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A critical assessment of the evidence for selective female infanticide as a cause of the Viking Age

Edward Stewart

There currently exists in the study of Viking archaeology a strong support for the theory, popularised by Barrett (2015), that selective female infanticide in the Late Scandinavian Iron Age to Early Viking Age resulted in the sudden expansion of Scandinavian influence, through raiding, invading, and trading, across Europe that categorises the Viking age. This paper aims to critique the evidence for selective female infanticide as a cause of the Viking age and suggests that it may have been only a partial factor in causing the Viking Age. This paper will review the current literature on the subject and consider the evidence currently available, Archaeological and literary, in order to critique this currently dominant theory.

Within the debate on the causes of the Viking age, there currently exists strong academic support for the theory of selective female infanticide as a primary causal factor. This school argues that a population-wide shortage of females in Scandinavia at the start of the Viking age prompted intense competition to gather sufficient wealth and prestige to win a bride.[1] R. Noort argues that this occurred within an increasingly competitive socio-political landscape, and a culture of honour through martial prowess.[2] It is these factors, he argues, that brought about the cultures of raiding and exploration which characterise the Viking Age. However, there are significant arguments against this theory, which centre around its assumptions about the role and value of Viking women in late Iron Age Scandinavia, as well as issues with the reliability of gender ratio data, based upon existing burial evidence alone. This essay will critically examine the evidence for selective female infanticide as a cause of the Viking Age.

The merits of Selective Female Infanticide theory

James Barrett argues that the cause of the Viking Age, as characterised by the spread of Scandinavian influence via raiding, settling, and trading in Western Europe, was brought about by none of the prior arguments, as these were insufficient in fully explaining the Viking phenomenon.[3] Barrett goes on to argue that the imbalance of male to female graves must be addressed as the root cause, and according to the literary sources, as the causal factor of the Viking age.[4] The Icelandic Sagas reference selective infanticide of female infants in periods of food scarcity, or general hardship.[5] The Sagas state "So you are with child. If you should raise a girl, it shall be exposed, But if a boy, then it shall be raised."[6] Nancy Wicker, a leading proponent of the argument for the existence

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[1] James Barrett, "What caused the Viking Age?," *Antiquity* 82, no. 317 (2015): 682–684.

[2] R.V.D Noort, *North Sea Archaeologies: A Maritime Biography, 10,000 BC–AD 1500* (Oxford: Oxford University Press, 2011), 197–198.

[3] Barrett, "What caused the Viking Age?," 682–684.

[4] Ibid.

[5] H. Damico, *New Readings on Women in Old English Literature* (Indiana: Indiana University Press, 1990), 116.

[6] Anon, "Eric the Red and other Icelandic sagas," trans. J. Jones, in *Bordfirdinga Sogur Islenzk Fornrit,* ed. by S. Nordal and G. Jonsson (Reykjavik: Runa Raven Press, 1980), 174.

of selective female infanticide in Viking-era Scandinavia, argues that the disparity in female grave evidence between early christianised sites and their contemporary pagan alternatives is evidence of the practice of selective infanticide of females in the pagan Viking era. This practice would have been illegal under Christian doctrine.[7] There are mentions in the sagas, as well as in other accounts of Viking life, that infanticide was a practice of late Iron Age-Viking culture, often involving the deprival of food or exposure of unwanted children or the ritual killing of infants in sacrificial acts.[8] C. Clover and M.H. Eriksen argue that there is archaeological evidence for infanticide in Scandinavia in the period, and from ethnographic studies of societies in similar conditions, it can be argued that selective female infanticide was likely practiced.[9] Evidence for infanticide in Norway in the Iron Age and Age of Migrations is limited to a single site, Hå in Rogaland, where a selection of fragments of neo-natal skull were discovered within a bog in close proximity to sacred springs: this was argued to relate to a ritual-sacrificial exposure or drowning of infants, though none of the fragments could be sexed and thus this in itself does not prove the existence of selective female infanticide.[10] This deposition and others similar found in Denmark have shown no identifiable gendered bias in victims and have counterparts across much of Northern Europe from the pre-Christian Iron age.[11] Wicker argues that women are mentioned less frequently than men in the sagas, suggesting that this is indirect evidence of a disproportionate sex ratio, though this is questionably accurate.[12] Wicker argues that the disproportionate ratio of male to female graves in Birka (an early mission site in Scandinavia), illustrates the elimination of selective infanticide, as women clearly outnumber men in the burial grounds; a very different trend is found in the rest of Scandinavia for most of this period.[13] It is argued by Barrett that this led to a significant shortage of potential brides for the male population[14]. This increased level of competition, mixed with a culture of prestige gained through martial success, led to raiding abroad as a means to create a worthy bride-price.[15] It has been widely accepted that the common finding of insular Western-European artefacts in Scandinavian female grave good assemblages represents some form of bride wealth. Therefore, Barrett is reasonable to suggest that to some degree at least, the purpose of raiding as part of the male lifecycle was to raise wealth to facilitate a marriage, perhaps as part of the route to becoming a landowner, as without a wife to manage the household, raiding each summer would have been a foolhardy endeavour.[16]

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[7] Nancy Wicker, "Selective Female Infanticide as Partial Explanation for the Dearth of Women in Viking Age Scandinavia," in *Violence and Society in the Early Medieval West*, ed. by G. Halsall (Woodbridge: Boydell Press, 1998), 217.

[8] Wicker, "Selective Female," 207.

[9] C. Clover, "THE POLITICS OF SCARCITY: NOTES ON THE SEX RATIO IN EARLY SCANDINAVIA," *Scandinavian Studies* 60, no. 2 (1988): 187–188; M.H. Eriksen, "Don't all mothers love their children? Deposited infants as animate objects in the Scandinavian Iron Age," *World Archaeology* 49, no. 3 (2017): 351.

[10] Grete Lillehammer, "Children in the bog," in *(Re)thinking the little ancestor: new perspectives on the archaeology of infancy and childhood,* ed. M. Lally and A. Moore (Oxford, Archaeopress, 2001): 51.

[11] Lillehammer, "Children in the bog", 52.

[12] Wicker, "Selective Female," 218.

[13] Nancy Wicker, "Christianization, Female Infanticide, and the Abundance of Female Burials at Viking Age Birka in Sweden," *Journal of the History of Sexuality* 21, no. 2 (2015): 265–267.

[14] Barrett, "What caused the Viking Age?," 682.

[15] B. Raffield, *et al.,* "Male-biased operational sex ratios and the Viking phenomenon: an evolutionary anthropological perspective on Late Iron Age Scandinavian raiding," *Evolution and Human Behaviour* 38, no. 1 (2016): 323.

[16] J. Graham-Campbell, "National and regional identities: the 'glittering prizes,'" in *Pattern and Purpose in Insular Art*, ed. M. Redknap, *et al.* (Oxford: Oxbow Books, 2001), 37–38; B. Arrheniüs, "Women and gold: on the role of women in society at the time of the Great Migrations and their relationship to the production and distribution of ornaments," in *Produksjon ogsamfunn,* ed. by H.G. Resi (Oslo: Universitetets Oldsaksamling, 1995), 85–86.

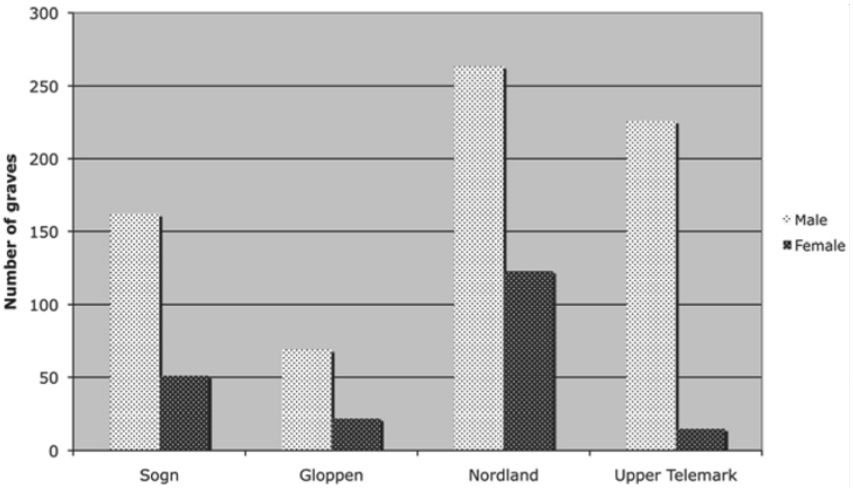

Figure 1: Male/Female sex ratio from Norwegian Graves

There is a distinct imbalance in identified sexed graves from across the traditional "Viking" heartlands. In some cases there is a ratio of three to one, a significant gender imbalance on a regional basis.[17] The graph above illustrates that in the increasingly socially stratified communities of Scandinavia in the late Iron Age, the competition for women took on an increasingly important role in the achievement of status.[18] Practices such as polygyny and the taking of concubines would likely have further increased competition for females, and compounded social hierarchies. Those winning wealth and prestige were then best placed to find multiple partners, whilst also producing a large body of single males, competing more fiercely for status and attention.[19] This is supported by the Ulster Annals, which make reference to the targeted capture of females by Viking raiders in 821 AD.[20] The commonly recorded practice of taking predominantly female captives during raiding suggests that there was a greater demand for females in Scandinavia, or in the Viking camps. Therefore, a high value was likely placed not only on female captives, but females in general.[21] Consequently, if Selective Female Infanticide was the cause of this gender imbalance, the practice would have played a significant role in the formation of the culture of raiding to gather a bride-price, and the attached status coming with successfully negotiating a marriage.

The weaknesses of the Selective Female Infanticide theory

However, there are significant arguments against this theory of female infanticide being the

[17] A.K. Pyburn, *Ungendering Civilisation* (London: Routledge, 2014), 108.

[18] B. Raffield, *et al.*, "Male-biased operational sex ratios and the Viking phenomenon: an evolutionary anthropological perspective on Late Iron Age Scandinavian raiding," *Evolution and Human Behaviour* 38, no. 1 (2016): 321.

[19] J. Heinrich, *et al.*, "The Puzzle of monogamous marriage," *Philosophical Transactions of the Royal Society* 367, no. 1 (2012): 659; R.M. Karras, "Concubinage and Slavery in the Viking Age," *Scandinavian Studies* 62, no. 2 (1990): 162.

[20] Anon., *Annals of Ulster to A.D 1131*, trans. S.M. Airt and G.M. Niocall (Dublin: Dublin Institute of Advanced Studies), 227; Raffield, "Male-biased operational sex ratios and the Viking phenomenon," 323–324.

[21] Raffield, "Male-biased operational sex ratios and the Viking phenomenon," 323–324.

primary causal factor of the Viking Age. Wicker admits that there are few sites of multiple scattered infant bones which would be interpreted as sites of ritualistic, or culturally dictated child exposure. Therefore, comment cannot be made on the scale of selective infanticide, as the later Christian sources may well exaggerate such a practice to elaborate a narrative of Viking paganism, as is common in many cultural contexts, where one culture wishes to tarnish the reputation of the other.[22] In those sites that have been identified, such as at Hå, Rogaland, Norway and Hundrup Mose, Zealand, Denmark, infants were deposited into wetland environments, including bogs or wells. However, there are not quantities large enough to denote this as a large-scale practice, and there are only minimal indications of victims of violence, or any particular sex discrepancy—though sexing is impossible in the neonatal remains.[23] The identified sites thus far also only contain remains of between four to seven individuals, not all infants. It is unlikely that a regular culling of female infants is being seen, but rather some ritual sacrifice of infants and probably foreign slaves, the infants themselves in some cases perhaps being the children of slaves. Figure two (below) illustrates the distribution of known sites of suspected infanticide in late Iron Age Northern Europe. Whilst it does show a number of sites within Scandinavia, the number is too small to create such a large biased sex ratio as seen in Early Viking Scandinavia.[24] Thus, to argue that infanticide alone created this sex ratio bias would be against the current bank of evidence.

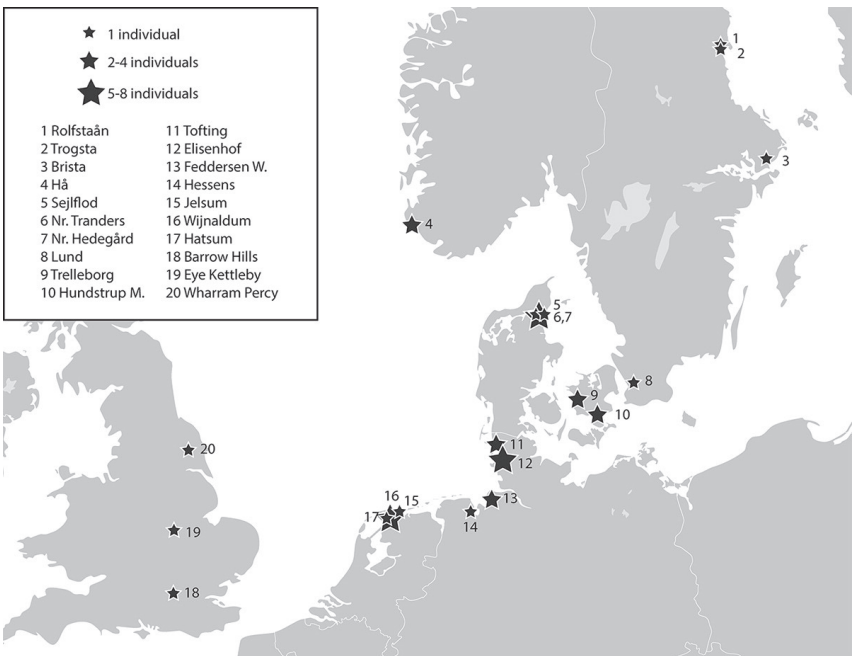

Figure 2: Map of infant deposition in late Iron Age Northern Europe

[22] Wicker, "Selective Female," 220–221.

[23] Eriksen, "Don't all mothers love their children?," 339.

[24] Ibid, 348.

Infant mortality in late-Iron Age Scandinavia is predicted to be around 30–60 percent. It is unlikely that selective female infanticide could have been practiced on top of this to any great extent, without pushing population ratios to the point of crisis. This notion is further consolidated, as it is known that female infants were significantly more at risk than male infants from natural mortality in infancy.[25] L.H. Dommasnes argues that a much higher proportion of female graves are found within mounds and other monumental or prestige burial forms. This suggests that class imbalance exists within female graves, as opposed to a gendered imbalance.[26] These types of burials are associated with claims to land and legitimisation of land or power holding. Therefore, the imbalance in female graves is in fact a disproportionate sample of females in the Viking period, as most female graves appear to illustrate individuals associated with landholdings, and therefore those of a lower class, landless, or lacking power may be unrepresented.[27] Higher status burials have survived disproportionately well due to their significance and status, translated through the generations by the scale of their burial. Meanwhile, graves of lower class females, perhaps less richly buried, have been lost due to a lack of significance being placed on their burial sites by subsequent generations.[28] In a society focused on lineage and prestige it may have been worth ignoring or purposefully removing ignominious forbearers from the record.[29]

Furthermore, in a society where polygamy and concubinage was practiced, it is likely that only favourite wives or partners were disposed of with the full pomp, ceremony, and trappings of a significant burial. It is logical to suggest that less valued members of such households were granted lower status graves, which did not survive to such extent in the archaeological record. Much of what is known about Viking funerary ritual and ceremony suggests a link between forms and practices of funerals, and status during life. This suggests that favoured members of a household would have been granted more significant burials than others, based upon their relative role and status within the domestic sphere.[30] Literary sources on Viking female burial also suggest that, particularly in cremation burials, the practice of sending serving girls, handmaidens, bondwomen and slaves to their deaths alongside their masters in cremation was practiced in some high-status funerals.[31] Therefore, as cremation evidence is much harder to identify, and harder still to sex, a significant proportion of the population, even accounting for some exaggeration, is likely unrepresented in the archaeological records. Wicker argues that the disparity in sex ratio between contemporary pagan and Christian settlements is proof of the pagan practicing of selective female infanticide.[32] However, I argue that this illustrates more the Christian practice of relatively standardised burial within defined cemetery areas. This is an easier death practice under which to find a cross section of population demographics archaeologically, when compared to the unstandardised and widely varied inhumation and cremation practices common in pagan communities.

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[25] Ibid, 339; V.W. Vaupel, *et al.*, "The Impact of Heterogeneity in Individual Frailty on the Dynamics of Mortality," *Demography* 16, no. 3 (1979): 442.

[26] L.H. Dommasnes, "Late Iron Age in Western Norway. Female Roles and Ranks as Deduced from an Analysis of Burial Customs," *Norwegian Archaeological review* 15, no. 1 (1982): 84; L.H. Dommasnes, "Women and Death in Old Norse Societies: an Archaeological Perspective," in *Women, Pain, and Death: Rituals and Everyday Life on the Margins of Europe and Beyond,* ed. by J.E. Haeland (Indiana: Indiana University Press, 2014), 43–45.

[27] Dommasnes, "Women and Death," 24.

[28] Cristina Spatacean, "Women in the Viking age. Death, life after death and burial customs" (Masters diss., University of Oslo, 2006), 119–121.

[29] Ibid, 117.

[30] Ibid, 115.

[31] Anon., *The Saga of the Volsungs: The Norse Epic of Sigurd the Dragon Slayer*, trans. L. Jesse (London: Penguin Books, 1990); Spatacean, *Women in the Viking age,* 118.

[32] Wicker, "The Abundance of Female Burials," 252.

Similarly, a growing body of evidence suggests women had a role, in some instances a leading role, in raids; therefore discrediting the view of women in the Viking age as passive. The Ulster Annals record that, in the 10th century, a Viking fleet active in Munster was led by Ingehn Ruaidh or "the Red Girl".[33] The recent discovery of a Viking weapons burial, wrongly assigned as male in Birka, Sweden, also questions assumptions of gender based on grave goods and implied occupation status. The burial was previously assumed to be male due to the rich body of strongly masculine associated weapons and militaria grave goods.[34]

> The grave goods include a sword, an axe, a spear, armour-piercing arrows, a battle knife, two shields, and two horses, one mare and one stallion; thus, the complete equipment of a professional warrior. Furthermore, a full set of gaming pieces indicates knowledge of tactics and strategy.[35]

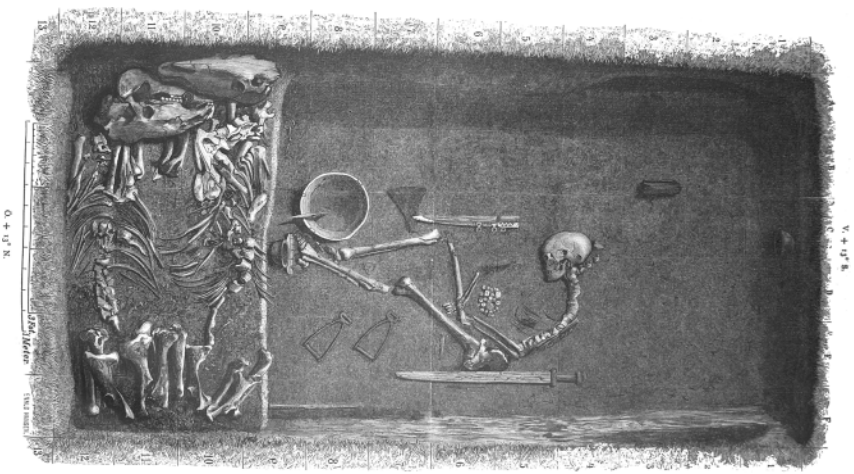

Figure 3: The Birka female warrior and associated grave goods

However, osteological and DNA analysis proved that the individual buried with all the material culture of an elite "male" burial was female; further calling into question the theory that weapons equate to warriors, or that the primary purpose of raiding was to gather a bride price.[36] Figure three illustrates the grave, and the wealth of grave goods. This offers another potential weakness in the female infanticide model based upon sex ratios, as it proves that the common practice of gendering graves based upon grave goods is flawed. Perhaps a significant number of such graves have been mis-

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[33] Anon., *The War of the Gaehdil with the Gaill or the Invasions of Ireland by the Danes and Other Norsemen*, trans. J.H. Todd (London: Reader and Dyre, 1867), 207.

[34] C. Hedenstierna-Jonson and A. Kjellström, *et al.*, "A female Viking warrior confirmed by genomics," *American Journal of Physical Anthropology* 1, no. 1 (2017): 45.

[35] Ibid, 45.

[36] Stephen Harrison, "'Warrior graves?' the weapon burial rite in Viking Age Britain and Ireland," in *Maritime societies of the Viking and medieval world,* ed. James H. Barrett and Sarah Jane Gibbon (Leeds: Maney Publishing, 2015), 299–319; Hedenstierna-Jonson and Kjellström, *et al.*, "A female Viking warrior," 45.

interpreted, opening the way for a significantly less biased sex-ratio.[37] I argue from this evidence that women during this period were able to attain positions of martial or socio-political leadership. It is unlikely that the raiding that they were engaged in, or at least indirectly involved with, was for the purpose of finding a bride-price or subjugating potential concubines alone.[38] The high-status weapons burial of a female in Birka, and the leadership of a fleet by a female warrior-chief in Ireland, also evoke questions of what it was that motivated a process of selective infanticide if a female could gain power and wealth through socio-political or martial action.[39] This directly contradicts the arguments of Clover, who argued that the strong and heroic women of the Icelandic and Norwegian Sagas were romanticised reflections of later ideals and that in reality women in Viking Scandinavia were powerless in law and politics. Clover's argument forms the basis of selective infanticide theory, stating that being a female, a product of incest, a bastard, or being physically malformed were reasons to expose a child.[40] However, the finding of this powerful female grave, alongside the evidence from Irish Literary sources and the growing wealth of evidence from rune stones and insular graves, demonstrates that women could, and did, achieve status and power in Scandinavia and the Viking world. This shakes the bedrock of selective female infanticide as a theory for the cause of the Viking era.[41] It is therefore possible that instances of infanticide were significantly less common that assumed by the theory, and any gender ratio imbalance could instead be attributed to slightly higher rates of child and young adult mortality among females than males. I believe that the wrongful gender assumption of graves based on grave goods alone, and a disparity in the survival of female graves of different social statuses, renders the sex-ratios from this period as insufficient evidence upon which to base such a grand theory as the cause of the Viking Age.[42]

Alternative interpretations to be drawn

From the evidence, I argue that a high proportion of the female graves identified so far have been high-status burials. Therefore, it is necessary to offer an alternative interpretation for the importance of acquiring bride wealth in causing the Viking Age. I argue that what is seen is a disproportionate survival and recovery of high status burials, giving an incomplete picture of the gender ratio present in Iron Age Scandinavia.[43] Therefore, while Viking raiding activity may to some degree have been a result of the need to gather a bride price, this was not as a result of a lack of females so much as a restricted pool of high-status females.[44] Evidence for high-status females in Scandinavian burials is common, from Haithabu and the burial of a woman on a cart with among the richest displays of precious metal grave goods to be found in Scandinavia, to the famous Oseberg Ship Burial with its two female occupants.[45] It is known from the Icelandic sagas and surviving accounts of Scandinavian law codes from the Viking Era that women had the right to own and inherit property, divorce and remarry, and engage in trade.[46]

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[37] Dommasnes, "Late Iron Age in Western Norway," 79.

[38] Ibid, 84; Hedenstierna-Jonson and Kjellström, *et al.*, "A female Viking warrior," 45.

[39] Dommasnes, "Late Iron Age in Western Norway," 84; Raffield, "Male-biased operational sex ratios and the Viking phenomenon," 324.

[40] Clover, "THE POLITICS OF SCARCITY," 149

[41] Arrheniüs, "Women and gold," 88; Clover, "THE POLITICS OF SCARCITY," 188; Anon., *The War of the Gaehdil,* 207; J. Jesch, *Women in the Viking Age* (Suffolk: Boydell & Brewer, 2005), 39.

[42] Vaupel, "The Impact of Heterogeneity," 445.

[43] Dommasnes, "Late Iron Age in Western Norway," 78.

[44] K.M Holcomb, *Pulling the Strings: The Influential Power of Women in Viking Age Iceland* (Oregon: University of Oregon press, 2015), 24–25.

[45] P. Holck, "The Oseberg Ship Burial, Norway: New Thoughts On the Skeletons From the Grave Mound," *European Journal of Archaeology* 9, no. 2 (2016): 200; Jesch, *Women in the Viking Age*, 39.

[46] Damico, *New Readings on Women*, 116–118.

The increasing social stratification forming in Scandinavia at the time, as described by Barrett, adds weight to this argument. Marrying a woman from an existing or developing elite family would have provided gifts of lands or political support to a union. This may have been more valuable than the physical proceeds of raiding to the young men aiming to gain status within the forming earldoms and Kingdoms of Scandinavia and their diaspora.[47] As Brettell suggests, "perhaps plunder […] could provide the cash needed to succeed in the rural context—to accumulate bride-price, provide a dowry, or buy a home".[48] Thus the second part of Barrett's argument, the "Marriage Imperative" is supported by the body of evidence.[49] I would argue that the high status of women was in some way a product of the raiding culture of the Viking Age and earlier in Scandinavia as women would have been left in charge of homesteads while the summer raiding parties were occupied elsewhere.[50] The suggestion that raiding was fuelled at least in part by the desire to acquire wealth to set oneself up at home proves a plausible causal factor for the Scandinavian expansion of the Viking Age. This explains the common discovery of objects produced in Ireland and the West appearing in female Viking graves in domestic settings, accompanied by insular and domestic grave-goods, probably as a result of raiding.[51] Arguably, the finding of precious objects of Western provenance in Scandinavian graves highlights a key cause of the Viking Age, as the raiding of items dually acted to increase the wealth of the individual, and to improve their reputation as possession of "foreign" treasures likely transferred some status upon their holder in insular Scandinavian settings. The travels of Harold Hardrada in the east show that status and prestige could be won for travelling, exploring, raiding and raising wealth in exotic lands, and that the return with exotic foreign goods could in itself convey and create power even disregarding the physical worth of objects.[52] Furthermore, the gathering of wealth was aimed particularly among young men, for use in offering a bride price and thus gaining a wife. This was probably an important step in the life cycle of a young man in Scandinavia as a wife would then manage one's household while they went viking, allowing for the accruing of non-portable wealth, property, and land, which would have been impossible if one intended to abandon it for the yearly raiding without a family at home to maintain it.[53]

Conclusion

It is clear that the argument for selective female infanticide theory is still not proven as the main or singular factor causing the Viking Age. Indeed, the question will probably never be answered fully until such time as a definite site of infanticide is identified with a heavy gendered bias.[54] Currently there is a lack of reliable evidence to conclusively state that selective female infanticide was occurring in pre-early Viking Scandinavia to the required degree as to create the biases in sex-ratios seen from burial evidence as even some proponents of the theory have admitted.[55] The lack of direct archaeological evidence for selective female exposure, and the disproportionately high volume of high status female graves suggest that instead of a male gender ratio bias, there is instead a gap in the archaeological record, produced by a number of factors of preservation and recovery. However, Barrett's other analyses of the issue are still valid and so the theory can, where the current evidence

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[47] Barrett, "What caused the Viking Age?," 682–684; Jesch, *Women in the Viking Age*, 39.

[48] C.B. Brettell, "Theorizing migration in anthropology: the social construction of networks, identities, communities, and globalscapes," in *Migration Theory: Talking across disciplines,* ed. by C.B. Brettell and J.F. Hollifield (London, Routledge, 2000), 97.

[49] Barrett, "What caused the Viking Age?," 682–684.

[50] Holcomb, *Pulling the Strings*, 1–25; Jesch, *Women in the Viking Age*, 34.

[51] Arrheniüs, "Women and gold," 85–96; Graham-Campbell, "National and regional identities," 38.

[52] K. Ciggar, "Harald Hardrada: his expedition against the Pechenegs," *Balkan Studies* 15, no.1, (1980): 401.

[53] Barrett, "What caused the Viking Age?," 682; Jesch, *Women in the Viking Age*, 34.

[54] Dommasnes, "Women and Death," 45.

[55] Wicker, "The Abundance of Female Burials," 262.

stands, argue for an alternative cause to the Viking age, though this may be best considered as part of, not isolated from, other factors.[56] The formation of a culture of winning prestige through martial success, and sex-ratio bias resulting from polygamy and concubinage, when coupled with slightly higher rates of mortality in girls and young women could provide some of the conditions necessary to push segments of the population into travelling abroad and raiding in order to gain reputation and wealth, with which to set themselves up in a Scandinavian domestic setting.[57] This is made more profound when one considers the increased social stratification and hierarchy that developed in late Iron age Scandinavia with the development of more centralised and permanent kingdoms and earldoms.[58] Therefore I argue that the competition for high status brides, and the gifts of land and political support that this would bring, at least in part formed the social need for the culture of raiding and settling which characterise the Viking age. ■

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[56] Barrett, "What caused the Viking Age?," 685.

[57] Brettell, "Theorizing migration in anthropology," 97.

[58] Barrett, "What caused the Viking Age?," 682.

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