#### RESEARCH



# Born in a brothel: new perspectives on childcare with medieval sex workers

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#### Abstract

In contrast to predominant narratives of abortion and infanticide with medieval sex workers, this case study testifies to the potential care given to prostitutes' children. It does so through ancient DNA and dietary stable isotope analyses of an infant buried in a 14th-century brothel in Aalst, Belgium. While no pathogens were identified, elevated  $\delta^{15}N$  values suggest breastfeeding. Infanticide in the strictest understanding of the term, immediately after birth, is therefore unlikely. Still, the presence of this infant outside of a regular cemetery is remarkable. Based on comparable sites and theological and popular beliefs, this deviant burial is interpreted within its domestic geography, which is suggestive of attachment and of an affective bond between parent and child. Thus, this study nuances the historical focus on abortion and infanticide with medieval sex workers and highlights the multiple roles of these women, including, potentially, that of caring mothers.

Keywords Middle Ages · Sex work · Childcare · aDNA · Dietary isotopes

# Introduction

In 1998, excavations in Aalst, Belgium, uncovered the remains of a 14th-century brothel (De Groote and Moens 2010). Among the findings, archaeologists discovered the burial of an infant within one of the rooms of the establishment. Macroscopic analysis at the time estimated the child's age at approximately 3 months, though the cause of death remained undetermined. Nearly two decades later, a biomolecular approach—combining ancient DNA and dietary stable isotope analyses—seeks to provide new insights into the infant's life.

To contextualize these results, we interpret the genomic and isotopic data within historical frameworks of sex work and burial customs in the Middle Ages, drawing comparisons with similar archaeological cases. While narratives of

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infanticide have often been associated with past sex workers, we explore alternative explanations for this deviant burial, considering factors such as the absence of baptism, financial and societal constraints, and the desire of keeping the deceased close—perhaps influenced by popular beliefs about the enduring presence of the dead in medieval households.

Although this case study is but a small step in the burgeoning archaeology of medieval sex work, it opens up the discussion about the care that was afforded to children in such a socially deviant environment. In doing so, it also offers a rare glimpse into the life of one of these women who have remained largely intangible in the history of sexuality.

# Medieval sex work and infanticide

Female prostitution was omnipresent in medieval Europe. This prevalence clearly speaks from myriad historical studies on sex work in the Middle Ages, ranging from public houses in France (Roby 2017), Germany (Schuster 1992) and Italy (Pavan 1980; Trexler 1981) to privately run brothels in England (Karras 1996) and the Low Countries (Dupont 1996, 2018; Haemers 2019, 2021). However, these historical sources mainly inform us about the institutions and individuals running the brothels. Because of the paucity

of source materials (Gilfoyle 1999), we are relatively rarely informed about the lives of the women serving in these establishments.

When they do appear in the sources in person, either as professional sex workers or women conflated with them as singles having sex outside of marriage (Karras 1999), it is often in the context of abortion or infanticide. In medieval Europe, such crimes were indeed narrowly associated with females, who-in a male-dominated society-were believed to have an inherent tendency to lechery, passion and a lack of responsibility (Trexler 1973, p. 98). Various court records have been passed down and the theme of prostitution and infanticide also takes up a place in medieval art and literature. The following selection of cases serves as a mere illustration, and is by no means exhaustive. For example, a prostitute named Repplin is put on trial in 1392 after a baby body was found in Zurich (Page 2021, 26-64). A couple of years later, in 1405, a woman called Marion Drugon is accused of the clandestine burial of her child in the backyard of a house in Dampierre, after having yielded to the advances of a local man (Gauvard 1991, p. 657). In that same 15th century, the coroners' inquests document the case of the concubine of a clerk in Nottinghamshire who died of the poison she took to terminate an unwanted pregnancy (Hanawalt 1977, p. 9). Finally, the fresco cycle in the Santo Spirito hospital in Rome commissioned by Pope Sixtus IV in the late 1470s and based on a legend dating back to at least the 14th century, explicitly depicts the killing of children by tossing them in the Tiber River to conceal evidence of illicit sexual activity (Presciutti 2011).

As a result of these and many other comparable cases, infanticide serves as the most common interpretive framework for the occurrence of infants in contexts linked to prostitution. In Ashkelon, for example, the find of around 100 neonates in a drain beneath the floor of a Roman bathhouse has been explained as the possible result of infanticide by prostitutes working in those baths (Faerman et al. 1997, 1998). This interpretation has however been thoroughly questioned, as it goes beyond the wide occurrence of perinatal death in Antiquity, the uncertainty about the bathhouse being used as a brothel and the lack of evidence for contemporaneity between those baths and the deposition of the infants in the drain (Scott 1999, 66-68). A somewhat more convincing case is made with two neonates and a fetus found in a 19th-century privy in New York City, likely associated with a basement brothel, although stillbirth or miscarriage cannot entirely be excluded (Crist 2005).

In the studies cited above, the difficulty of assessing infanticide archaeologically (since smothering, drowning, strangling, exposure or neglect leave no unambiguously detectable traces: Scott 1999, p. 66) coincides with the fact that the archaeology of sex work is still in its infancy. For the Greek and Roman periods, archaeological evidence for prostitution is very often inconclusive as brothels are not easily identifiable (Glazebrook and Tsakirgis 2016), although the *Lupanar* of Pompeii is a notable exception (Levin-Richardson 2019). For the medieval period however, brothels have been identified with certainty in Douai (Louis 1998; Saussus 2019) and Aalst (De Groote and Moens 2010) through the corroboration of excavated bathhouse features and historical sources. The latter case is particularly interesting, as the find of an infant skeleton allows to question predominant assumptions of infanticide in medieval prostitution and thus forms the focus of the current study.

#### The excavation of a 14th-century brothel

During the excavations at Aalst, remains were found of a mid- to late-14th-century building, with a width of 4.25 m on the inside and unknown length. A wall with a brick base divides the building in at least two separate rooms, of which one was equipped with two keyhole-shaped ovens. These ovens likely succeed one another and might not have operated simultaneously. The oldest and better preserved one (Fig. 1:O1) had a diameter of c. 1.25 m and was built from brick fragments set in loam. The other oven is of similar dimensions and materials (Fig. 1:O2), but less well preserved due to its later alteration into a semi-basement. Both ovens were fired from a hearth positioned in the adjacent room. The chimney must have been worked into the wall separating the two rooms, as evidenced by a number of more recent hearths at this very same location (Fig. 1:H)(De Groote and Moens 2010, 128–129).

Next to the hearth, in the corner of the room, a small rectangular pit (c.  $35 \times 20$  cm) was found under one of the loam floor levels contemporaneous with or slightly preceding these ovens (Fig. 1:C). Rather unexpectedly, the pit contained the well-preserved remains of an infant positioned on the side with bent arms and legs (Fig. 2, feature number AA.OV/161). Small textile fragments indicate that the individual was probably buried in a shroud (De Groote and Moens 2010, 130–131). Osteoarchaeological analysis of the teeth furthermore shows that the child was approximately 3 months old at the time of death (Scheuer and Black 2004). No apparent signs of disease, malnutrition or other pathologies could be observed macroscopically.

Historical sources allow to identify this building as the *Nederstove* (Van der Bracht 2009, p. 112; De Groote and Moens 2010, 131–134). The name refers to its function as a stew (*stove*) or bathhouse. The excavated ovens must therefore have been used to heat the bathtubs positioned above these features. In the medieval Low Countries, bathhouses often served a secondary role as brothels (Dupont 1996,



**Fig. 1** Overview of the excavated structures, with indication of the ovens heating the baths (O1–O2), a succession of hearths (H) and the buried child (C). Photo: Flanders Heritage Agency



Fig. 2 Detail of the buried infant (AA.OV/161). Photo: Flanders Heritage Agency

2018; Haemers 2019, 2021). This was also the case with the *Nederstove*, since a policy of tolerance is documented by the city authorities for prostitution in these establishments (Van der Bracht 2009, p. 46). A record of the Aalst

bench of Aldermen moreover mentions 16 beds in one of the town baths and several names of women working in the stews have been passed down (Van der Bracht 2010, p. 144, 146). In view of the stratigraphic connection between the infant burial and the documented use of the building as both a bathhouse and a brothel, there is thus a high likelihood that the mother was active as a sex worker, at least during part of her life in 14th-century Aalst.

# Ancient DNA and dietary stable isotopes: results and interpretation

#### **Ancient DNA**

Ancient DNA analysis was performed on a part of the crown of a deciduous tooth (Fig. 3) and conducted in the clean room of the Paleogenomics and Molecular Genetics platform at the Musée de l'Homme in Paris. All precautions against contamination were taken. DNA was extracted following a protocol adapted to ancient DNA extraction (Guarino-Vignon et al. 2022), converted into DNA libraries (Meyer and Kircher 2010) and sequenced on a NextSeq Illumina sequencer. Then, all sequenced reads (n=15,908,561) were aligned on the human reference genome (Guarino-Vignon et al. 2022), and using the same pipeline, on a database of bacterial genomes.

The DNA preservation was low: only 0.75% (n=119.526) of the analyzed DNA sequences were of human origin, with the rest originating from environmental bacteria, fungi and other sources. The DNA reads aligned to the human genome display the characteristic damage pattern expected in ancient DNA, thus assuring the reliability of the results (Fig. 4).

By analyzing the DNA coverage of the sex chromosomes X and Y, compared to chromosomes 1–22 (Fig. 5), it was possible to determine the genetic sex of the infant. Because the coverage of the X chromosome is half the mean coverage of chromosomes 1–22 (statistic Rx=0.57 +/-0.03) and because some DNA sequences belong to the Y chromosome (statistic Ry=0.080 +/-0.008), we can conclude that the infant had an XY karyotype and therefore was male.

To determine the potential cause of death, we searched for DNA fragments from pathogenic bacteria (*Yersinia pestis*, *Brucella melitensis*, *Mycobacterium leprae*, *Mycobacterium tuberculosis*, *Vibrio cholera*) by mapping the DNA reads on their reference genomes. None were found. However, we cannot rule out the possibility of an infectious disease, since we are unable to test for viral infections (especially RNA-genome viruses), and the poor preservation of human DNA likely implies poor preservation of pathogenic DNA as well. The absence of evidence for disease is not necessarily indicative for its true absence.



Fig. 3 Tooth before (A) and after (B) sampling for ancient DNA analysis

#### **Dietary stable isotopes**

Bone collagen was extracted from an unsided rib shaft fragment using the Sealy (2014) method to evaluate stable isotopes related to protein consumption, breastfeeding and weaning (Müldner 2009), as well as metabolic issues (Reitsema 2013). Given the very young age of the individual, a bone sample was chosen over incremental dentine as at this age insufficient dentine is deposited in the crown and no tooth root is available. This inherently limits the interpretation as it means only a single datapoint for this individual's diet is achieved, which, given the rapid turnover of infant bone, still reflects a relatively short period prior to death (Sánchez-Cañadillas et al. 2023). A c. 1.5 mg collagen sample was weighed in a tin measuring cup and analyzed using EA-IRMS (EA IsoLink interfaced through a Con-FloIV to a delta Q of Thermo Scientific, Bremen). Measured  $\delta^{13}$ C and  $\delta^{15}$ N values were normalized on the VPDB, AIR scale using USGS-88, USGS-42, USGS-43 and USGS-91, while USGS-89 was used as quality control. Average standard deviation on repeated QA, measured randomly across the sample batch, was 0.06% for <sup>15</sup>N and 0.04% for <sup>13</sup>C.



**Fig. 5** Mean depth of coverage obtained for each chromosome, including X and Y chromosomes. The vertical line represents the mean coverage of autosomes (chromosomes 1–22), that would be expected for the X chromosome if the infant was female

Deviation from QA sample was smaller than 0.1‰ for both  $^{13}$ C and  $^{15}$ N.

The dietary stable isotope data for individual AA.OV/161 suggest that this infant was breastfed due to the elevated  $\delta^{15}$ N values combined with normal, terrestrial  $\delta^{13}$ C values ( $\delta^{15}$ N vs. AIR: 12.79,  $\delta^{13}$ C vs. VPDB: -19.87). Sample preservation was excellent (C:N ratio 3:1, %N 16.4, %C 44.0, collagen yield 9.6%) (following DeNiro 1985; Ambrose 1990; Guiry and Szpak 2020).

Given the age of this baby (c. 3 months), the dietary stable isotope signal can represent a mix of the residual nitrogen of



Fig. 4 Damage pattern obtained from mapDamage (Ginolhac et al. 2011). Excess of C to T sequencing errors (in blue) and G to A (in red) respectively at the beginning and end of DNA fragments are typical of ancient DNA



**Fig. 6**  $\delta^{13}$ C and  $\delta^{15}$ N data for individual AA.OV/161 indicated as a yellow diamond symbol, plotted against available reference data for infants from post-medieval Aalst and its hinterland (*n*=16) (Palmer et al. forthcoming; 2024)

the diet in utero (ergo the diet of the mother) and the postnatal infant diet. Generally, indicative elevation in the nitrogen values is observed from around 2 months postpartum, with the peak of a 'pure' breastfeeding signal appearing at 6 months of age (Jay et al. 2008). In one study, breastfeeding has been detected through stable isotopes in archaeological human remains for infants as young as 5-6 weeks of ageat-death (Nitsch et al. 2011). This implies that by the age of 3 months the residual maternal input in the baby's nitrogen values would be limited. Still, for the sake of caution, this infant's values must be interpreted as a mixture of their own and a potential fraction of their mother's. If the mother was a reasonably healthy woman with a diet as expected for someone of her position in this medieval context, her  $\delta^{15}N$ values might be slightly decreased due to pregnancy. Fuller et al. (2005) found that  $\delta^{15}N$  in hair can be lower due to pregnancy and lactation. Whether this short-term  $\delta^{15}$ N shift in the pregnant mother would also be apparent in the bones of the foetus is not known. If this were the case, the mother's prepartum 'input' would potentially lower the baby's postpartum nitrogen values in its early days.

Another factor which could lead to elevated nitrogen values is severe malnutrition, either of the mother or the baby itself. If the mother was suffering from severe malnutrition during pregnancy, either through lack of food access or *hyperemesis gravidarum* (extreme pregnancy nausea) (Fuller et al. 2005), this would raise her  $\delta^{15}$ N values. Malnutrition can cause extremely elevated nitrogen values as the body is effectively using up its own reserves in lieu of food intake (Beaumont and Montgomery 2016), usually in tandem with decreased  $\delta^{13}$ C values (Tieszen et al. 1993; Neuberger et al. 2013). If this was the case for our motherinfant dyad, and the mother's nitrogen values were passed on through the placenta and still in the baby's bone tissue at 3 months postpartum, the elevated  $\delta^{15}N$  values of the infant could reflect severe malnutrition of the mother during pregnancy. If the baby itself was in a metabolic starvation state, this would also lead to elevated  $\delta^{15}N$  values.

Several factors argue against the possibility of starvation both directly of the infant, or indirectly as a residual maternal signal. First, if the mother was sufficiently malnourished to have such elevated nitrogen isotopic values that they show up in the baby's bones, it would most likely also lead to accompanying unusual, likely decreased carbon values. As can be seen in Fig. 6, the infant's carbon values fall centrally in the expected range. Secondly, if the maternal signal was indeed one of starvation and thus high  $\delta^{15}N$ , which postpartum infant diet would lead to these moderately raised  $\delta^{15}N$  values? What was the baby's own underlying  $\delta^{15}N$ , i.e., what was this baby eating?

If it was a breastfed baby of a starving mother, its nitrogen values would be doubly elevated, which is not what the data suggest. If it was a non-breastfed baby of a starving mother, the final  $\delta^{15}$ N values depend on the infant's substitution diet. If it was being fed a mother's milk substitute that provided sufficient sustenance for the body to not enter a state of metabolic distress, the question is what, and what would be the lengths gone through in this case to nourish a baby with a non-human milk or food, both in terms of acquiring an alternative and in terms of labour involved in feeding. It must be noted here that, before the advent of modern infant formula, no truly adequate alternative to human milk was available, and feeding an infant of this age on anything else would greatly endanger its survival chances. Still, it is possible that this baby was the child of a severely malnourished mother who was given alternative food after birth, such as animal milk or any finely pureed foods, thus displaying a slightly raised nitrogen value as a remnant of maternal input, but toned down due to postpartum lack of breastfeeding.

It is also possible that the mother was not malnourished, but that the baby was or was becoming severely underfed near the end of its life. Given the fragility of newborns and the limited elevation of the nitrogen value, this last scenario would imply a relatively short period of malnutrition prior to death. However, the normal  $\delta^{13}$ C values do not support this and the nitrogen values do not make this the most likely option (i.e., elevation within the expected infant spectrum (Fig. 6)). Additionally, for malnutrition to show up in a rib fragment, even with the rapid bone turnover of an infant, the negative metabolic state would have had to last for some time, while an infant is unlikely to be able to endure such hardship for very long.

A final hypothesis is therefore that the data are not heavily impacted by the maternal signal (because the maternal signal was physiologically normal and/or because by the age of 3 months the infant's bone turnover had erased this relic). In this case, the moderately elevated nitrogen values and normal carbon values most likely point to a diet of predominantly human milk. When plotted against reference data of other infants from a normal cemetery setting in Aalst (Fig. 6), the infant falls centrally in the expected isotopic range, supporting this hypothesis.

Thus, although multiple scenarios can be put forward, and neither a residual influence of the maternal diet nor infant malnutrition can be excluded, the most likely option based on the values and available reference data is that this baby was breastfed. Although the reference data are slightly later in time (c. 1490–1780), this suggests that the infant started life as any other child in Aalst would, at least in terms of diet.

### Interpretation of a deviant burial

Based on the stable isotope analysis supporting the hypothesis of breastfeeding and the estimated age, there are no indications for infanticide in the strictest understanding of the term, i.e., immediately after birth. The infant seems to have been properly fed and cared for in the initial stages of his life. Although we cannot exclude a change in conditions leading to an unnatural death, this is not necessarily the case. The lack of pathogen DNA does not have to be significant, since influenza and respiratory infections are due to RNA-viruses (which cannot be detected in our analyses), and preservation likely played a key role. Death by disease is therefore the most likely scenario. Estimates for infant mortality in the Middle Ages are difficult to calculate but are likely comparable to those of the early modern period, which range around 30% (Orme 2001, p. 113; Lewis 2011, p. 5). Moreover, in the first year of life, there exists a male disadvantage in infant mortality due to a lesser immune response and resistance to infections and a higher risk of premature birth, varying from c. 10 to 30% in the 18th to 20th centuries (Drevenstedt et al. 2008).

Even if no illicit act was committed, the burial outside of a regular cemetery remains remarkably rare for late-medieval Europe, in which a proper Christian interment in the churchyard was the norm. Only a limited number of comparable cases are known. These domestic infant burials primarily date to the late 13th and 14th century and are often associated with boundary walls and key living spaces (for the UK, see the overview by Gilchrist 2012, appendix 14). For example, in the deserted medieval village of Upton (United Kingdom), a 3- to 6-month old infant was found under a stone slab in the corner of a mid- to late-13th-century longhouse (Rahtz 1969, 87–88). Also in a 14th-century building in Mont-de-Marsan (France), built against the city walls, a newborn was buried in a pit and wrapped in a shroud. Again, the infant was found in the corner of the house, lined by the rampart, and possibly in proximity to a heart (Riuné-Lacabe 1995, 171–172; Souquet-Leroy et al. 2016).

#### **Unbaptised?**

How should such deviant practices be interpreted? A common explanation in archaeological literature is that these infants were unbaptized (for example: Daniell 1997, p. 127). Baptism was a prerequisite for admission to the Christian community, cemetery and ultimate salvation. Medieval society was therefore rather concerned with the death of newborns before the administration of this sacrament. Baptism should therefore occur as soon as possible, preferably within a couple of days after birth (Lett 1997a, 2014, p. 89). In case of danger and absence of a priest, any person was not only permitted but obliged to baptize a child that was either dying or had little chance of survival (Shahar 1990, p. 49). Church court cases from medieval London moreover show that illegitimate children were not necessarily deprived of the right to baptism and that brothel-keepers could baptize a prostitute's child (Hanawalt 1993, p. 44, 59). Even when unbaptized, children might sometimes have been secretly buried in the churchyard nonetheless. For example, a royal license granted to the Dean and Chapter of the Hereford cathedral in 1398 mentions the secret burials of unbaptized children as one of the reasons to build an enclosure wall around the cemetery and keep its gates locked at night. This license is linked to the find of 24 infant interments in the Castle Green cemetery extension. Buried in a shallow and disorderly manner, they may represent unbaptized children (Shoesmith 1980, p. 51). Thus, we would expect exclusion from the cemetery due to a lack of baptism to be relatively unlikely, certainly if the boy has lived for a couple of months (see similar argument in Gilchrist 2012, p. 221), although it cannot be entirely excluded.

#### **Unable?**

While prostitution was not illegal in the medieval Low Countries, it was still considered a sin. "Pregnant singlewomen defied the norms of a medieval world centered on family and inheritance" (Butler 2011, p. 796). As historical sources suggest quite some flexibility in terms of baptism, illicit burial might rather reflect the many constraints by which these women were bound. Social stigma could be one of the reasons why the child did not undergo the regular baptismal ritual. There also is a cost to proper burial, which might simply have been too much to bear for a woman who was possibly in a destitute position. No data are known to us for 14th-century Aalst, but by comparison, 16th-century church accounts of Dudzele, Belgium, do provide insights into funeral costs. These varied based on factors such as the number of candles, the ringing of particular bells and the burial location within the churchyard, in addition to a fixed sum for the coffin and grave digging (Dombrecht 2013, 267–269). The cheapest funeral costs no less than 6 day wages of an unskilled laborer and must there have been a considerable obstacle for the poorest in society (Dombrecht 2013, 276–277).

While sex workers constitute a very heterogeneous group, historical research shows that—just as today—poverty and precarity were the primary reasons why women resorted to prostitution in the Middle Ages. Moreover, many prostitutes in the Low Countries were financially dependent on their brothel owners (for example, making debts to buy a suitable wardrobe) and therefore vulnerable to exploitation (Dupont 1996, 96–97; Haemers 2021, p. 42). The fact that domestic infant burials are also found in impoverished urban areas (Gilchrist 2012, p. 220) might further support this suggestion of limited (financial) resources.

#### **Unwilling?**

Regardless of baptism or financial status, what the burial potentially shows, is that the care given to the boy in life was continued after death. The burial of infants in domestic contexts has parallels in prehistoric and Roman times (e.g. Yıldırım et al. 2018; Moore 2009). Interestingly, in Romain Britain, neonate infants are mainly associated with corners and hearths or hypocausts. These specific locations might have offered warmth, protection and control, "keeping the infant within the center of the household" (Moore 2009, 44–46). Comparison with the burial location in Aalst is striking. Although situated in an entirely different socio-cultural context, the way of burial could be suggestive of similar attachment and an affective bond between parent and child.

There is both a theological and popular belief in the Middle Ages that the soul lived on and remained in the vicinity of the body after death, at least for a couple of days if not longer (Caciola 1996; Gordon 2018). Tales of revenants outline an entire domestic geography of apparitions in which the hearth often takes up an important position (Le Roy Ladurie 1985, p. 595; Schmitt 1994, p. 208). For example, in his *De miraculis*, Peter the Venerable (1092/94–1156) tells the story of a deceased mercenary appearing before his former employer, sitting by the fire and poking the embers as if to stoke the fire or provide better light (Torrell and Bouthillier 1992, p. 180). Folklore studies in 20th-century France still documented the belief that embers should be left smoldering, in case a deceased would want to return and warm up (Sébillot 1968, p. 137). As liminal beings stuck in the *limbus puerorum* (Lett 1997b), unbaptized children occupy a specific role within this domestic geography. Again in France, unbaptized children were believed to emerge from limbo every night, awaiting entry to Paradise (Sébillot 1968, p. 148). The location near a boundary wall, as is the case with many of the domestic infant burials, could have aided in helping the soul to cross from one side to the other, a practice that may also go back on pre-Christian traditions (Daniell 1997, p. 100; Karl and Löcker 2011, p. 43). Warmly and securely buried in the corner of the room, the body's position on the side finally finds parallels with many other child graves in the medieval period. It is suggested that this might reflect a natural sleeping position (Gilchrist and Sloane 2005, 155–156), and has thus little to do with the hasty abandonment so often associated with prostitutes.

# Conclusion: towards an archaeology of medieval sex work

Biomolecular analyses of an infant buried in a 14th-century brothel have provided new insights into the individual's life history. Ancient DNA identified the child as a biological male, while dietary stable isotopes suggest that the baby was likely breastfed. In the absence of clear evidence for infanticide, we have explored alternative hypotheses for this deviant burial.

One possibility frequently discussed in archaeological literature is the lack of baptism. However, given the medieval emphasis on this sacrament—even in contexts linked to prostitution—this scenario appears relatively uncommon. Other explanations potentially lie in the marginalized status of sex workers, who may have lacked the financial means for proper Christian interment and therefore may have kept the child within the household. The possible significance of such a domestic burial draws on archaeological parallels from prehistoric times onwards, as well as theological literature and folklore studies indicating the continuing importance of the home in the afterlife. It is crucial to note that these hypotheses are not mutually exclusive, nor do they preclude any additional social, cultural or personal factors which may have led to this deviant burial.

In conclusion, while not denying or downsizing the place of abortion and infanticide in medieval sex work, we believe that the reevaluation of this excavation helps to nuance this image and highlights the multiple roles of these women, being not only sex workers, but potentially also caring mothers, developing an intimate bond with their child, even in what sometimes must have been the most hopeless of circumstances. In doing so, we hope to have contributed to the increasing scholarship on the archaeology of grief and medieval attitudes towards the loss of infant life Acknowledgements The authors would like to thank Samuel Bodé, Koen De Groote, Mathijs Speecke and the Paleogenomics and Human Genetics platform at the National Museum of Natural History of Paris for their contribution to this paper. We sincerely appreciate the thorough and constructive review that has improved the quality of this manuscript.

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**Data availability** No datasets were generated or analysed during the current study.

#### Declarations

Competing interests The authors declare no competing interests.

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