Introduction

Bioarchaeology is a discipline focused on the lived experience drawn primarily from skeletal evidence yet couched in social, cultural, and historical understandings of geographically and temporally bound human populations (Martin et al. 2014; Larsen 2015). While the biological remains of an individual form the foundation of bioarchaeological inquiry, considering the social and cultural elements of the lived experience are just as significant, albeit more difficult to ascertain from the human skeleton. The fetus, and its complex biological, social, and cultural definitions, is no exception to this, particularly when our contemporary notions of the fetus may bias our research questions and interpretations of fetal-specific data in the archaeological past. Despite arguments that the fetus and how it is conceptualized today was historically non-existent (Duden 1993; Samerski 2016), an understanding of the fetus’s social and cultural evolution bound by biological realities warrants discussion.

This chapter will explore the fetus from a bioarchaeological perspective, discussing how the fetus is defined, the history of fetal studies in the discipline, and how fetal mortuary patterns are associated with notions of personhood and identity in the archaeological past. Further, this chapter highlights the intersection between the fetus and reproduction. As the consequence of successful biological reproduction, the fetus represents a tangible output of the reproductive process. Through the study of the physical fetus, bioarchaeologists are able to investigate elements of reproduction in the past that might otherwise be invisible, such as fetal and maternal morbidity and mortality rates (e.g., Perry 2014; Gowland 2015; Halcrow et al. 2018; Hodson and Gowland 2020), maternal health (e.g., Gowland 2015; Halcrow 2020; Hodson and Gowland 2020), mortuary practices (e.g., Justice and Temple 2018; Kabaciński et al. 2018; Scott and Betsinger 2018; Ellis 2020), breastfeeding and weaning (e.g., Fulminante 2015; Halcrow et al. 2017; Moffat and Prowse 2018; Pearson 2018; Stantis and Schutkowski 2020), and epigenetics (e.g., Barker 1992, 1995; Gowland 2015; Rutherford 2018). Additionally, a bioarchaeology of reproduction must include examination and consideration of both mother and fetus, as they are the nexus of this biological process. In particular, consideration of the fetal experience through analysis of skeletal remains is essential as the fetus is not a biological “blank slate” at birth. As Gowland and Halcrow (2020) discuss, despite birth being perceived as a beginning, the fetus has “already experienced an eventful history mediated through the
Reproduction in the past body of their mother” (2) that needs to be at the forefront of bioarchaeological inquiry into past, present, and future lived experiences.

A bioarchaeological examination of the fetus and its complex cultural and social definitions provides an opportunity to highlight the lived experience of those who came before (mother) and those who come after (fetus). Additionally, modern reproductive studies benefit from these types of bioarchaeological analyses as they provide material evidence of how the reproductive process has continued to be redefined over time based on temporal, geographic, cultural, and social components of past populations. While the biological processes related to reproduction have arguably remained the same throughout the evolution of our species, it is the cultural and social evolution of this process, evidenced through bioarchaeological inquiry, that helps to form the foundation for the anthropology of reproduction and the acknowledgment of the complex history of the womb and the contents within.

How do we define the fetus?

While definitions of the fetus and the terminology surrounding the fetus may vary slightly between disciplines, for this chapter the fetus will represent the biological period between eight weeks to 37 weeks in utero, whereas perinate will refer to individuals between 24 weeks in utero and approximately seven post-natal days (Lewis 2007). This distinction is based on the acknowledgment that the majority of fetal remains recovered from archaeological contexts represent the third trimester of development (Halcrow 2020). While fetal remains have been identified as young as 20–24 weeks (Owsley and Jantz 1985; Hillson 2009; Wheeler 2012), most bioarchaeological examples fall within the perinatal category. It is also important to note that it is difficult to archaeologically distinguish between fetuses, newborns, and neonates (birth to end of the first month) (Blake 2018), as well as between those who were live-born and died shortly after birth and those who were stillborn (death after 28 weeks gestation) (Lewis 2007; Scheuer and Black 2000), although there is ongoing research addressing the latter (e.g., Skinner and Dupras 1993; Booth et al. 2016; Booth 2020). Therefore, the use of the term perinate is most appropriate in bioarcheological settings.

Bioarchaeology of the non-adult

Much of bioarchaeological research, until the last two decades, has focused almost exclusively on the adult lived experience, with little attention paid to non-adults, let alone fetuses and the biological processes (i.e., fertility, reproduction, pregnancy) associated with their archaeological presence (Baxter 2008; Halcrow and Tayles 2011; Beauchesne and Agarwal 2018). Despite children making up nearly 50% of the population, their role in the archaeological past has been considered passive and marginal at best. While children may have been “there,” they have long been considered inactive participants in history (Moore 1997; Ruttle 2010). This adult-centered perspective has most commonly been linked with the methodological challenges known to complicate the study of non-adult individuals. For example, non-adult remains are more likely to undergo taphonomic (i.e., physical changes to and breakdown of the skeleton) and diagenetic (i.e., chemical breakdown of the skeleton) changes in archaeological contexts making their recovery less common and more difficult, compounded further by their different morphology and physically smaller size, which may lead to misidentification and/or loss at the time of recovery (see Sundick 1978; Henderson 1987; Nawrocki 1995; Saunders and Barrans 1999; Buckberry 2000; Tocheri et al. 2005; Lewis 2007; Manifold 2010; Blake 2018). Mortuary practices that include differential treatment and/or placement of non-adult individuals after death
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(see Scott 1999; Gowing 1997; Sofae Derevenski 1997; Orme 2001; Lewis 2007; Saunders 2008) may also impact whether these youngest members of a community are included or excluded from bioarchaeological analyses.

This neglect of non-adult individuals also needs to be understood within the historical trajectory of archaeology, which had reduced the value of women to their wombs. Before the rise of feminist archaeology, it was not uncommon for women and children in past societies to be studied as a single entity, limiting the interpretive scope of these two distinct demographic groups. In this context, omitting research on children effectively disencumbered the archaeological study of women from contemporary biases surrounding reproduction and motherhood (Conkey and Tringham 1995; Bentley 1996; Nelson 2004; Whitehouse 2007). However, recent work has highlighted the ongoing need to include non-adult individuals, particularly fetuses, in larger explorations of the lived experience across all members of past populations (see Baxter 2005, 2008; Gowland 2015, 2020; Halcrow 2020), in recognition of their significant demographic, cultural, social, and economic impact (Kamp 2001; Baxter 2008). As Ruttle (2010) argues, “to ignore them [non-adults] leaves us with a distorted or at least incomplete understanding of the structure and internal dynamics of past societies” (66).

Importantly, the study of non-adult individuals allows for an exploration of both biological and social development. Biologically, we can study the skeletal age and maturation of non-adult individuals to make assessments about environmental, dietary, and disease stressors that may have contributed to morbidity and mortality patterns (see Lewis 2007). However, these assessments are interpretively meaningless without consideration of the social and cultural complexities that surround the timing and definition of childhood and what it means to “grow up” (Perry 2005; Beauchesne and Agarwal 2018). As Halcrow and Tayles (2011) argue, non-adult individuals contribute to and significantly influence the communities in which they belong (i.e., socially, economically), where their participation is dictated by biological and social development, which are distinct processes (see Sofae 2011). While previously this biocultural focus highlighted the post-womb presence of children, the fetal environment has begun to dominate non-adult bioarchaeology, highlighting the interconnected nature of mother and fetus (Halcrow et al. 2018; Rutherford 2018; Gowland and Halcrow 2020) as well as providing insight into overall population health (Lewis 2007; Halcrow et al. 2018; Rutherford 2018). More specifically, studies of fetuses provide insight into the intrauterine environment and maternal health (Chávez et al. 2000; Kinaston et al. 2009; Gowland 2015; Beaumont et al. 2015), social conceptions of personhood and identity (Steel 1995; Borić and Sefanović 2004; Murphy 2011; Cannon and Cook 2015; Scott and Betsinger 2018), reproduction and fertility (Bentley 1996; Schwartz 2018), and infant morbidity and mortality profiles (Storey 1986; Goodman and Armelagos 1989; Lewis and Gowland 2007). This shift in focus to the fetus and fetal environment underscores the importance of the intrauterine experience both for understanding larger population-level questions of health, but also for gaining insight into long-term health consequences (Barker 1992, 1995).

Defining fetal identity and personhood

One particular point of contention has been the notion of personhood and identity and when a fetus acquires social and/or cultural status (see Layne in this volume). As Harris (1989) explains, personhood is focused on the social and cultural make-up of an individual as established through active participation and experience within a community, the state of being a person (Gillespie 2001; Fowler 2005; Cerezo-Roman 2015), and perhaps more importantly, being recognized as a person by others. Personhood in this context is not the same as identity. Individuals may or may not be recognized as persons (having personhood) within their community, and this designation
may change over the life course. In contrast, individuals can have many identities, some of which may be related to their biology and others that may be socially constructed (Lally and Ardren 2009; Fowler 2010; Martin et al. 2014). Whereas identity can be self-ascribed, personhood is negotiated, contested, and constructed through a variety of means at a community level (Han et al. 2018).

How personhood is defined in a contemporary context very much influences its consideration in bioarchaeological research. Today, the fetus has become a publicly managed object whose personhood is primarily ascribed based on developmental milestones in utero, confirmed through imaging technologies (Rothman 1986; Samerski 2016) or through the amplified fetal heartbeat (Howes-Mischel 2018). Interestingly, in the United States, under constitutional law, a “person” means a born person (Robertson 2015 as cited in Han et al. 2018: 140), although this designation continues to be contested as the medicalization of the womb has shifted the understanding of when personhood actually begins from a medical science point of view (Kurjak et al. 2001). Arguably, contemporary Western fetal life is defined based on its biological “viability” (Petchesky 1984), which is dependent on medical technologies, but falls short of the obvious complexities associated with the social and cultural development of personhood through individual agency and community connection. Moreover, some disregard questions of viability altogether, arguing for personhood at the moment of conception, at the “quickening” (i.e., when fetal movement is first felt), or at some other point in the embryonic (i.e., through nine weeks gestation) or fetal periods.

In contrast, Duden (1993), focusing on nineteenth-century Germany, explains that historically, women could attest to their biological experience in order to confirm the “quickening” and the presence of a fetus in their womb. From this perspective, the fetus was an “allegory of the child-to-be” (Samerski 2016: 707) with evidence suggesting that despite being in a liminal/invisible state within the womb (Duden 1993, 1999; Samerski 2016), fetuses could be ascribed identities as anticipated family members (Morgan 1996; James 2000; Dasen 2013). This conferral of fetal identity is further highlighted by archaeological evidence attesting to the importance of the fetus in the form of deities that protect fertility, reproduction, and birth (Dasen 2013). Frankfurter (2006) discusses magical associations with fetuses in Roman Egypt where specific mortuary treatments transformed the fetus into a “power-object” based on their status as “a named or anticipated family member” (47). While an unborn fetus may have a distinct identity from the mother, in symbolic and/or imaginary forms (Dasen 2013), they may yet lack the relational ties (see Sherwin 1992, 2009) to their larger community that contribute to the formation of personhood. As Cerezo-Roman (2015) argues, “personhood is a social construct, that is inherently dynamic and relational, and that it only takes on meaning through the enactment of relationships” (354). It is important to note, however, that this broad understanding of fetal identity and personhood is not shared universally. Personhood is dynamic and requires negotiation (Morgan 1996). The moment of birth is oftentimes assumed to represent the acquisition of personhood; in reality, however, personhood may be gained incrementally over the life course (Gowland 2020: 260). Because the sustainability of life immediately after birth was uncertain in the archaeological past, personhood could be withheld (Charles 2019). It was not uncommon for bathing and naming rituals (i.e., bestowing personhood) to occur after a set number of days postpartum in recognition of infant fragility (Kaufman and Morgan 2005; Gowland et al. 2014). As Dasen (2013) further explains, the status of newborn individuals could continue to change based on biological and/or cultural milestones such as tooth eruption or the use of language.

Fetal death and mourning

It is well understood that high infant mortality rates were a reality in the archaeological past (Sofaer Derevenski 1997; Lillehammer 2000; Woods 2009; Parkin 2013; Gowland et al. 2014).
Famously, Ariès (1962) argued that the common occurrence of fetal and infant death would have created a disconnect between parents and their children, as loss was expected and prompted both shorter birth intervals and more pregnancies (also see Pinchbeck and Hewitt 2019[1969]). In contrast, Golden (1988) highlights the problematic simplicity of this argument where it is assumed that “demography [alone] governs emotional responses” (154) rather than sentiment toward future relationships or the hope of what may be (Fowler 2004; Charles 2019). Tarlow (2000) asserts that archaeologists must have a “critical awareness of our assumptions about emotion in the past” (718). In other words, archaeologists must be careful in assuming how people in the past may have felt about particular events, including the death of fetuses. Ariès’ (1962) suggestion that somehow parents felt the loss of their children less because of high rates of infant/fetal death is an example of an assumption that may not reflect the lived experiences of those individuals. The death of a fetus or infant may be mourned from a pragmatic economic perspective (Laes 2011; Parkin 2013), or more socially as a “loss of the future” (Lillehammer 2000; Mizoguchi 2000; Gowland 2020: 264). This unknowable potential is what makes personhood difficult to ascribe, as the fetal body “idealizes future relationships” (Fowler 2004; Charles 2019: 22). For example, as Charles explores in the nineteenth- to early twentieth-century Milwaukee County Poor Farm Cemetery, fetal remains were more likely to be discarded or abandoned without formal mortuary treatment as any idealized relationship never materialized, whereas older infants were cared for after death as a connection, albeit brief, following birth could be established. It is also important to note that an individual’s personhood status may not have affected whether or how individuals grieved for the loss. Just as a fetus may have an identity in utero without yet being considered a person, a fetus that dies before achieving personhood may have been mourned regardless and, potentially, to the same degree as older infants and children.

Assessing emotions, such as grief, from the bioarchaeological record may be difficult, but Tarlow (2000) argues that emotions are integrated into “other aspects of social and cultural meaning and experience” (713) and are, therefore, worthy of consideration. Reconstructing whether and how individuals mourned in the past may be assessed, in part, by mortuary practices and their archaeological correlates. However, as Cannon and Cook (2015) warn, “there is little explicit theoretical foundation or empirical basis for linking particular forms of burial treatment to specific patterns of emotional experience” (399). They discuss how the “perfunctory disposal” of deceased fetuses has been viewed as evidence of emotional detachment, while careful mortuary treatment has been correlated with emotional concern. They argue that this conclusion negates emotional variability and that correspondence between burial mode and emotional experience cannot be assumed (399). Building on this, we suggest that instead, disposal methods may be culturally prescribed rather than individually determined or emotionally based. In other words, if an individual dies before obtaining personhood, there may be a specific place and/or manner in which they must be interred that may be separate from how the parents and community felt about the loss. Murphy (2011), for instance, compares post-medieval Irish burials in cilliní (i.e., burial sites typically used for stillborn and unbaptized infants) to infants buried in consecrated burial grounds. Using oral histories and archaeological and mortuary evidence, she found that the families of the deceased fetuses and infants treated burials in both cilliní and traditional burial grounds as important and worthy of similar treatment. While the Roman Catholic Church may have viewed individuals buried in cilliní as marginal, there is no indication that the parents shared this feeling. Instead, the Church (and culture) deemed where certain individuals were to be buried, regardless of the parents’ emotional response.

In addition to the high infant mortality rate in the past, a significant number of pregnancies would have ended in miscarriage. Today, between 10% and 20% of known pregnancies in the US end in miscarriage, the majority of which happen in the first 12 weeks of gestation (Mayo
Foundation for Medical Education and Research 2020). While it is difficult to assess rates of miscarriage for past populations as first-trimester fetuses are rarely recovered from archaeological settings (Halcrow et al. 2018), it is unlikely that they were any lower than what is observed today. Studies of the parental bereavement process in contemporary Western societies have elucidated the range of emotions that are experienced in response to miscarriages and fetal/infant death as well as the time frame of experiencing those emotions, which can occur throughout the parent’s lifetime (see Layne in this volume; Peppers and Knapp 1980; Layne 1990; Moulder 1998; Tedeschi and Calhoun 2004). These emotional responses are also associated with physiological (hormonal) responses in both the biological mother and the father (see discussion in Murphy 2011). Interestingly, these emotional and physiological effects can also affect other kin. Burden and colleagues (2016) found a negative association between stillbirth and the attachment between current children and their parents if they are removed from the grieving process but also may lead to long-term effects of “survivor guilt [where] they felt that had to live their life for two people” (Burden et al. 2016: 6). Archaeological studies of the effects of infant deaths, including miscarriages, in Western Europe over the past 500 years have also indicated the emotional impact of such a loss on the parents (Pollock 1983; Kuller and Katz 1994; Scott 1999; see discussion in Murphy 2011). Therefore, it seems likely that in past populations, parents felt the loss of and mourned their child, regardless of how many times it had happened before or how much they might expect such an outcome and regardless of whether the fetus was deemed a person or not. Moreover, because infants may be integrated into their community immediately after birth through communal child-rearing, fetal death may also have an impact beyond the immediate family members (Golden 1988; see Burden et al. 2016 for a contemporary example); however, this is even more difficult to assess from the archaeological record but can be aided through historical studies.

Mortuary practices and burying the fetus

Mortuary practices in a broad sense ascribe meaning to the inevitable process of death through tangible means (Parker Pearson 1999). The dead are “integral parts of society” as notions of personhood established in life are maintained, denied, or reinvented at the time of death (Thomas 2002: 42; also see Hertz 1960; Van Gennep 1960; Ucko 1969; Binford 1971). In life, when and how personhood is ascribed is not fixed and can vary greatly between populations (Budja 2010); therefore, mortuary patterning should also reflect this complexity (Gowland 2020; Le Roy and Murphy 2020). Mortuary archaeology investigates aspects of mortuary treatment and how they might reflect human behavior (see discussion in Chapman and Randsborg 1981; Parker Pearson 1999; Scott and Betsinger 2018). While mortuary treatments are focused on the deceased and may reflect their role in life (Rakita and Buikstra 2005) as well as anything the deceased may have requested upon their death, they also are impacted by those carrying out the mortuary rites, including their feelings and interpretations of the deceased and their adherence to societal rules regarding mortuary treatments, as well as the overarching cultural ideals and norms that dictate how, where, when, and for whom such rites are conducted (Parker Pearson 1999; Scott and Betsinger 2018; Scott et al. 2020). In examining the mortuary treatment of non-adults, Sofaer Derevenski (1997) suggests that the burial of children reflects the social role of the children as well as the parents’ wishes regarding their treatment. The scope of those mortuary rituals, behaviors, and treatments, however, are determined by the culture in which those individuals live (Scott et al. 2020). In other words, while there is certainly diversity in mortuary treatments within a population, the culture sets the boundaries on that range of variation and also sets guidelines or rules as to who gets which type of treatment and for what reason. For fetuses or
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perinates, their social roles in and out of the womb (if they survived) would be more limited than that of children who lived a longer period of time (Scott and Betsinger 2018). As a result, perinatal mortuary treatments may be more reflective of the views of the family and community and how adults viewed them and dealt with their deaths, thus providing insight into their status and personhood (see Figure 22.1) (Parker Pearson 1999; Han et al. 2018).

The following examples, drawn from a range of time periods and geographic regions, illustrate how mortuary practices are most informative of fetal personhood in the past. Perinatal burial practices vary widely in bioarchaeological research including interment in specialized vessels such as pots, jars, tiles, or baskets (e.g., Curtin 2002; Boeyens et al. 2009; Lauer and Acabado 2015; Licata et al. 2018); disposal in natural or constructed spaces including pits and wells (e.g., Liston and Rotroff 2013; Potter et al. 2014); and placement in separate cemeteries or outside communal cemeteries (Beike-Voigt 2008; Donnelly and Murphy 2008; Murphy 2011; Berner et al. 2017; Kabaciński et al. 2018; Wheeler et al. 2018). Fetal remains may also see differential body treatment such as mummification (e.g., Nystrom et al. 2010), secondary
burial (e.g., Potter et al. 2014), or differential positioning (e.g., Ponce de Léon et al. 2017). While these burial treatments may have obvious connections to tangible elements of identity such as sex and/or social status (Humphreys 1983; Klingman 1988), these practices may also represent the intangible and dynamic notion of personhood created and/or maintained after death by the still living community. For example, the placement of fetal remains outside formal cemeteries may be interpreted as ascribing outsider or “other” status to fetuses through their physical separation from communal burial grounds (Pearce 2000). While burial of perinates in distinct locations may be due to their lack of personhood, it is also possible that the special location reflects a separate status of the deceased, such as a god, spirit, or other being (Scott 1999; Gottlieb 2004). It is not uncommon in North American cemeteries today to find separate sections that are utilized solely for fetal and infant deaths. In this case, the distinct burial location does not reflect a lack of personhood but, rather, a “special” status as an individual that has died far too soon.

While these treatments may reflect the personhood and/or other identities ascribed to the fetus, the influence of the maternal body may also be represented in these practices highlighting the interconnected nature between mother and fetus even after death (Gowland et al. 2014). Studies in Europe, Southeast Asia, and North America have revealed that fetuses and mothers who died during pregnancy or at the time of birth also may be buried together, as seen in the presence of perinatal skeletal remains in the mother’s lower abdomen or pelvic cavity (e.g., Wells 1978; Owsley and Bradtmiller 1983; Malgosa et al. 2004; Willis and Oxenham 2011; LeRoy and Murphy 2020), or between the femora as a result of the fetus potentially being expelled from the mother’s body after death through the processes of decomposition (Augias et al. 2015). Even when the mother and fetus survive the birth event, their postpartum death may also see a combined mortuary treatment (e.g., Le Roy and Murphy 2020). Arguably, the personhood, or elements of it, held by the mother is also bestowed on the fetus through these shared mortuary treatments. Gowland (2020) suggests that infants, during the first three months of life, occupy a transitional womb or a fourth trimester, representing the continued and necessary biological connection (e.g., dependency, breastfeeding, swaddling) between mothers with their babies after birth; this maintenance of physical closeness is perhaps highlighted also in death. It is when only the fetus dies and the mother lives or when cultural rules dictate they aren’t to be buried together, that the true range of fetal mortuary variation can be observed as the fetus, separate from its mother, may illicit treatments reflective of their own personhood (or lack thereof) and/or identity.

Conclusions

The fetus, as much today as in the past, demands attention and plays a central role in the anthropology of reproduction. Whether this attention is tied to the demarcation of when life “begins,” or how that “life” may be best represented in death and mortuary treatments, the fetus and how it is conceptualized remains a challenge. Bioarchaeologically, fetuses and non–adults have only recently been ushered into mainstream research with the recognition of their growing importance in how we access and interpret the lived experience in past populations. From maternal health profiles to later life morbidity and mortality, the fetal period builds the foundation for our physiological selves. Beyond this biology, however, is the ever-growing need to understand what the fetus meant in the archaeological past and how those understandings of fetal personhood and/or identity were represented by the living. While the biological boundaries of the womb are better understood, it is the social and cultural components that require further excavation so we may better integrate and acknowledge the influence of the fetus past, present, and future.
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