Oribasius (fourth century CE) asserts that there is no fixed length of pregnancy and that delivery can take place any time after 184 days and before 204 days of pregnancy (*Collectiones medicae* 22.3).

From a legal point of view, both a child born seven months after a *iustum matrimonium* (legal marriage) and a child born ten months after a divorce or the husband's death were thus considered legitimate (*Dig.* 1.5.12: Paul, *Responsa*, 19).⁵ Aristotle admits that some could reach even eleven months (*HA* 584a36–584b1), as did the emperor Hadrian for a widow “of undoubted chastity” who gave birth eleven months after the death of her husband (Aul. Gell. *NA* 3.16.12; cf. Pliny *HN* 7.40 on a suspicious thirteenth-month child). Lifelong molar pregnancies, attributed to a failure in the conception process, are recorded by Hippocratic authors (*Morb. mul.* 1.71, 8.148–50 Littré; 2.178, 8.360–2 Littré; MacClive and King 2007).

Obstetric Textbooks

Many Hippocratic treatises are concerned with gynecology and obstetrics (e.g., *De natura muliebri*; *Morb. Mul.* II; *De genitura*; *Nat. puer.*; *De superfetatione*), but the first extended treatise on gynecology and pediatrics, *Gynaikeia*, was written in Greek by Soranus of Ephesus (first–second century CE; Hanson and Green 1994; Gourevitch 1996). Its importance is evidenced by its survival through Latin translations and adaptations in late antiquity, such as the *Gynaecia* of Theodorus Priscianus and of Caelius Aurelianus (late fourth or early fifth century CE). The Latin version by Muscio, an African writer (sixth century CE), is in the catechistic form of a dialogue, which had a profound influence on the training of midwives in the medieval and early modern periods.

Soranus' treatise was illustrated with schemata showing figures of the fetus in utero. The ancients knew different types of presentation of the child: cephalic or head presentation, podalic or foot presentation, transverse or breech position, doubled up or hips presentation. Soranus had successfully experimented with the turning of the fetus, changing an abnormal position by introducing the hand to turn it and gently pull it out. The procedure is fully described in his *Gynaikeia*; each case was illustrated to teach the midwife how to proceed in cases of dystocia, “for we see many alive who have been thus born with difficulty” (4.8[60]; Bonnet-Cadilhac 2004). These illustrations are transmitted in Muscio's abridged version in about twenty manuscripts, ranging from the ninth to the fifteenth century, sometimes with little left from the original text (Hanson and Green 1994: 1073). The most ancient illustrated version is a ninth-century CE manuscript kept in Brussels Bibliothèque royale (Bonnet-Cadilhac 1988). Muscio added a diagram of the uterus and fifteen depictions reviewing the different positions of the child. The aim of the pictures is mnemonic: the images focus on the child's position in the womb for obstetrical care, explained in the text. The uterus is shaped like a round vessel or bag, with horns at the top. Neither the umbilical cord nor the amniotic membranes nor the placenta are shown. The fetus is not realistically depicted: it is a male adult, floating freely in the uterus, in various positions, like a gymnast (Bonnet-Cadilhac 1995). This iconographic tradition was to last a long time in medieval and modern medical textbooks. Apart from the malposition of the child, multiple births are depicted as they can also cause difficult labor: there are triplets in various transverse positions; quadruplets in feet or breech presentations; and the extraordinary picture of twelve fetuses, possibly those cited by Aristotle (Figures 1.1a–1.1c).

When delivery of the child was not possible, it was not caesarean section but rather embryulcia or embryotomy that was practiced to save the life of the mother. Soranus details how to extract the child, a procedure already known by the Hippocratics (Sor. *Gyn.* 4.9[61]; Hippoc. *De superfetatione* 7, 8.480–1 Littré; *De excisione foetus* 1–2, 8.512–15 Littré; Celsus *Med.* 7.29). Archeology confirms the practice. In Poundbury (Dorset), excavations of a third-century cemetery revealed a coffin containing the skeleton of a full-term child who was dismembered because of obstetrical complications. The circumstances of the surgical intervention can be reconstructed thanks to the cut marks on the bones. The practitioner resorted to the procedure described by Soranus: the child had a large head and was malpositioned, with an arm presentation. Never actually born, it received, however, a proper burial. The skeleton, cut into pieces, was buried in a coffin, alone, which suggests that the mother survived (Gourevitch 2004; Redfern and Gowland 2012: 121–3, fig. 7.3).

Abortion

The Hippocratic oath, whether a genuine medical fifth-century work or of Pythagorean origin, contains objections to abortion (*phthorion*): “Neither will I administer a poison to anybody when asked to do so, nor will I suggest such a course. Similarly I will not give to a woman a pessary to cause abortion.”

Since antiquity, the precise meaning of the sentence has been debated. Did the author prohibit induced abortion altogether, implying that the unborn was already a human being since the time of conception, as in Pythagorean theories? Or was the ban limited to the stages after the formation of the fetus? Aristotle (*Pol.* 1335b24) thus admits that miscarriage can be induced during the first stage of growth, “before sense and life begin.”

Did the author of the oath object to specific practices, implicitly allowing others? Most likely, the ban was specifically on abortifacient pessaries, because they were dangerous for the health (Bodiou 2005), but we know that other equally risky methods such as oral drugs, surgery, and mechanical means were used. To demonstrate the ambiguity of the stipulation, Soranus (*Gyn.* 1.60) cites the case of Hippocrates, who advised a prostitute how to

abort by leaping with heels up to the buttocks (*Nat. puer.* 13, 7.488–92 Littré).

The moral authority of the oath is evidenced in the Roman imperial era and was associated with the Hippocratic concern “to help or at least to do no harm” (*Hippoc. Epid.* 1.11; cf. *Apul. Met.* 10.11; Scribonius Largus, *Compositiones, Praef.* 5.20–3). Soranus of Ephesus dedicated a chapter to contraception and abortion that reveals how a practitioner could interpret the ban on abortion recommended by the Hippocratic oath. He distinguishes between a contraceptive (*atokion*), which “does not let conception take place,” and an abortive (*phthorion*) or “expulsive” (*ekbolion*), which “destroys what has been conceived” (*Gyn.* 1.60). Such clear differentiation, however, was most likely not the rule, as the process of conception was extended and the borderline between contraception and abortion was not clear. Soranus agrees to both methods, preferring contraception “since it is safer to prevent conception from taking place than to destroy the fetus” (*Gyn.* 1.60). He recommends abortion for therapeutic reasons only, when the health of the mother is endangered, and condemns it for aesthetic reasons or for the protection of an adulterous relationship. His description of various contraceptive and abortive methods includes the composition of vaginal suppositories (1.61–5). The question of the efficacy of the recommended drugs, and their relation to “women’s knowledge,” is still much disputed (Riddle 1997; King 1998: 132–56).

In ancient Greece as in Rome, abortion was not illegal. As with abandoned newborn babies, it was an entirely private decision; neither aborted nor newborn babies had their own right to life before the social recognition by the father about one week after delivery (Dasen 2011). The status of the aborted fetus is mainly defined according to its formation stage. In the sacred law from Cyrene (fourth century BCE), pollution (*miasma*) differs according to whether the fetus has recognizable form or not (*SEG* 9.72, 24–7; transl. Parker 1983: 346). The pollution of a fetus with visible limbs is equated with death, but the pollution of a shapeless fetus is attenuated and brings only birth impurity; the house is polluted for three days, as stated in Coan inscriptions (*LSCG* 154 A; Parker 1983: 48–52).

The absence of legal provision until the early third century CE is consistent with the uncertainties of the human status of the unborn displayed in medical and philosophic literature. In Roman law, the legality of abortion is mainly questioned for the protection of the husband’s rights when it is induced against his will. The child is protected not as an independent human being but as a potential heir.

The historicity of legal restrictions before the third century is debated. Though abortion was a threat to the state, no actual law seems to have condemned it. It was grounds for divorce in a law of Romulus (*Plut. Rom.* 22.3) and led to condemnation to death in the special case of a woman in Miletus (*Cic. Clu.* 32; Eyben 1980–1981: 21–2). At the beginning of the third century (198–211 CE), a rescript of Septimius Severus and Caracalla for the first time took measures against induced abortion, which was punished with temporary exile. This was still because of the damage to the husband and not to the child’s rights (*Dig.* 47.11.4, Marcian; 48.8.8, Ulpian; cf. 48.19.39, Tryphoninus). This was followed by a ban on the selling of abortifacients, punished by death if the mother passed away (*Dig.* 48.19.38.5, Paulus = *Paul. Sent.* 5.23.14). Measures against children’s exposure were first decreed in 374 CE and perhaps equated with homicide (see Evans Grubbs in this volume). Kapparis relates the changing attitudes to abortion to the demographic concern of the emperors (Kapparis 2002: 184–5). Were they also associated with an intensified perception of fetal life as the beginning of human life? At the time of Augustus’ legislation on the family, Ovid expresses for the first time a clear condemnation of abortion in two poems (*Am.* 2.13, 14). He may have voiced a collective growing respect for all forms of life in the early empire. He compares the destruction of the fetus with the murder of young children. The women behaved like Medea or Procne; the mother’s death caused by the procedure is a punishment. His disapproval captures contemporary perceptions of the fetus as an independent being with a right to life; Juvenal refers to “humans (*homines*) killed in the womb” by elite Roman women (*Sat.* 6.597), whereas Vergil describes the weeping “souls of unborn children (*infantes*)” (*Aen.* 6.427–9; Eyben 1980–1981: 51–6; Kapparis 2002: 148–9). On the other hand, a medical doctor such as Galen could unemotionally record the common training exercise of “dissecting bodies of exposed infants” in his treatise *On anatomical procedures* (*De anatomicis administrationibus* 3.5; transl. Ch. Singer 1956; 2.386 Kühn).

Life in Utero

Various written and iconographic sources confirm the existence of a collective image of the unborn child as a potential individual distinct from the mother, requiring protection and not just a passive part of the maternal viscera.

An already accepted child was part of the family and kinship system, thanks to exchanges in the womb not only with the mother but also the father and even the gods. In classical antiquity, as today, a baby could be born with a purple-reddish mark on the skin, a discoloration or raised area of various sizes and shapes, called *elaia* or *semeion* in Greek and *naevus* or *macula* in Latin (Dasen 2009a). The most common explanation is that the mark corresponds to the food desired or consumed by the pregnant woman. This long-lived idea is related to medical texts that explain the influence of maternal food on the development of the embryo, claiming it is capable of determining the sex or the morphology of the child. Thus, eating hot and dry food, or cock’s testicles, can produce a boy (Pliny *NH* 30.123), a shrewmouse will produce black eyes (Pliny *NH* 30.134), and food that is too salty will produce “children lacking nails” (Pliny *NH* 6.42). The idea is already expressed in the Hippocratic treatise *On Superfetation*, 18: “If a pregnant woman wishes to eat earth or coal, and she does so, a mark will appear on the head of the child at birth as a result.”

Exchanges act both ways, and the embryo can also influence the mother’s appearance. A Hippocratic *Aphorism* thus states: “If a woman be going to have a male child she is of a good complexion; if a female, of a bad complexion” (*Aphorismi* 5.42, Littré 4.546). This observation relies on the common assumption that males are healthier for the pregnant woman (e.g., *De superfetatione* 19, Littré 8.486; Hanson 2004, 2008: 98). In the pseudo-Galenic treatise *To Gaurus, on How Embryos Are Animated* (5.1–2), the mother’s needs stem from the uncontrolled wish of the child who becomes marked if the mother is not given the food that it desires.

Maternal blood not only feeds but also shapes the fetus, a process that continues after birth when uterine blood becomes milk (Aul. Gell. *NA* 12.1.12), which explains the concern about finding the right woman for breastfeeding (Dasen 2010a; see also Parkin in this volume). This nourishing blood can even create kinship between two fathers through a common wife, as illustrated by the story of Cato the Younger, who gave his wife, Marcia, to his best friend, Quintus Hortensius, because Hortensius wanted to have “common children” through a common womb (Plut. *Cat. Min.* 25.4–5). It is one of the earliest occurrences of the idea, best known as *telegony*, that a womb is forever transformed by sexual relationships (Wilgaux 2010). In the story told

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by Plutarch, sharing a common womb would provide a common identity to Hortensius and Cato's children, as if Hortensius had children by Cato himself.

The paternal contribution to the child is present in other discourses where the father is deemed responsible for birthmarks that become hereditary and part of family identity. These paternal marks have specific shapes. Aristotle enumerates some of these congenital signs (*semeia*), such as the star on the shoulder of the descendants of Pelops or the spear of the Spartoi, the men sown from dragon's teeth (*Poet.* 16.21, 1454 b; schol. *Pind. Ol.* 1.40c). These marks are transmitted in a patrilineal way.

Some hereditary marks can also come from gods who substitute for the father and determine the future of the child, which is usually male. Seleucos I Nicator (358–281 BCE) was thus engendered by Apollo, who left a ring with the picture of an anchor that was also printed on the baby's thigh. The mark was transmitted to his descendants, and the anchor was adopted as a dynastic emblem on coins and as a signet ring (*App. Syr.* 56–60). In Rome, the best example concerns the emperor Augustus, who was born with birthmarks concentrated on the chest and the belly, “corresponding in form, order and number with the stars of the Bear in the heavens” (*Suet. Aug.* 80). The constellation designated the child as a future *kosmokrator* (ruler of the universe).

An anticipated family life, with many actors—mother, father, friends, and gods—starts in utero. The child may be born with a family memory and identity inscribed in the flesh. Birthmarks functioned as naming elements in ancient Rome, such as Gnaeus after *naevus*, or other inherited bodily defects and skin anomalies, such as Cicero, with a “bean-shaped anomaly,” or Verrucius, “with a wart” (Dasen 2009a).

By accident, nonkin can also interfere and influence the prenatal formation of the child. The belief that the mother's visual impressions could influence the fetus is a long-lived one. Soranus explains that her imagination is capable of shaping the fetus. Women who saw a monkey during intercourse “have borne children resembling monkeys” (*Gyn.* 1.10.39). The influence can be positive: the misshapen (and anonymous) tyrant of Cyprus is believed to have “compelled his wife to look at beautiful statues during intercourse and became the father of well-shaped children” (*Gyn.* 1.10.39). Hence, women should be sober before having intercourse because drunkenness could engender fantasies resulting in the malformation of the child. Similarly, a child can be born white from a black mother, as happened to the Ethiopian Queen Persinna who, in the novel by Heliodorus, gave birth to a white daughter because she gazed at a painting of the white heroine Andromeda (*Aethiopica* 10.12–16, third–fourth century CE; Gourevitch 1987; Maire 2004).

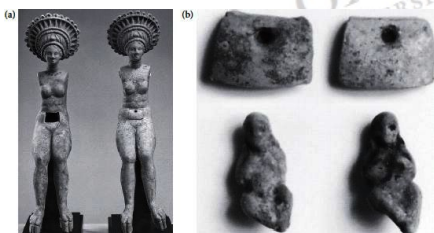
Displaying the Invisible



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Figure 1.2 : Terracotta model of uterus with two balls from Vulci—Fontanile di Lignesina. Museo Archeologico Nazionale di Toscana. Photo after G. Baggieri (ed.), *L'antica anatomia nell'arte dei donaria*. Rome: MelAMi, 1999. fig. 69. With permission.

Besides written sources, a number of iconographic documents reveal a collective perception of life in utero, presenting the unborn child in symbolic and imaginary forms. Sanctuaries from Etruria and central Italy have yielded thousands of terracotta offerings to healing deities dating to the Roman conquest. Among the representations of body parts, some depict internal organs, mainly the womb (Macintosh Turfa 2006). The typology varies from one site to another. Most objects are elongated with an opening, resembling a wineskin (*utriculus*) (Pliny *NH* 11.209: *utriculus unde dictus uterus*; Hippoc. *Epid.* 6.5.11; *Morb. mul.* 1.61). The folds may reproduce those of a wineskin, or they could evoke delivery contractions and hence relate to the wish to have an easy childbirth. Examples from Vulci, Gravisca, and Tarquinia contained one or two small terracotta balls of a ca. 1–2 cm diameter (Figure 1.2) (Baggieri 1999: fig. 69). Votive offerings usually show a healthy organ and representations of pessaries are unlikely. Did the balls symbolize a wish for motherhood, suggesting attention to the initial phase of intrauterine life? They could also refer to fecundity in a generic way and not to a specific stage of conception. They probably do not relate to a wish to have twins. Their multiplication may have symbolically aimed at having numerous descendants.



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Figure 1.3 (a and b): Seated figurine with baby in the belly (H. 20 cm). Würzburg, Martin-von-Wagner Museum ZA 147 (Nereus Collection). Martin-von-Wagner Museum der Universität Würzburg, Photo K. Öhrlein. With permission.

The image of a ball or little bell as a metaphor for pregnancy is found in Greek lapidaries on the property of stones. The most famous example is that of aetite or eagle stone (*lithos aetites*), a sort of geode that ancient authors describe as a hollow stone pregnant with another, smaller, stone, allegedly found in an eagle's nest (e.g., Pliny *NH* 10.12, 30.130; Dasen 2004). By sympathetic magic, the aetite was believed to prevent miscarriage when it was

attached to pregnant women and had to be removed to ease childbirth (Pliny *NH* 36.39; see also 36.151, 37.154, 163, 180; Dioscorides 5.160). The expression *eagle stone* may come from a confusion or from an intentional word play between two Akkadian words, *eru*, to be pregnant, and the substantive *eru*, the eagle (Stol 2000: 50–1). In western Europe, it was used until the nineteenth century as an amulet against miscarriage and to help childbirth (Dasen 2014). Greek and Roman anthropomorphic rattles may relate to this symbolism. Concealed in a feminine figure, the spherical bell could represent the unborn child of a pregnant woman (for rattles, see also Harlow in this volume). Terracotta rattles associated with fecundity rites, such as the piglets offered to Demeter in Southern Italy (fifth–fourth centuries BCE), could have a similar symbolism (Dasen 2004).

Depictions of pregnant women are very rare (Ducaté-Paarmann 2005). Two terracotta figurines with a removable child in the belly are exceptional (Figure 1.3a; second century BCE). Probably made in Myrina (Asia Minor), these depict seated women with articulated arms, adorned with jewels and crowned with tall headdresses. Both the hieratic pose of the figures and their elaborate crowns suggest that the women represent a goddess, perhaps Aphrodite, characterized by jewelry and seductive sandals with platform soles. The child is hidden behind a lid cut in the belly; his form is chubby, with his fists held to his chest, and his legs are bent, suggesting his weakness (Figure 1.3b). The figurines, which are not children's toys, could be manipulated. The rendering is not realistic, and their purpose was not anatomical instruction. The women have idealized divine bodies with flat bellies; no internal organs are rendered. The fetus floats in a symbolic womb; it has no umbilical cord but the proportions of a real child. The Myrina figurines could represent the double of a deceased young woman, with a new appeasing symbolism, realizing a hope for maternity (Dasen 2010b).

Protecting the Embryo

There were also prebirth votive rites. Various sources show that the unborn child benefited from divine protection, attesting the recognition of his existence as an individual living being. Vows could be made for an embryo, as the Senate did for the daughter of Nero and Poppaea still “in the womb” (Tac. *Ann.* 15.23; Cazanove 2008). It was not uncommon to talk to an unborn child: Vergil speaks to a messianic embryo, *modo nascenti puero* (*Ecl.* 4.8); Martial speaks to a soon aborted heir (*Ep.* 6.3.1–4). In Chariton's novel, Callirhoe similarly talks to her unborn child about its fate (*Chaereas and Callirhoe*, 2.8, 11.1–3; Hanson 2008: 107).

In Roman religion, numerous deities (*indigitamenta*) watch over conception, fetal growth, and delivery. Marcus Terentius Varro in his *Antiquitates rerum divinarum* (first century BCE) must have provided the list that is partly transmitted by Tertullian (second century CE; *Ad Nat.* 2.11.1–6), Arnobius (third century CE; *Adv. Nat.* 4.7–8), and Augustine (fifth century CE; *De civ. Dei* 4.11, 7.2). Entities such as Vitumnus and Sentinus animate the fetus; Fluvionia, Alemona, and Mena care for its feeding in utero. The position of the child before delivery is watched by Antevorta, Prorsa, and Postvorta (Varro in Aul. Gell. *NA* 16.16.4; Macrob. *Sat.* 1.7.20; Ov. *Fast.* 1.633–6), whereas Juno Lucina and Candelifera contribute to an easy delivery.⁶ The Carmentes, Nona, Decima, the Fates, and the Parcae foretell its future at birth.⁷

Various spells and amulets were used to protect the embryo (Aubert 1989, 2004; Frankfurter 2006). Depictions of the unborn child are found on magical gems from the Roman imperial period (second–third century CE); these semiprecious stones are inscribed with protective signs (*characteres*), magical formulae (*logoi*), and divine figures often composed of Egyptian and Greco-Roman elements. A large series concerns the protection of the uterus. They are usually engraved on hematite or “bloodstone,” which was believed to control flows of blood by sympathetic magic. Red jasper was valued for similar reasons.

The gems provide a metaphorical representation of uterine life, mingling Greek and Egyptian elements. In their simplest form, the gems feature an upside down pot, which represents the womb as a medical cupping vessel. Wavy lines on the top and bottom “animate” the vessel; they may depict in a stylized way the ligaments and uterine tubes discovered by Herophilus at Alexandria. The scene is encircled by the *ouroboros*, creating a magical space that protects the uterus and the child against malevolent forces. The reverse bears the name Ororiouth, an entity specific to the world of magicians that helps loosening and delivery.⁸ Other gems carry longer formulae, abridged versions of complex spells found in magical papyri, such as the *soroor* formula that refers to an entity presiding over delivery.⁹

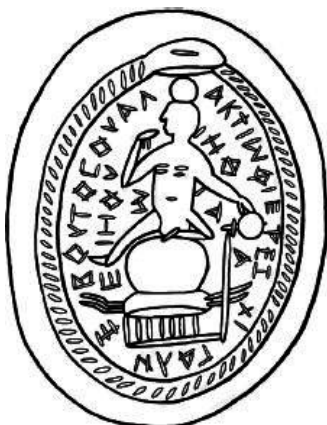


Figure 1.4 Red carnelian gem with Horus seated on a uterus and holding a key. Ex coll. C. Bonner 141, University of Michigan, Special Collections Library. With permission.

Other iconographic elements relate to medical concerns. At the mouth of the cupping vessel, a key with a varying number of teeth symbolizes the opening and closing mechanism of the womb that was so central in ancient gynecology. Different movements must happen at the proper time: the womb must open periodically to release menses, attract male seed, then close to retain it and prevent miscarriage or loss of food for the embryo (for comparison to a cupping device, see Arist. *Gen. An.* 2.4.739a–b). At the time of delivery, the womb opens again to release the child. The key symbolically prevented any loss of control of the womb, and the frightening risks of hemorrhage were warded off by the staunching power of the

hematite. In the Italic-Roman world, keys were deposited as offerings to ask or give thanks for an easy delivery.¹⁰

Different deities, mostly Egyptian, appear on the gems. All are endowed with special powers relating to pregnancy and childbirth, such as Isis, the mother of the divine child Horus-Harpocrates; the ram-headed god Chnum, who was believed to shape embryos on his potter's wheel; and the dwarf-god Bes, the guardian of intrauterine life as well as of early childhood. They may surround Horus-Harpocrates, who symbolizes a fully formed embryo, ready to be born (Dasen 2007).

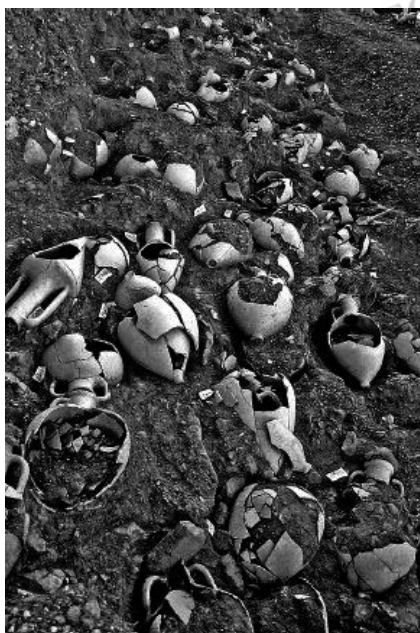
The function of the gems was also to protect the matricial space from the deeds of malignant entities coming at night to inject a harmful substance capable of provoking a malformation or abortion of the child. The most dreaded of these was the god Seth, whose seed is compared to the poison of the scorpion. A series of gems refers to Seth as an ithyphallic donkey, vanquished by a woman in a birthing position waving a club who was equated with Omphale. A verbal pun is associated with the visual play. The woman and the donkey use the same weapons, because the Greek word *skutale* means "the club" and, metaphorically, "the phallus" (Dasen 2008b).

Some gems were *okytokia*, amulets for quick birthing. On a cornelian, Horus the child shown is seated on the uterus and holding the key, as if he controls the moment of his birth (Figure 1.4). The idea that the full-term child initiates its birth is explained in the Hippocratic *Eight Months' Child*: the child becomes restless when the time of delivery approaches because it lacks food in the womb; its movements provoke the birthing process. Like a chick emerging from its shell, it vigorously breaks the membranes with its feet, causing labor pains (Hippoc. *Nat. puer.* 30.1, 7.530–2 Littré). A red jasper gem with the inscription *epi podia*, "onto your little feet," explicitly urges the embryo to leave the womb (Hanson 2004: 267–8; 2008: 106).

Fetal and Neonatal Death

Archeology confirms the possibility that the embryo was perceived as an anticipated family member. Long believed to be neglected, fetuses and full-term children benefited from distinct burial practices in ancient Greece as in the Roman world. The frequent absence from common cemeteries of infants under the age of one year is now explained by their presence in other places such as in reserved areas of the necropolis or in a separate collective location outside the adult cemetery (Carroll 2012: 42–6; Simon et al. 2011); they can also be found in domestic places, within settlements and buildings (Blaizot 2003; Baills and Blanchard 2006; Redfern and Gowland 2012).

On the island of Astypalaia in the Dodecanese, over 2,770 fetuses and newborn babies have been found inhumed in pots in a cemetery in use from the Geometric period (ca. 750 BCE) to the Roman era, at the margin of the ancient town and clearly separated from the communal burial ground on the opposite hill (Figure 1.5). A sanctuary of Artemis Lochia, mentioned in local inscriptions, may have presided over the purification rituals of the mothers (Hillson 2009; Michalaki Kollia 2010).



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Figure 1.5 *Enchytrismoi* (pots) for burial of fetuses and neonates in the Kyindra necropolis at Astypalaia. ©M. Michalaki Kollia. Oral permission received.

In the Roman world, many sites show similar patterns. Burials of children under the age of six months are relatively rare in communal cemeteries, but this may vary according to the sites.¹¹ Not yet a fully social being, the neonate can remain in the domestic sphere, inhumed near or in the house. The status of the infant seems to change between six months to one year of age when teeth appear, solid food is introduced, and speech develops, marking a new step in family life. Some offerings aimed at providing them access to the other world, for example with a funerary coin (Dasen 2009b: figs. 8a–b). Infanticide is suggested by other methods of disposal, as with the hundreds of babies, some with malformations, in a well in Hellenistic Athens (see the chapter by Liston and Rotroff in this volume) or in a sewer in Roman Ashkelon (see Evans Grubbs in this volume). Information about the ritual handling of placenta is emerging. Placenta may have been buried in separate pots, as suggested by the study of the vessels from the newborns' Roman cemetery in Chartres (France) (Simon et al. 2011: 555; cf. Ade 2009; Papaikonomou and Huysecom-Haxhi 2009).

A commonly held belief must be dismissed: premature deaths are attributed to malevolent entities (Sorlin 1991; Johnston 1995), but no ancient author

Becoming Human

describes them as restless souls disturbing and threatening the living. This idea originates in Christian baptism, which is not the equivalent of the Greek and Roman naming days (e.g., Jobbé-Duval 1924: 70; Cumont 1949). Almost no material associated with black magic, such as curse tablets (*katadesmoi* or *defixiones*), has been found in babies' graves (Baills-Talbi and Dasen 2008). Malevolent untimely dead (*aoroi*) were believed to be older children in whom parents and the community had invested disappointed hopes. The exceptional use of fetuses in sorcery depended on the impurity of a corpse that had been removed from its burial place (on a binding spell involving a fetus, *P. Mich.* VI 423–4; on an actual wrapped fetus of fourteen weeks in Kellis, Frankfurter 2006). As David Frankfurter (2006: 50, n. 27) notes, Christian apocalyptic texts are the first to allude to the avenging power of aborted or stillborn children. In contrast, as we have seen, the Poundbury child was simply but duly buried, like the thousands of fetuses and newborn children in Astypalaia.

Conclusion

No general agreement existed about the status of the embryo, but there was a plurality of viewpoints according to different perspectives—medical, philosophical, legal—and to gender. For men, the unborn child was first a potential heir, if possible male; for women, an unseen exchange could start very early, with the first movements, creating family bonds in utero.

Material culture reflects this perception of the embryo as a living being, worthy of divine protection and directly addressed. An important key to understanding the recognition of the fetus as a potential person, not yet independent but distinct from the mother, is its preaccepted status as a desired child. As Frankfurter (2006) demonstrates, the construction of this prenatal status implies that a recognition process is initiated before delivery, well evidenced by a number of prebirth rites and amulets. In this sense, a full rite of passage is completed at birth, making the transition between the potential and new full human status. The midwife, the human counterpart of the Parcae, presided over its entry into the human life by cutting the umbilical cord (Dasen 2011). The next step was the naming day, which took place between seven to ten days after birth, marking the child's entry into the collectivity and the social recognition by the father of his new paternal status (Dasen 2009b). This anticipated status of the embryo as an individual also explains funerary practices: as with a full-term baby, an embryo could be mourned and safeguarded through a mortuary passage like older children.

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Notes:

(¹) Hippoc. *Nat. puer.* [*De natura pueri*] 12, 7.486–8 Littré; Arist. *Gen. An.* 764a12–20; Artemidorus, *Oneirocritica* 1.51, 2.24.

(²) *He psuche* (the soul) derives from *to psuchos* the cold; Kapparis 2002: 41–4; Congourdeau 2007: 145–9; Gourinat 2008.

(³) Dasen 2005a: 42–4, fig. 6. On the frequency and the mortality rate of multiple births higher than four, see Pons and Laurent 1991. (Nine stillborn infants were registered in 1976, but the record is of fifteen fetuses in 1971 from a woman who had induced ovulation).

(⁴) For example, *Anth. Pal.* 7.166 (twins), 168 (triplets); Aul. Gell. *NA* 10.2.1 (quintuplets).

(⁵) *Twelve Tables*, 4.4 (in M. H. Crawford, *Roman Statutes II*, Institute of Classical Studies, 1996); *Dig.* 38.16.3.11 (Ulpian).

(⁶) At the Lupercalia: Ov. *Fast.* 2.435–52. Matronalia: Ov. *Fast.* 3.245–58; Varro *Ling.* 5.67–9; Augustine *De civ. Dei* 4.11, 21, 34.

(⁷) Aul. Gell. *NA* 3.16.10; Tert. *An.* 37; Aubert 1989, 2004; Dasen 2009, 2011; see also McWilliam in this volume.

(⁸) See, for example, the hematite in a private collection; Dasen 2007: 44–5, figs. 1a–b, with illustrations of further gems of the same type.

(⁹) See, for example, the hematite in London, British Museum G 496; Dasen 2007, 48–9, figs. 3a–b.

(¹⁰) Festus, *De verborum significatu* 49.1L; for keys from Republican votive deposits, some of which have explicit inscriptions, see Dasen and Ducaté-Paarmann 2006.

(¹¹) Inhumation is usual; Pliny the Elder *NH* 7.72 states that children have their first teeth at 6 months old and that it is a "universal custom" not to cremate a person who dies before cutting his teeth. However, cremated newborns are also found in some regions, such as Roman Africa; Bénichou-Safar 2005. On Roman Gaul and Italy, see Carroll 2012: 42.

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