4. Grandparents in the Bronze Age?

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Evolutionary biology and ethnographic analogy suggest that grandparenting has been critical to the development of human life history and may even explain modern human longevity. However, the roles and functions of grandparents have not previously been investigated in later prehistoric contexts. Ethnographic studies show that grandparents take on an extremely wide range of roles worldwide, whether this is teaching knowledge and skills, providing childcare, or even taking on parental roles and titles. In many cases, grandparents play a critical role in the support and socialization of children. Understanding the roles of grandparents thus has the potential to transform our understanding of prehistoric household and family structures. Through a case study of the Early Bronze Age Traisental in Austria, I explore potential methods for identification of grandparents in the past, and consider the effects of social formations on grandparenting.

Keywords: Grandmother hypothesis; grandparents; care; mobility

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Introduction

Grandparents (and the practice of grandparenting) are increasingly the object of study in the present day, but have never formed the focus of archaeological research. There are probably a number of reasons for this. The old and the process of ageing itself have been largely neglected by archaeologists (Gowland 2007; Appleby 2018). Many archaeologists have assumed that most people in the past died young, often in their thirties (e.g. Welinder 2001, 167; see also discussion in Chamberlain 2006, 52-4 and Smith *et al.* 2017, 70-5). However, this is a misunderstanding of the data: life expectancies in past populations were low largely due to mortality in early childhood. For those who survived childhood, there was a good chance of reaching old age (Smith *et al.* 2017, 72-6). Another complication is that grandparenting is difficult to see in archaeological datasets. It is much easier to talk in vague terms such as households or kin groups than it is to see particular intergenerational relations.

This contribution represents a first attempt to investigate grandparents and grandparenting in a prehistoric context. As such, I do not pretend to have 'solved' the question of prehistoric grandparenting. Rather, I use it as a way of exploring some potential approaches that can be refined and further developed. By its nature, the data is often quite vague, and some interpretations here take the form of speculation based on data rather than hard facts, but I believe that it is possible to develop approaches that can investigate prehistoric grandparents in an empirically robust manner. These are outlined throughout the paper.

The chapter is divided into two sections. In the first, I outline some anthropological approaches to grandparents, focusing particularly on the 'grandmother hypothesis' and its relevance to prehistoric contexts and on the ethnographic literature about the roles of grandparents. I then go on to investigate the presence and role of grandparents in a particular prehistoric context, namely the Early Bronze Age Traisental of Lower Austria. In particular, I am interested in how demographic data can be used to think about grandparent-grandchild relationships. Evidence from graves from this area is used to identify how grandparents may have contributed to the care of children and also to identify potential specific grandparent/grandchild relationships.

Ethnographies of Grandparenting

It is not possible to give a full account of the complex anthropological and ethnographic literature on

grandparenting in a single paper, so here I will restrict myself to a brief account of two aspects that have particular relevance in a prehistoric context: evolutionary explanations of grandparenting, and accounts of the roles and relationships of grandparents.

Evolutionary Explanations of Grandparenting

It has been suggested that grandparents were critical in the emergence of longevity in humans, and particularly in the development of post-menopausal lifespan in females. If natural selection acts purely on the individual, there should be no selection for women to live past the age at which their offspring are mature, since this has no effect on reproductive fitness (Crews 2003, 16; Hawkes and Coxworth 2013, 294). In humans, the long juvenile period means children born to older mothers are less likely to survive, and late pregnancies are higher risk for mothers (Blanc *et al.* 2013). Death in pregnancy or childbirth can compromise the survival chances of all of a mother's non-adult children, and not just the last one (e.g. Hill and Hurtado 1996; Ronsmans *et al.* 2010). In 1957, George Williams first suggested there could be an evolutionary advantage to human females if they stopped reproduction early in order to concentrate on bringing existing offspring to maturity (Williams 1957). This observation was subsequently expanded (most famously by Kristin Hawkes) to grandmothers, and termed the 'grandmother hypothesis' (e.g. Hawkes *et al.* 1989; 1998).

The grandmother hypothesis arose out of ethnographic fieldwork amongst the Hadza of Tanzania. During this fieldwork, Hawkes *et al.* (1989) observed that grandmothers contributed significantly to the calorific needs of their grandchildren. In particular, their advanced foraging skills meant they were able to target high-nutritional value foods, which were shared with grandchildren and therefore increased the likelihood of their survival to adulthood. Hawkes *et al.* (1989; 1998) hypothesised that this behaviour would have led to natural selection for increased survival beyond the menopause for women. The grandmother hypothesis has since been supported through modelling (e.g. Lee 2008; Kaplan *et al.* 2010; Kim *et al.* 2012; see also discussion in Hawkes and Coxworth 2013). Whilst most models have focused on grandmothers, some have suggested that both sexes are important as grandparents (Kaplan *et al.* 2010). A review of ethnographic tests of the grandmother effect shows that maternal grandmothers are consistently associated with decreased mortality of grandchildren; paternal grandmothers are also frequently helpful, but under certain conditions do not contribute to child survival (Sear and Mace 2008). Male kin (fathers and grandfathers) overall do not contribute to increased child survival (Sear and Mace 2008). Recently, researchers have emphasised the contribution of grandmothers beyond simple food sharing; for example, in providing care and expertise, or support with heavy household tasks (Gibson and Mace 2005; Euler 2011, 188). Current research suggests that grandmothers supply a complex range of support, which varies culturally and also depends on factors such as social status and individual life histories (Johow and Voland 2012).

A number of studies have suggested that maternal grandmothers are likely to provide the most support to grandchildren, because they can be certain these grandchildren are their own (Euler 2011). In contrast, grandfathers have less certainty that grandchildren are genetically related to them and are thus likely to have less input into their upbringing. This observation has been largely supported by ethnographic research, although there is evidence that this is affected by social structure, and especially by the presence of patrifocal societies (Euler 2011, 191).

More recently, Greve and Bjorklund (2009) have proposed an alternative hypothesis, which they have named the 'Nestor effect'. The Nestor effect proposes that increases in human lifespan have developed due to the effects of both grandmothers and grandfathers. In this model, grandparents contribute primarily through their depth and breadth of knowledge (wisdom). Such knowledge can include advice on giving birth, medical care, hunting expertise and memory of rare and potentially dangerous events. There is good evidence that grandparents in many ethnographically known societies contribute in just these ways; however, the effect of such advice has yet to be demonstrated either in quantitative studies of survivorship in modern populations, or through mathematical modelling (Euler 2011, 187).

Roles of Grandparents

Ethnographic studies of the specific roles of grandparents have shown they are important in a great number of areas over and above the straightforward provision of food, whether they are providing childcare, medical care, passing on knowledge (including private and secret knowledge that was not passed on to others), telling stories or giving advice on 'how to be' (Landes 1937). Grandparents may share their houses and even their beds with their grandchildren (Notermans 2003). Under certain circumstances, grandparents

are the most frequent primary caregiver to grandchildren. In modern rural China, skipped generation households consisting of grandparents and grandchildren are extremely common in some areas because parents are forced to migrate to find work. Over 40% of households in Hunan and over 90% in Sichuan and Jiang'Xi are skipped generation households (Xu *et al.* 2014, 227).

Anthropologists working in Africa have often noted different patterns of relationships between proximate and alternate generations (e.g. Fortes 1949, 236-40; Radcliffe-Brown 1950, 57). Thus, children's relationships with parents are hierarchical and formal, whereas their relationships with grandparents are much more equal. Discipline is for parents, but warmth is for grandparents. Recent studies have highlighted that these patterns are not universal but vary, both within and between African societies, and also over time (Geissler and Prince 2004; Van der Geest 2004; Whyte *et al.* 2004). They may also vary by gender: relationships between grandmothers and their grandchildren may not follow the same pattern as relationships between grandfathers and their grandchildren (Whyte *et al.* 2004).

Grandchildren also have obligations towards their grandparents in many societies. This may include providing assistance with household tasks when requested. In modern contexts, grandchildren appear to be increasingly involved in caring for dependent older grandparents (e.g. Dellman-Jenkins *et al.* 2000; Dearden and Becker 2004, table 1; Fruhauf *et al.* 2006; Aldridge *et al.* 2016, 23; Assaf *et al.* 2016). It is likely this practice was rarer in the past, but may have happened occasionally. Lorna Tilley (Tilley and Oxenham 2011; Tilley and Cameron 2014; Tilley 2015) has recently developed the 'biology of care' approach to identify the skeletons of individuals who would have received care from their communities, but we have yet to come up with methods for identifying who (if anyone) was responsible for care giving to the dependent elderly in prehistoric contexts.

An additional point worth making here is that our definitions of 'grandparents' do not fit neatly into all kinship systems. Grandparents may sometimes share a kinship term with other relatives who we would give distinct roles to. Equally, individuals who are not grandparents in our terms may take on a grandparental role (e.g. examples in Johnson 1999). These might be individuals who are genetically related but not through the direct line, or they may be individuals with no close genetic connection. This complicates matters for archaeologists: for example, young and old individuals in a double burial might be of a fictive grandparent and their grandchild, but aDNA testing would show that they were unrelated. This would be genetically correct, but socially incorrect. Grandparents may also act as parents; this is common today when parents are deceased or unable to care for their children. In some societies it is a common practice even when parents are able and willing to provide for them; grandparental fosterage is normal in many traditional African societies, and in some areas the exchange of grandchildren is a critical part of kinship relations, whether through gifting, reclaiming, or the grandparent taking the grandchild (Notermans 2003; Alber 2004).

What becomes clear above all else from the ethnographic literature on grandparenting is that grandparenthood is not a given, but is something that emerges and changes through practice. This is a significant challenge for archaeology. At the moment, we are at the stage of identifying grandparents, and this is itself not easy. If we are to provide a significant contribution to the understanding of intergenerational relations, we will need to develop methodologies for exploring grandparenting practices as well.

Identifying Bronze Age Grandparents

Having very briefly set out the background, it is now time to turn to investigate the presence and impact of grandparents in a specific prehistoric example: the Early Bronze Age of the Traisental, Lower Austria. In this area, three large inhumation cemeteries of Unterwölbling group attribution have been excavated, which offer a large sample size (1,079 individuals) for analysis: Franzhausen I, Pottenbrunn and Gemeinlebarn F. During the Early Bronze Age, the communities of the Traisental buried their dead in pits using a sex-specific burial position (males on the left side with head to the north and females on the right side with head to the south). Most individuals were placed within coffins and people were typically buried with a series of (often gendered) dress items as well as tools, ceramics and food offerings (see Rebay-Salisbury, this volume).

The evidence from the Traisental enables us to start to ask some basic questions about grandparents. At what age did people become grandparents? Did this vary for men and women? How many people survived to become grandparents, and how long did grandparents survive for?

At What Age did People Become Grandparents in the Bronze Age?

Understanding how many people became grandparents in the Bronze Age is complicated by our lack of direct knowledge of the age at which men and women had children. The age of transition to grandparenthood is not well supported by data for most present-day societies, let alone those of the past: research in general is much more focused on roles of grandparents, their health, and their effects on the rearing of grandchildren (Leopold and Skopek 2015).

The age at which women could become grandmothers is potentially easier to identify for prehistoric societies than the age at which men became grandfathers. Age at transition to grandmotherhood can be calculated by adding the age at first birth to the age of the oldest child at the birth of their first offspring. Graves of pregnant women give the most direct evidence for such calculations, and double graves of women with foetuses or neonates are strongly suggestive of motherhood, although other relationships are possible. Ancient DNA analysis offers us the opportunity to establish directly the nature of genetic relationships between women and babies in graves from archaeological contexts. Similar genetic relationships within double burials of males and foetuses or neonates could potentially be identified from grave contexts as a way of calculating the age at which men became fathers. However, whereas death in childbirth has always been a significant risk for women, especially for young first-time mothers (McCarthy and Maine 1992, 27), there is no particular risk for men around the birth of their children, and so it is less likely that a father will die around the time of the birth of his child. One potential way of investigating the age at which men became fathers is to attempt to establish whether there were significant age gaps in marriage (or similar relationships), as there are in many societies today.

Turning to the Traisental cemeteries, there is direct evidence of pregnancy in three graves from Franzhausen I, one of which contains the burial of a woman in her early twenties along with a foetus. The position of the foetus suggests a post-mortem coffin birth (see Rebay-Salisbury, this volume), which indicates a direct mother-child relationship. Whilst there are no cases of younger pregnant women at Franzhausen I, double graves of women in their late teens to early twenties together with children aged six to eight years may reflect mother-child relationships. If this is the case, childbirth may have begun as early as the mid-teens. Motherhood potentially occurred very early in neighbouring Únětice Culture cemeteries in Austria, as is evidenced by a double burial of a 14-15-year-old adolescent female with a neonate at the cemetery of Unterhautzenthal (see Rebay-Salisbury, this volume), which is located about 50 km from the Traisental cemeteries.

This evidence shows that it was possible that Early Bronze Age women became grandmothers in their thirties, and it is likely that most women became grandmothers by their forties. Although ageing in the Early Bronze Age societies of the Traisental was likely to have been faster than today (due to environmental factors such as regular outside work, food insecurity and constant exposure to biomass smoke within houses) (Appleby 2018), this suggests that at least in the early years of grandparenting, women would have been physically able, allowing them to contribute to the care of their grandchildren. Further research using ancient DNA to identify relationships between women and children within the cemeteries may help to clarify the age of first motherhood, and may enable us to identify younger grandmothers. It should be noted, however, that identifying the grandparental generation is more complex than simply identifying maternal or paternal line relatives and may require whole genome analysis to distinguish grandparents from other relatives sharing similar proportions of DNA, for example half siblings (Turi King, pers. comm.).

It is not possible to see directly the age at which men first became fathers in the Traisental, but cross-culturally men tend to be older than women at first marriage (Fenner 2005), which suggests they are likely to have been older than women when they became parents. The size of the age interval between men and women at marriage is variable: data for modern hunter-gatherers indicate that it may be anything between one and twenty-four years but, on average, males are older than their female partners by 7 ± 4 years, while in nation states the difference is 3.5 ± 1.7 years (Fenner 2005, 419-20). If we add this to the likely age of first birth for women, most men are likely to have become fathers by their mid to late twenties, and grandfathers by their late forties. Again, ancient DNA studies may help us to clarify generation lengths in males and hence to get a more accurate idea of the age at which they would have become grandfathers. This type of analysis, however, would depend on the presence of double burials of fathers with neonatal offspring. There is no menopause for men, and so oldest age at reproduction is also variable, which complicates analysis of intergenerational relations. Men may have carried on fathering children right up to the point of their deaths.

How Frequent were Grandparents in the Bronze Age?

Assuming that the most common age to become a grandparent was the fifth decade, how many people in the Early Bronze Age Traisental survived to become grandparents, and how long did they survive with grandchildren? Again, this is a complicated question. Cemeteries are not direct representations of living population structure. Their composition is significantly affected by changes in fertility and (to a lesser extent) mortality over time (Wood *et al.* 1992). Both older adults and older children are likely to be under-represented because their bones are less dense and therefore more likely to be destroyed by taphonomic processes (Gordon and Buikstra 1981; Walker *et al.* 1988). This is a particular problem for the Traisental because the cemeteries are situated on gravel terraces where bone is very poorly preserved overall. In addition, young children may not be buried in cemeteries for cultural reasons. Evidence from Traisental cemeteries suggests that infants are under-represented and are likely to have been buried or otherwise disposed of elsewhere (Teschler-Nicola and Prossinger 1997). This makes it hard to interpret overall population structure. Finally, it is difficult to age older adults accurately or precisely. Older individuals are likely to be under-aged (Molleson and Cox 1993), depressing the apparent mean age and life expectancy, of the population (Smith *et al.* 2017, 73) (see Maaranen and Buckberry, this volume). All these factors make palaeodemographic reconstructions problematic.

For the purposes of this paper, I have used the published demographic reconstructions of Teschler-Nicola and Prossinger (1997) for the Traisental cemeteries. These suggest that in the three Traisental cemeteries included here, between a fifth and a quarter of people died at forty years or older (Table 1). In women this percentage varied from 18% at Franzhausen I to 28% at Gemeinlebarn F. These figures give us a rough value for women who became grandmothers. In reality, because of infertility and death of daughters before they produced children, the number would have been lower than this. Recent studies of childlessness in the developing world indicate that, whilst rates vary, they are generally low (usually between about 0.5% and 4%; Rutstein and Shah 2004, table 1). If we assume these figures to be applicable to prehistoric populations (and they may not be), it suggests that the vast majority of women who survived to this age are likely to have become grandmothers.[1]

Teschler-Nicola and Prossinger's (1997) calculations indicate that if they survived to fifty years of age, women had a remaining life expectancy of between fourteen and over seventeen years. This suggests that first-born grandchildren would often have been in their teens, or fully grown, before they lost their grandmothers. Men of fifty years could expect between eleven and fourteen years of additional life. Assuming they are also likely to have been older than women when their first child was born, it is probable that more children would have had living grandmothers than living grandfathers, and that where grandfathers were present, they often died when their grandchildren were relatively young.

A further question of interest is the degree of overlap of intergenerational relationships. Whilst we often talk of one generation following another, experience shows us that in reality generations usually overlap, and later children of a mother who began reproducing early may be younger than older grandchildren. This is also likely to have occurred in past societies, especially those where women began reproducing early.

At Franzhausen I, there is evidence that one woman who had died in her forties had been pregnant (see Rebay-Salisbury, this volume). This shows that at least some women continued to have children into their fifth decade of life, and suggests that women of this age may have had grandchildren while themselves still going through pregnancy and/or looking after babies and young children. This means that latest children and earlier grandchildren are likely to have been raised alongside one another, and has interesting implications for household and community structure. Unterwölbling

Sex	Cemetery	% >40	% >60	Life expectancy at 50 years	Life expectancy at 70 years
Female	Franzhausen I	18.2	3.2	14.2	10
	Pottenbrunn	21.4	7.2	17.3	10
	Gemeinlebarn F	27.9	10.1	17.2	10
Male	Franzhausen I	20	3.7	12.8	10
	Pottenbrunn	19.2	1.5	11.4	10
	Gemeinlebarn F	24.8	8.1	14.2	10

Table 1: Demographic profile of Early Bronze Age cemeteries from the Traisental (data from Teschler-Nicola and Prossinger 1997).

group settlements consisted of longhouses that could have housed extended families; this would have facilitated intergenerational care. We can perhaps envisage children being jointly reared by parents and grandparents in multi-generational households. Grandmothers are likely to have provided physical assistance with the care of grandchildren as well as advice about childrearing practices.

Grandmothers and Care of Infants and Children

As well as offering experience and knowledge, grandmothers may also have provided critical care in the form of nourishment for infants whose mothers died in childbirth or were unable to feed them for other reasons. Where grandmothers were raising small children themselves, it is possible they also assisted with breastfeeding their grandchildren. If it took place, this is likely to have had a considerable impact on rates of infant survival. Examples from the ethnographic literature show that this is something that has occurred frequently in non-Western societies (Slome 1956; Eregie 1998; Ogunlesi *et al.* 2008). Grandmothers are reported to have begun breastfeeding their grandchildren either because the mother was not present, because the mother was unable to breastfeed, or simply in order to give some rest to the mother (Slome 1956). Such practices would have been much easier in three-generation households, especially where women were raising small children at the same time as their older daughters. In fact, there are contexts in which grandmothers without young children allowed babies to suckle, stimulating relactation which then made it possible for them to breastfeed (Slome 1956). This approach has been used in the care of severely malnourished motherless infants in some modern contexts, and has recently been advocated for babies in certain developing-world countries whose mothers suffer from HIV/AIDS (Eregie 1998; Ogunlesi *et al.* 2008). Identifying breastfeeding by grandmothers archaeologically would be very difficult, if not impossible, but we should certainly see this as a potential and perhaps likely behaviour, and it is one that may have had significant effects on survivorship.

Grandfathers may also have taken on roles as foster fathers, especially where the child's parents were dead or absent (ethnographically, grandfathers can also act as foster fathers when the child's biological parents are present (Alber 2004)). Such children may have benefitted from extra resources that a grandfather could provide.

Whilst earlier-born children could have thus benefitted from multiple caregivers, improved nutrition and the knowledge of experienced older grandparents, the long reproductive period of women in the Early Bronze Age may also have had negative implications for a woman's younger children. A significant minority of these are likely to have lost one or both parents while still at a young age, and few would have had surviving grandparents. Any alternative care would thus have to be provided by older members of the same generation (brothers and sisters), by less close relatives or by non-relatives. If sibling care was the norm, the loss of knowledge and experience that an older mother or grandmother could provide is likely to have had significant implications, and could have caused increased childhood mortality rates in later-born children. Where there were no surviving siblings or other close relatives, children of older mothers may have been at risk of neglect, and their chances of dying would have been even higher.

Evidence from Graves

One way of examining the importance and type of grandparental relationships in archaeological contexts is to look at evidence from double graves. Although it is simplistic to assume that graves including older adults and children are necessarily genetic grandparents and grandchildren, burying people with large age-gaps is likely to indicate the importance of connections between these generations (see Murphy and Donnelly, this volume; Rebay-Salisbury, this volume). This is especially the case in small communities because all individuals were probably related in some way, either directly or by marriage. Body positioning and grave inclusions may be used to see how such relationships were constructed.

Double graves are rare in Unterwölbling group cemeteries, but do occur. In order to identify possible grandparents, I have had to be selective in the use of data. Firstly, to maximise the potential for identifying genuine intergenerational relationships, only double graves with evidence of contemporaneous or near-contemporaneous burial have been included. This means that if later-dying individuals were added to the graves of earlier-dying individuals, they will not have been identified in this study. Such graves were excluded because, where a second person is added at a later date, it is extremely difficult (if not impossible) to assess the age gap between the individuals during life and thus to assess whether a grandparent/grandchild relationship is plausible. This exclusion of non-contemporary burials within a single burial pit has implications for analysis: it is unlikely that grandparents and their grandchildren often died at the same time. When they did,

their burials must reflect the community's response to an unusually traumatic event. Whilst burial practice in the Early Bronze Age Traisental was strongly normative, it is nonetheless important to acknowledge that such unusual deaths may have had implications for how burial was carried out.

In addition to the exclusion of non-contemporary burials within a double grave, I have also excluded individuals with a skeletal age-at-death that could not be assessed to within twenty years due to poor preservation. Where age could be assessed, I have included all graves where the age gap could be large enough to indicate a grandparent/grandchild relationship. This has involved slightly different interpretations of generational length for males and females. In females, based on data on age at first pregnancy from Unterhauzenthal, I have assumed that the minimum difference between grandmothers and grandchildren is thirty years. I have assumed a larger gap of forty years for males. This is a more tenuous figure, but is based on the ethnographic data of Fenner (2005). By definition even where these criteria are met, and assuming such double graves do contain grandparents and grandchildren, they will only be a very small proportion of all grandparents and grandchildren.

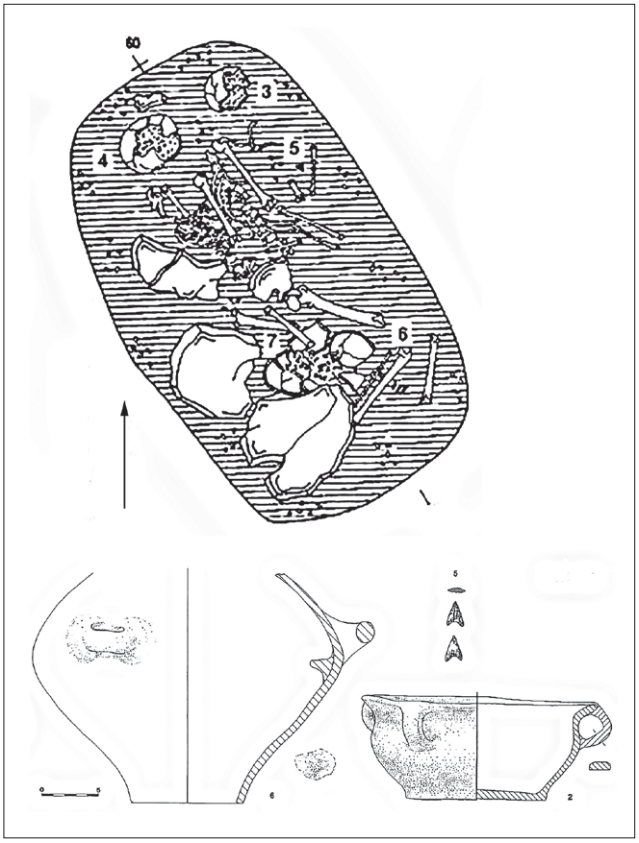

Figure 1: Double burial of two males, Grave 588, Franzhausen I, and associated grave goods. The individual on the left was aged 30-50 years and the individual on the right was aged 10-12 years at death (© Bundesdenkmalamt Wien/ Niederösterreich).

Within the three Traisental cemeteries, the majority of double burials contain individuals with small age gaps. This is particularly the case for Gemeinlebarn F, where there are no double graves containing contemporary burials that could represent grandparents and grandchildren. Once graves with poor preservation are excluded, Franzhausen I is the only site with graves that can be included, and only two are present.

Grave 588 is the double burial of two males placed next to one another (Fig. 1). The older is aged 30-50 years, whilst the younger is aged 10-12 years (i.e. there is a potential age gap of forty years). Both are placed in the standard gendered position rather than facing each other. Neither individual is placed in a coffin, a practice unusual for Franzhausen I, where over 80% of burials include a coffin (data from Neugebauer and Neugebauer 1997). Very few objects were recovered, although prehistoric disturbance of the grave suggests that more might have originally been present. The grave itself was not particularly large (1.67 m by 0.94 m at its greatest extent, and only 0.8 m deep) despite containing two individuals. If this represents a grandparent/grandchild double grave, then it was not given much material attention.

Grave 777 contained two females, buried one on top of the other (Fig. 2). The upper woman was 50-70 years old at death and the lower had an age-at-death of 25-30 years (indicating an age gap of 20-45 years). The older woman could have been grandmother of the younger woman, but there is also the potential she was grandmother of the younger woman's children (i.e. that she was her mother or mother-in-law). Again, both were buried in a gender-appropriate position. In this case, the bodies were physically separated by the use of wooden coffins (the younger woman's is larger). Overall, this grave had a large volume (9.61 m3), which indicates that significant effort went into the burial. The younger woman's body was elaborately dressed, but the older woman has no surviving dress elements, although copper staining of vertebrae, ribs and hands show that she had initially been buried with bronze objects (Neugebauer and Neugebauer 1997; Sprenger 1999). Interestingly, only the older woman's burial was disturbed, and the head apparently removed during the later disturbance, while the younger woman was left untouched. The physical relationship between the two women was not emphasised: although only one grave cut is evident in the excavation plans, they were placed

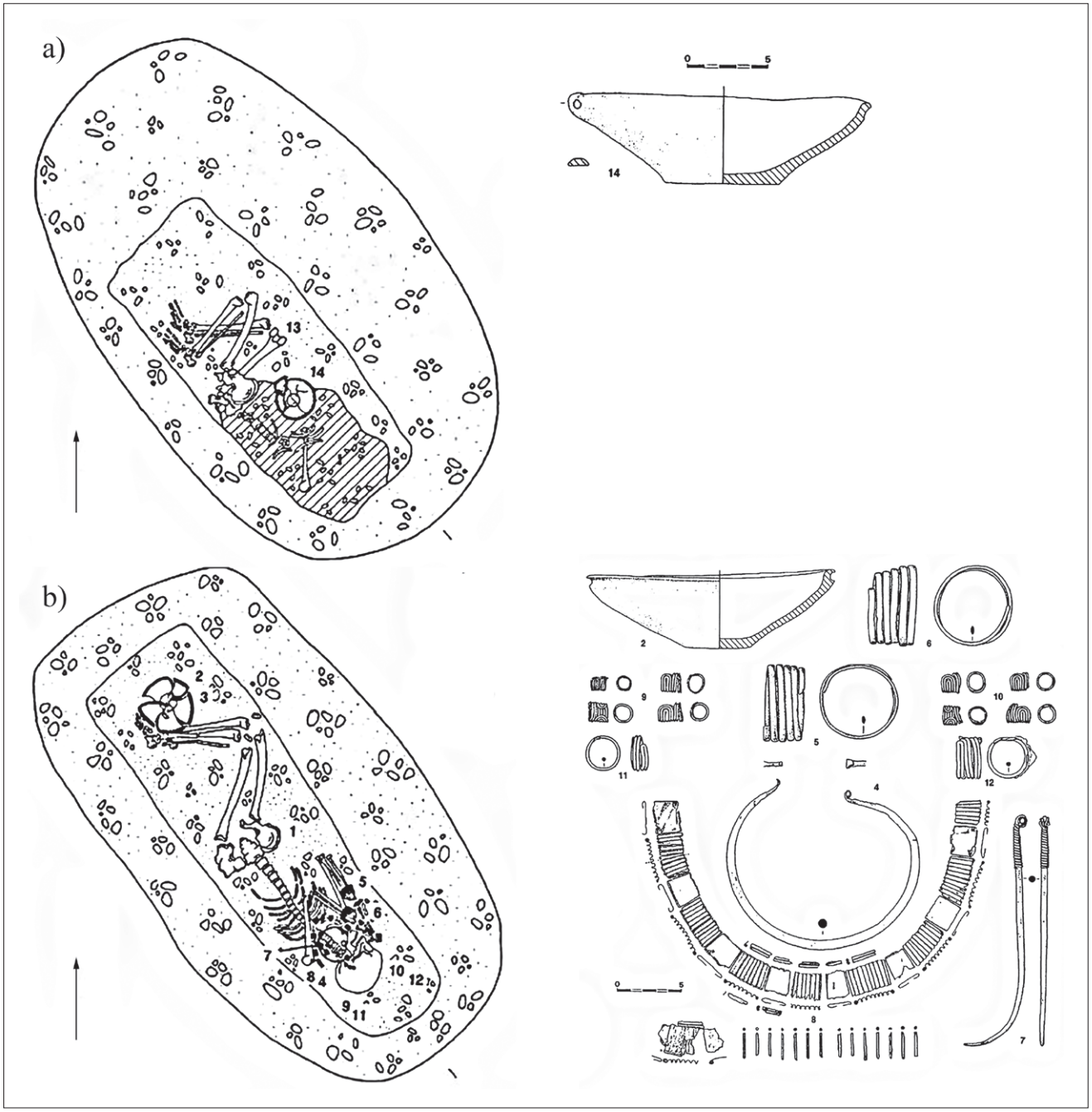

Figure 2: Burial of two females, Grave 777, Franzhausen I, and associated grave goods. a) upper burial containing a female aged 50-70 years; b) lower burial containing a female aged 25-30 years (© Bundesdenmalamt Wien/Niederösterreich).

within separate coffins. The bodies mirror each other in their side and orientation, but the older female had the tibia strongly contracted on the femur, whilst the younger female was in a loosely contracted position. Both women were provided with bowls, although they were differently positioned; the bowl in the coffin of the younger woman was placed at her feet (the most common position at Franzhausen I), whilst that with the older woman was placed in front of the body.

Grandparental relationships are hard to define, and there are several explanations for these double graves. They may represent parents and offspring, or the double burial of non-relatives. Future ancient DNA may either confirm or disprove the identification of grandparent/grandchild burials in these cases, although poor preservation complicates this analysis for the Traisental.

If these two graves do contain grandparents and their grandchildren, they seem to reference quite different kinds of relationship. Whilst the male double grave is poorly equipped, the positioning of the two bodies, close to one another and even slightly overlapping,

emphasises their physical closeness. In contrast, the female burials were more richly equipped, but the bodies were clearly separated from one another. Interestingly, if either grave references a caring relationship, it is that of the two males and not that of the two females. This may relate to the young age of the child in the male double burial, but may also indicate something of the nature of relationships between grandmothers, grandfathers and their grandchildren. Of course, without ancient DNA analysis to back up the interpretation of the graves, this all remains somewhat speculative.

The Influence of Mobility on Grandparenting

Thus far, my discussion has assumed that grandparents were local to their grandchildren, but mobility was common in many prehistoric societies. Intergenerational mobility would have had significant implications for the kinds of care that grandparents were able to provide to their grandchildren.

Isotopic analysis of skeletons from Franzhausen I indicates that both men and women were frequently non-local: 22% of men and 20% of women analysed showed non-local isotopic signatures (Kreutz 2011, 60, 62). In a sense, this is an unsurprising finding; the communities of the Traisental were small, probably consisting of extended family groups, and outbreeding would have been a necessity. In addition, this region occupied a central position at the meeting of north-south and east-west trade routes, which is likely to have contributed to high mobility levels. The isotopic data show that both women and men frequently moved between childhood and adulthood. It has been argued that this represents men moving as part of exchange networks, whilst women moved in order to marry (Kreutz 2011), but there is no direct evidence for this theory; it is based on larger-scale assumptions about Bronze Age gender roles, which perhaps ought to be questioned.

Grandparents can most easily provide care to children who are nearby, as has been discussed above. If children moved away, grandparental care would be more difficult, and potentially limited to infrequent visits. There is, though, another important consideration. Cross-culturally, grandmothers give more support to grandchildren than grandfathers, and they also tend to give more support to offspring of daughters than sons (Sear and Mace 2008; Euler 2011). This makes sense in classic evolutionary terms, since grandmothers can be certain that all their offspring are their own, and also that all offspring of their daughters are their grandchildren. In contrast, grandfathers cannot be completely certain that any particular grandchild shares their genes.[2]

It is worth thinking through the implications of high numbers of non-local men and women in the Traisental. Depending on which family members moved, grandparents would have been able to provide different levels of care, and potentially would have had greater or lesser investment in their grandchildren. Where mobile men had children with local females, the maternal line grandparents would have been local to the household. Assuming that general patterns of grandparental care in modern societies hold true, grandmothers are likely to have provided significant support to their grandchildren. In addition, consistency in childrearing practices between mothers and daughters may have reduced tensions between them, and allowed the grandmother to provide advice as well as care.

Where a non-local woman had children with a local man, the relationship between mother and grandparents may have been more difficult. The local grandparents are likely to have provided less care and support to offspring of their sons (as paternal grandparents have been shown to do in numerous ethnographic studies (Sear and Mace 2008; Euler 2011)), and there may also have been differences in approaches to childcare, which could have provoked tensions in the grandparent-parent relationship if women were expected to follow local approaches to childrearing. We should not rule out the idea that a non-local woman's parents travelled to be with her at critical times (for example around childbirth), but they are unlikely to have been able to provide care or assistance as a matter of course.

Where both parents had travelled to the area, the degree of support provided by grandparents presumably depended on whether they had moved as part of an extended family group, or whether they had moved as a single generation. If grandparents had moved together with their offspring, they could potentially have provided extensive support with day-to-day childrearing. The extent to which they were able to provide materially for their grandchildren would have depended on the roles which they had undertaken in their new communities, their social status, and the degree to which they had integrated with their new neighbours. If grandparents remained in the natal area, they would presumably have been able to give little or no support.

Such patterns of movement indicate that, even without taking into account survival to an age at which people could become grandparents, there are likely to have been quite variable patterns of intergenerational relations within the Early Bronze Age communities

of the Traisental. Women who moved without their parents lost the potential for multi-generational households with biological kin, shared childrearing and mutual familial support. If they occupied multi-generational households with 'in-laws', there may have been increased potential for criticism of childrearing methods, or imposition of unfamiliar childrearing methods (cf. Fischer 1983). Grandchildren born to non-local women may also have lost out in terms of resources. It would be interesting to use ancient DNA studies to investigate whether children born to immigrants faced higher levels of childhood mortality than children born to locals: this is a question for future research.

Conclusion

In this chapter, I have presented some outline suggestions for how we might approach the investigation of grandparents and grandparenting in prehistoric contexts. I am under no illusion that this is a straightforward task, and the evidence presented here is open to alternative interpretations. We have to accept a degree of imprecision in our data, and the need for analogy in our arguments but, I do feel there is potential for this approach to start exploring the role of grandparents in the past, especially if good preservation allows ancient DNA analysis to be carried out. This will help us to enrich our understandings of past societies, bringing in a neglected group which was potentially a key part of successful community reproduction. At the same time, identification of prehistoric grandparents has the potential to contribute to discussions of the evolution of longevity: for example, does archaeological evidence of grandparenting support the grandmother hypothesis? Finally, it has become clear that we cannot understand the relationships between grandparents and their grandchildren without also considering larger patterns of family relationships.

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Notes

[1.] More precise calculation of childlessness is impossible due to the large number of unknowns for this society including differences in fertility between survivors and non-survivors, availability of mates, percentage of women who chose to enter into relationships that resulted in children etc.

[2.] Of course, the notion of genes would have been completely unknown to grandfathers in the Bronze Age. Whether there was an explicit notion of biological kinship in this period is not known, but the differential between grandmothers and grandfathers in providing care is well attested in a variety of recent settings (Sear and Mace 2008).

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