

LIFE AND TIMES OF STEPHEN HONEMAN



Stephen C. Alter, 2017 aka: Baron Hrodr-Navar Hakonsson, OP Documentation for entry in 2017 Arts & Sciences Fair and Pentathlon Kingdom of Caid, Society for Creative Anachronism

6.9.0 Performance/Persona Presentation



Name: Stephen Honeman¹.

Today's Date: Saturday March 25, 1273

Born: November, the same year that King Henry III ascended to the throne of England (1216, so he is 56 years old, but he probably doesn't know that for certain.).

Occupation: Beekeeper, a job done by Stephen's family as far back as anyone can remember. The Domesday Book entry for his home town lists, among other things, 15 beehives².

Where are we?: Acle manor, in Norfolk England. Acle is a small town on the banks of the River Bure, about 13 miles east of Norwich. It sits on the edge of a vast network of marshes and sandy heathland extending eastward from Acle to the coast. Acle's major claim to fame is its bridge over the Bure, the Weybrigge. Otherwise, Acle is just a muddy wide spot on the road from Norwich to the port at Yarmouth.

In 1271 (two years ago) the Earl founded a priory in Acle, giving the Austin Friars a house by the Weybrigge, and rights to the surrounding marshland.³



Map showing the locations of Norfolk (insert), Norwich (red diamond) and Acle (red circle).⁴



This map⁵ shows the Norfolk coastline in Roman times, when the grey area to the east of Acle was an open salt water estuary and Acle was a fishing village with direct access to the sea. By 1273 the entire grey area had silted in to become marsh and heathland drained by a few major rivers.⁶ Today it is a region of lakes and reclaimed farmland known as "The Broads".

Home: Stephen's cottage of 5 acres is set away from the main village, at the edge of the woodlands west of town. This property has been his family's home for generations, and he pays the historical customary fees to the manor. In his father's time the labor service requirements were mostly commuted to

cash payments, which he now pays in the form of wax and/or honey. In addition to his own hives, he also tends bees for the Manor. To supplement his family's diet he pays for fishing rights in the marsh.⁷

Family: Stephen has two daughters and a son from his first wife. She died when the son was born. 5 years later Stephen married a widow in town. Stephen's son (Thomas) has been a problem since the day he was born. Two weeks ago Thomas ran away,⁸ abandoning his young son, and leaving Stephen with chevage to be paid.⁹

Clothing: Stephen is wearing 13th Century-appropriate clothing, all made of linen.¹⁰ I acknowledge that the outer tunic should be made of wool, particularly in England in March. This is my one concession to living in Caid. (In fact my wife refused to make a wool garment that would only be used once for a 15 minute interview.)

Shoes: Stephen makes his own bag shoes, a design which would have been made for personal use by peasants in period.¹¹ The shoes have been waterproofed with beeswax.

Cross: Stephen found his cross pendant when plowing his field. The cross is in fact a metal detector find from Lithuania, but it is very similar in form to an item registered in the British Portable Antiquities Scheme database¹²:

Record ID: NLM-E26D73
Object type: PENDANT
Broad period: EARLY MEDIEVAL
County: North Yorkshire
Workflow stage: Awaiting validation



Copper alloy Pendant. Cast cruciform pendant or crucifix. The cross arms are rounded at the ends, save for the uppermost which is flared and flat-topped, and surmounted by a suspension loop. Traces of gilding appear on one side. The object appears to be a Christian equivalent to the hammer pendants favoured by adherents of Thor, and is perhaps contemporary with such objects. Suggested date: Early Medieval, 800-950. Length: 20.9mm, Width: 12.6mm,

Belongings: Depending on whether you see him before or after he reports to the Steward, Stephen may be carrying some wax and coins he needs to pay a fine to the Manor.

Personal Manners:

The Latin poem *Urbanus Magnus* (aka: *The Book of the Civilized Man*) ¹³, is a lesson in social graces for young men entering the church and nobility. The earliest mention of this work comes from the late 13th century, when a copy is known to have been in use for teaching novices at an abbey. The significance of this work in the context of Stephen Honeman is that the *Urbanus Magnus* illustrates items of manners and hygiene that needed to be taught to young men of noble families in the 13th century. Such niceties would have been completely foreign to a peasant from the countryside.

In a 13th century poem the people of Norfolk are regarded as rude, imbecilic bumpkins: ¹⁴

In his critical edition of an anonymous thirteenth century poem **Descriptio Northfolchie**, George Rigg stated that "in late medieval England, the butt of satirists was the county of Norfolk.' The poem in question is a satirical creation, composed sometime in the thirteenth century by an anonymous monk from Peterborough Abbey. According to the poem, Norfolk is said to have been the worst region in the world in the days of Caesar Augustus. The poet calls Norfolk the most infertile area, which became unsuitable for cultivating wheat after Satan defecated on the land there (Sathanas...terram Norfolchie caccando polluit). The natives of Norfolk are rude, imbecilic and superstitious ... The inhabitants of Norfolk are also known for their excessive drunkenness in the tavern. ... The author enumerates a long list of anecdotes concerning allegedly stupid habits of the people of Norfolk, which persist there from ancient times until his own day. He concludes the poem wishing God either to reform them, or to destroy them together with their patria.

These are very troubling times:

<u>1264 to 1267:</u> (six to nine years ago) The Second Baron's War did not end with the battle of Evesham (1265). Rather than face the King's wrath, troops of rebels held out in the Norfolk marshes until 1267. "No part of England had suffered more than the Diocese of Norwich during the latter stages of the strife, or had greater reason to rejoice when peace came at last."¹⁵

<u>1271:</u> (2 years ago) From 1268 to 1271 there was no Pope in Rome until the current Pope was elected in 1271. ¹⁶

October, 1272: (5 months ago) Rioters in Norwich (13 miles away) attacked the Cathedral Priory. For 3 days they burned and looted the cathedral grounds, and churchmen were killed. The riot was brutally suppressed; rioters were executed and inhabitants of the town were placed under severe restrictions.¹⁷

November 16, 1272: (4 months ago) King Henry III died last November after a 56 year reign. He was crowned the year Stephen was born, and no one in town remembers a time before King Henry. His son, the young King Edward, is still out of the country on Crusade. This makes everyone very nervous.¹⁸

Appendix 1 Documentation for recreating Stephen Honeman's life

Note: Stephen is probably unaware of most of what follows, except for the details of his beekeeping business. I developed this background to ensure that I was creating a believable character.

Introduction:

Unfree tenants (aka villeins) in 13th century England fell into two broad categories, cottars and husbondmen (actual "slaves" were pretty much gone by that time). The term husbondman refers to villeins with larger holdings (15 to 30 acres, or more). Although terms and holdings varied widely across England, the "average" husbondman farmed 30 to 40 acres (called a virgate, the amount of land that could be tilled by a team of 8 oxen in a year) and with hard work could live fairly comfortably. Less well-off farmers might have only ½ virgate, or approximately 18 acres. These "half-virgaters" could get by, but they were on the edge. Kitsikopoulos estimates that 18 acres was the minimum required to support a family of five in the 13th C.¹⁹

Cottars (aka cottagers, bordars) were smallholders, typically holding five acres or less. Not having enough land to support a family they became laborers or tradesmen and earned a living through cash transactions that enabled them to buy (or barter for) what they could not grow.²⁰

Stephen Honeman is a cottar and tradesman (a beekeeper). I have given him a largish cottage, five acres, which would enable him to grow some goods for household use, but alone is not enough to feed a family. The nature of beekeeping would allow him plenty of time to work his field, as beekeeping activity tends to come in bursts separated by long idle periods where the bees are doing the work. In lean years he can also do day-work for pay to make ends meet. The following research is intended to establish a reasonable lifestyle and workload, by estimating and calculating his debts and income.

A. How much work must Stephen do to maintain his standard of living?

Being a beekeeper and cottar automatically places him on the lower rungs of the 13th century socioeconomic ladder. To establish him as poor, but not starving, I have chosen to give him a standard of living equivalent to that of a half-virgate (18 acres) husbondman. With a small family to support, and a very simple lifestyle he can get by in good years but might suffer in bad years.

1. What is the projected income of a half-virgater (farming 18 acres)?

In medieval Norfolk, farmers grew almost exclusively barley²¹ as the spring grain, and mostly rye as the winter grain. The poor soil was not suitable for wheat (see page 3). With the typical three-field rotation, the half-virgater's 18 acres would, in any given year, be split into (roughly) 6 acres of spring barley, 6 acres of winter rye and 6 acres of fallow land.

The grain farmer needed to keep 36% of his harvest as seed for next year²². This does not apply to Stephen the beekeeper (as will be seen later there is a different adjustment to make for him to ensure next year's production) so I will remove this amount from the calculation. Thus the half-virgate farmer's yearly income is based on 64% of his total production:

0.64(12 acres)= 3.8 acres of barley and 3.8 acres of rye produce his actual annual income.

Average productivity of barley fields was 10.47 bushels per acre. (average yield from 1270-1279) Average productivity of rye fields was 13.32 bushels per acre. ²³

Thus 12 acres in cultivation produce income from:

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3.8(10.47) = 40 bushels barley and 3.8(13.32) = 51 bushels of rye per year.
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The average price for barley in 1273 was 6d (pennies) per bushel The average price for rye in 1273 was 6.7d per bushel²⁴

So the half-virgate farmer had an annual income of: 6d(40) + 6.7d(51) = 582d

Note: in fact the husbondman would see very little of this income as cash. A significant portion of his crop would go to the Manor and to the Church. Much of the remainder would feed his family. Any surplus could be sold for cash or bartered to purchase other necessities. In the case of Stephen the beekeeper, a significant portion of his output would also go to Manor and Church, but he needed to buy the grain for his daily bread and beer, so he would do more cash transactions than the farmer.

2. How can a beekeeper earn an annual budget of 582d?

First I need to make an assumption: I will set his average hive size to 11 gallons.

- This is a small hive by today's standards, but in the medieval period (before the modern movable frame hive) the hive was intentionally kept small to force the bees to swarm (multiply) often. Much of the economics of that style of beekeeping is centered around capturing several swarms from each hive every year and thus multiplying the number of separate colonies.
- From a practical standpoint, hives greater than 11 gallons become too heavy to work with. By the end of the season, an 11 gallon hive full of wax, honey, pollen and bees will weigh on the order of 40-50 pounds. Not only is it becoming hard to manage, but the period hives made of wicker or straw may have difficulty supporting any more weight than that.
- One modern "deep" bee box contains 11 gallons, and I have access to statistics for that size of box.
- Thus the following estimates will assume a standard of 11 gallons per hive. 13th century hives would probably not be any larger than that (Butler, 1507,²⁵ recommended hives of 5 to 7 gallons volume). If his average hive was smaller, Stephen would simply need more hives to make up the difference.

The following estimates come from the modern beekeeper/author Michael Bush²⁶, whom I would offer as a very reliable source:

• A modern 11 gallon ("deep") bee box contains 2 pounds of wax comb.

- The wax comb in a natural beehive consists of approximately ½ honey storage and ½ brood (child rearing). As the proportion of space allotted to honey storage grows, and brood shrinks, the hive will swarm to relieve overcrowding. Therefore, in an 11 gallon hive, (on average) one pound of wax comb is storing honey, and one pound is not
- One pound of wax comb holds 2 gallons (22 pounds) of honey.

At the end of the season, a full 11 gallon beehive yields (on average) = 2 lbs. wax and 2 gallons of honey

Average prices of wax and honey in 1273:²⁷

• Wax: 6.5d per pound

• Honey: 7d per gallon

Therefore, one 11 gallon hive at harvest yields 2(6.5d) + 2(7d) = 27d

To meet Stephen's annual income target (582d), he must harvest 582/27 = 22 hives

- 3. <u>Is this reasonable?</u> (always an important question to ask when making assumptions)

 Medieval folk practiced what is called today "fixed hive" beekeeping, to differentiate from the modern use of "moveable frame" hives. There are aspects of fixed hive beekeeping that deserve explanation:
- When bees are crowded and have sufficient honey, the colony will split. The old queen with half of the population will leave the nest and look for a new space to occupy (they "swarm"). Typically the swarm will move a short distance from the old hive and cluster on a tree or fence while scouts go out to find a new home. The medieval beekeeper knew the signs of impending swarming, and would be ready to capture the swarm and give it a home in an empty hive. A healthy colony will swarm at least once (the Prime Swarm), and often additional times, ("Castswarms") every year. Thus the beekeeper can be assured of at least doubling his number of hives every spring.
- All Prime swarms move at the same time (mid-spring). These are the most valuable, so a beekeeper
 managing a number of hives has a very busy couple of weeks capturing his swarms before they
 escape. Castswarms can happen at any time through the summer.
- In Fall the beekeeper would assess his hives and select the heaviest (most honey) and lightest (least honey) for harvesting. The ones in the middle would be kept over the winter to provide stock for next year. To harvest the honey from a fixed hive, the keeper killed the bees and removed chunks of comb, separating honey comb and brood comb.
- So, if Stephen needs to harvest 22 hives to meet his annual budget, (a) he should start the year with at least 22 mature hives that survived the winter, (b) he needs to increase his stock with at least 22 swarms (preferably the Prime swarms) in Spring, (c) so that by the end of the season he is managing at least 44 hives total.

- In a good year he could capture more secondary swarms (castswarms), and increase his income.

 Castswarms are smaller than the Prime swarm, so they will not likely provide as much wax and honey by the end of the season. But each additional colony increases his bottom line.
- In winter Stephen would need to reserve honey to feed the bees. It is written that one gallon of honey could maintain eight hives through the winter²⁸, (say 3 gallons total = 21d) so this must be deducted from his annual income.

Managing 40 to 50 hives through summer and fall is reasonable. In an on-line documentary video series, traditional fixed hive beekeepers in Germany were followed through the year.²⁹ A team of four people manages over 700 hives, using traditional methods with very little reliance on modern tools. The busiest period would be swarming season, as this is the only time-critical part of the beekeeper's year.

B. Rents and service obligations:

There was no standard rent for land in medieval England. Rents and service obligations varied widely between tenants in different manors. In most manors, "custom" was the rule. The historical (customary) rents for particular parcels of land were recorded and as long as the parcel stayed within the same family the landlord would usually respect custom and not raise the rent. Thus families whose land had been held for generations might never have seen an increase in rents, which worked to the benefit of the tenants and made it difficult for landlords to adjust to fluctuating economies.³⁰

In earlier times each tenant would have a cash rent plus specific recurring service obligations. ³¹ These could be very harsh, involving regular "week-work" and irregular "boon-work", or it might involve only a chicken at Christmas or a dozen eggs at Easter. Through the 13th and 14th centuries many manors in England moved toward commuting all cash and service obligations into a single cash lump sum. ³² This enabled the tenant to work his own field, and the landlord to hire laborers. ³³ In the 13th century (before the Plague) labor was cheap, and even most villeins could afford to hire day-workers.

Not only was there no standard for rents, but those records that are available to us today address mostly the larger landholders. I have found but few examples of rents for smallholders. Two English parishes from the late 13th century (Cuxham, Oxfordshire, and Ibstone, Buckinghamshire) recorded rents and services averaging 7.5d per acre (commuting all money and service obligations to cash) for fourteen tenants with ½ virgate holdings. Rogers says this was about average. ³⁴ This provides a rational upper end estimate for Stephen's rent. We are told that cottars tended to pay proportionately less in rents and service for their small plots³⁵.

I will estimate Stephen's obligation at 7d per acre = 35d for the 5 acre plot, paid annually to the manor, covering his customary cash rent and most of his service obligations. He still retains an ancient service obligation to maintain five hives for the manor. Even when service obligations were commuted to cash, landowners typically retained some small token amount of service requirement, as that reinforced the unfree status of the tenant in the eyes of the law.

"Tallage" was a head tax imposed upon the villeins. Historically it was an irregular tax, levied only when the landlord needed to raise additional money. By the 13th century, however, most manors simply charged an annual fixed tallage, ³⁶ as this was a way to extract more cash when they could not change the actual customary rents. The payment of tallage was also an important measure of social status. Law courts used the payment (or not) of tallage to distinguish between unfree and free tenants respectively.³⁷ Again, there was no standard rate for tallage, so I will set it as equal to his rent. Thus Stephen's tallage is estimated at 35d per year, payable to the manor.

To supplement his family's diet, Stephen pays for fishing rights in the marsh (called "fishpenny"), at one penny per month. In making beehives, and to occasionally repair his thatched roof, Stephen needs to harvest rushes, sedges and willow branches from the marsh. For this he also pays 1d per month (called "sedgepenny") ³⁸. A total of 24d per year for use of marsh resources is paid to the Weybrigge Priory. The villagers have customary rights of hausbote and firebote at no charge, which allow them to gather fallen timber in the woodlands for house repairs and firewood.

Stephen is required to pay an annual tithe (literally one-tenth) to the parish church.³⁹ 58 d

Total rents and obligations:

Total rents and tallage to the Manor	70 d	(plus tend five beehives for the manor)
Fishpenny/sedgepenny paid to the Priory	24 d	
Tithe paid to the parish church:	58 d	<u>_</u>
Total rents and obligations:	152d	

C. What did Stephen spend on food?

I have given Stephen a large holding as cottars go (five acres). This would allow him to grow peas, leeks and beans for home consumption, plus berry bushes on the perimeter and a small fruit orchard. He pays for fishing rights in the marsh and he does have access to honey and mead, so he is able to provide some variety and protein to his family's diet.

- Dyer⁴⁰ estimates a diet based on approximately 2900 kcal per day for a working male peasant in late medieval society, in agreement with the U.S. Department of Health and Human Services estimate for a modern, active, adult male (including farmers).
- It is estimated that for people of lower social strata, about 75 per cent of daily caloric intake derived from grain,⁴¹ and in Norfolk this meant primarily barley (used for both bread and beer).
- This results in an average of 2900(0.75) = 2175 kcal per day from grain
- Slavin⁴² states that barley provides 1,452 kcal per pound, and that barley weighs 46 lb per bushel.

Thus Stephen would consume 1.5 lb of barley per day (as bread and/or beer), or 547 lbs. per year.

Disposable income

This translates into 547/46 = 12 bushels of barley per year for an adult male.

Stephen's family currently consists of himself, his wife and his grandson. I do not have caloric intake values for an adult female, or 10 year old male, so I will estimate that they require 75% of what Stephen eats: 0.75(12)= 9 bushels each for wife and grandson. Total 30 bushels per year.

At the current market price of barley (6d per bushel⁴³), that will cost him 180d annually.

D. Total accounts per year
Income from beekeeping: 574d
Expenses: Honey for winter feeding: - 21d
Expenses: Rents and Obligations - 152d
Expenses: Grain - 180d

More than half of Stephen's income goes to basic living expenses, which are certainly underestimated here (things like the cost of milling grain, clothing, household utensils, etc). "Disposable income" would cover everything else. He has a significant cushion against starvation, and my well be able to earn more than his target income in any given year.

221d

Like the half-virgate farmer described above, Stephen probably sees little of this income as cash. The wax and honey he produces would be very tradeable commodities, and I would expect that he barters for most of what he needs. When he needs cash, the Church would always be a ready customer for his wax, and the Acle market (chartered two years ago in 1271) would give him the opportunity to sell honey. Unlike the farmer's perishable grain crop, honey and wax could be stored indefinitely if he had a surplus.

E. How large was Acle manor in 1273? (just for general interest)

We have very little in actual records for Acle, but we can estimate its size in 1273:

The Domesday Book of William I gives us this picture of Acle in 1083:44

Held by the Lord: ("demesne")

- o 3 carucates of arable land, (360 acres)
- o 3 rusci (wicker beehives), 2 hives (coiled straw beehives)
- o one mill,

Occupants:

- 23 husbondmen.
 - o five carucates held by tenants, (600 acres, average 25 acres per tenant)
 - o 40 oxen, 2 cows, 120 sheep, 40 swine 10 beehives
 - o 10 acres among the tenants (homes and personal gardens).
 - o 50 acres of meadow.
- 38 Cottars, (smallholders with 5 acres or less)
- 3 servi, (slaves), belonging to the manor

- 4 socmen (free men paying cash rent)
 - o 30 acres of land, 4 oxen, 123 acres of meadow, belonging to free men

Total English population growth from 1086 to 1300 estimated at : $2.6x^{45}$

Thus the population and arable of Acle in 1273 is estimated to be:

Manor Land (demesne): 930 acres arable (under cultivation)

60 husbondmen 1500 acres arable (assuming average 25 acres each)

100 cottars

10 free men 400 acres arable

Note 1: The national estimate of 2.6x growth from 1086 to 1300 might be a bit high for estimating the population of Acle in 1273. But Norfolk was the most populous county in England by the 13th century, so this approximation is probably not too far off.³⁵

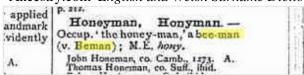
Note 2: Additional arable land in Acle was being reclaimed (assarted) from the marsh.⁴⁶

ENDNOTES

Cover Page:

Bestiary, England, ca. 1185, Morgan Library, MS M.81 fol. 58r Accessed Nov. 21, 2016, http://ica.themorgan.org/manuscript/page/64/77019

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Two entries for "Honeman" from 13th C England.

B. Scott. Given Names from Early 13th Century England. Accessed Nov. 21, 2016.

Men: http://heraldry.sca.org/names/eng13/eng13m.html Women: http://heraldry.sca.org/names/eng13/eng13f.html

² E. Crane & P. Walker, "Early English beekeeping: the evidence from local records up to the end of the Norman period." *The Local Historian* 29 (1999): 1-22.

Open Domesday. The Domesday Book online. Accessed Nov. 21, 2016. http://opendomesday.org/

- ³ Weybrigge Priory. Accessed Nov. 21, 2016 http://www.british-history.ac.uk/vch/norf/vol2/pp406-407
- ⁵ Acle Village History: Accessed Nov. 25, 2016 http://www.visitacle.com/about/history/
- ⁶ F. Blomefield, "Walsham Hundred: Acle", in *An Essay Towards A Topographical History of the County of Norfolk*, Vol. 11. (London: W. Miller, 1810): 90-95.
- ⁷ F. Pollack & F.W. Maitland, (1899) *The History of English Law Before the Time of Edward I*, Vol. 1. (London: Clay & Sons, 1899): 375-80.
- E.A. Kosminsky, "Services and Money Rents in the Thirteenth Century." *Economic History Review* A5 (1935): 24-45.
- J. Kanzaka, "Villein Rents in Thirteenth-Century England." *Economic History Review* 55 (2002):593-618.
- ⁸ Dr. Mark Bailey, Professor of Late Medieval History, University of East Anglia, UK. Personal communication, April 28, 2014. Question: You state that serfdom was declining in the 13th /14th C. What was most common mechanism by which 13th C (English) peasants attained free status? "...most common: the villein would simply leave the manor without permission and stay away. He thus obtained de facto freedom. Theoretically, the lord could send a party to seize and return him, or to demand an annual absence payment (chevage), at any time, but they very seldom did so, especially in the C13 when England was overpopulated."
- C. Briggs, "English serfdom, c. 1200-c. 1350: towards an institutional analysis." *Slavery and serfdom in the European economy from the 11th to the 18th centuries.* 45 (2013): 29-31.
- ⁹ Scott, Given Names.
- ¹⁰ J.L. Singman, & W. McLead, *Daily Life in Chaucer's England*. (Westport, CT: Greenwood, 1995).
- W. Zerkowski, & R. Fuhrmann, trans. Y. Petra, *Make Your Own Medieval Clothing: Basic garments for men.* (Braunschweig, GE: Zauberfeder-Verlag, 2015).

¹¹ Nicetas. *Making a pair of medieval 'bag' shoes*. Barony of Carillion, East Kingdom. , Accessed 10/30/16. http://www.carillion.eastkingdom.org/CUARAN_convt.pdf

Note: this is the actual design I followed in making the shoes.

- C.L. McCann, "An early period shoe". *Tournaments Illuminated* 93 (1989): 8-9. Note: this is another similar shoe design that offered some useful construction tips.
- Q. Mould, "The home-made shoe, a glimpse of a hidden but most affordable craft" in *Everyday products in the middle ages*, Hansen, Ashby & Baug eds. (Havertown, PA: Oxbow Books, 2015): 125-143.
- ¹² https://finds.org.uk/database/artefacts/record/id/444215 Accessed Nov. 21, 2016
- ¹³ A. Frith, D. Smith, A. Bauers, S. Treggiari, *Urbanus Magnus: The Book of the Civilized Man, Danielis Becclesiensis*. (Beccles, UK: AD Frith, 2007).
- ¹⁴ P. Slavin, *Feeding the Brethren: Grain Provisioning of Norwich Cathedral Priory, c. 1280-1370.* Ph.D. Thesis, Centre for Medieval Studies University of Toronto, (2008): 16-17.
- ¹⁵ A. Jessopp, *Diocesan Histories, Norwich*. (London: Society for Promoting Christian Knowledge, 1884): 95.
- ¹⁶ List of Popes, Accessed Nov. 21, 2016 http://catholicism.about.com/od/history/a/Popes_Four.htm
- ¹⁷ Jessopp, *Diocesan Histories, Norwich*, 95-99.
- The Riots of 1272: Websites accessed Nov. 20, 2016: https://thehistoryteamblog.wordpress.com/the-riots-of-1272/ http://www.british-history.ac.uk/topographical-hist-norfolk/vol3/pp60-76
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- ²¹ Slavin, Feeding the Brethren, 47-54.
- ²² Kitsikopoulos, 239.
- ²³ S. Broadberry, B. Campbell, A. Klein, M. Overton, B. van Leeuwen, *British economic growth*: 1270 1870, (Cambridge, UK: University Press, 2015): 36.
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- ²⁵ C. Butler, *The Feminine Monarchy; or the history of bees; shewing their admirable nature and property.* (Andover, England: ECCO Print Editions, 1507, original in Latin translated to English in 1701 by "W.S."): 30.
- ²⁶ www.bushfarms.com, Accessed Nov. 21, 2016.
- ²⁷ Rogers, *History of Agriculture and Prices*, 417-8.
- ²⁸ H.M. Fraser, *History of Beekeeping in Britain*. (London: Bee Research Association, 1958): 21-2.
- ²⁹ IWF *Institut für den Wissenschaftlichen Film*, Göttingen (1961, 1978-1979, 1983). *Traditional Skep Beekeeping in the Heathlands of Northern Germany The Skep Beekeeper's Management Tasks through the Year*. A documentary video series on traditional fixed-hive beekeeping in Germany. With the exception of a few modern tools, and the use of cane sugar to feed bees, this is an excellent description of how bees were managed in medieval Europe. Accessed Jun. 2015 through Jan. 2017.
 - 1 Spring Work in a Heather Skep Apiary: https://www.youtube.com/watch?v=k2IjNBbLESY

- 2 Preparations for the Swarming Period https://www.youtube.com/watch?v=k9dl_8tKqBo
- 3 The Prime Swarming Period https://www.youtube.com/watch?v=Ux9oL6yfsAY
- 4 The Castswarming Period https://www.youtube.com/watch?v=GLuZQbj5CPo
- 5 Summer Work during Heather Blossom, https://www.youtube.com/watch?v=tcA2wQuUnVk
- 6 Autumn Work, https://www.youtube.com/watch?v=pozwoU0FKuM
- 7 Harvest of Heather Honey, https://www.youtube.com/watch?v=yIfhM0kNr5o
- 8 Wax Pressing, https://www.youtube.com/watch?v=_ifNnCA_aRE

Skep making, https://www.youtube.com/watch?v=TwLTl0i83tM

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