

A Storm of Chickens: Reevaluating the 9th Century Frankish Countryside

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Introduction

Gerbertus of Coudray. Not a name many people would be familiar with. He was not a great Frankish lord or abbot of a wealthy monastery but a simple *colonus*. A free farmer who, in the 9th century, worked the land around Coudray with his wife Adalgundis, as well as their two children, Bismodus and Gerberga. They were just one of eleven families in the village of Coudray who are accounted for in the Carolingian *Polyptyque of St-Germain-des-Prés*. These free families each had to pay something akin to a yearly rent, though this payment was predominantly not made with coin. For Gerbertus it was in the form of wine, wood, labour as well as interestingly three chickens and fifteen eggs¹. Gerbertus's village of Coudray alone would provide over one-hundred eggs a year to the monastery. This is just one of hundreds of villages detailed in the Carolingian polyptyques, with each peasant family carrying similar responsibilities to Gerbertus's. When tallied the total number of eggs owed by these villages reaches shocking totals, the monastery of Wissembourg for example was owed over eight and a half thousand eggs a year². This high number of chicken eggs owed will be the focus of this thesis. The Carolingian polyptyques will be analyzed for references to chickens and their eggs, as there were more chickens than scholars previously realized. With the number of chickens and eggs in polyptyques established, the documents will be further examined to discover what the extensive presence of chickens and eggs meant for Frankish society. I will argue that chickens were more prevalent in the agricultural husbandry landscape than previously thought. In particular, I will argue that it was during the 9th century that egg production started to rise becoming a larger component of non-aristocratic diets. This thesis will also hypothesize that women in particular were heavily involved in egg production. While this thesis primarily dives into what we now see as a food good, at its core this thesis looks to provide a deeper insight into the lives of Frankish peasants like Gerbertus and Adalgundis of Coudray.

In the study of early medieval history there is a lack of research pertaining to chickens. This absence of research due to a lack of archaeological evidence of chickens caused by a variety of limitations tied to the fragility of chicken bones. The insufficient study of chickens during the Carolingian period has resulted in an underappreciation for the growing prominence of chickens and

1 *Polyptyque of St-Germain-des-Prés. Coudray*, P. Dutton, trans., <https://www.le.ac.uk/hi/polyptyques/coudray/trans.html>. (consulted 19 March 2021), 3.

2 See: Figure 4., 20.

eggs in the agricultural landscape of 9th century Francia. Without a real appreciation for the importance of chickens in the agricultural landscape there cannot be a true understanding of the agriculturally based economy of the Carolingian world. In order to address this problem, the number of farms which had chickens and the number of eggs produced needs to be established; along with who on the farm primarily in charge of the chickens, where these eggs ended up and what was done with them. The answers to these questions will be found through a study of six Carolingian polyptyques³; St-Germain- des-Prés: Neuillay, St-Germain-des-Prés: Coudray, St-Maur-des-Fossés, Montiérender and Wissembourg. This thesis will establish that chickens were more prominent in rural dependent farming society than previously thought. Specifically this research will establish that chickens were present on between eighty-six and one-hundred percent of dependent 9th century Frankish farms, that their eggs were a common food good for non-elites and finally establish that women were the primary caretakers of chickens, giving women a larger role in the agricultural economy of the day than has hitherto been assumed.

Models for the economy of this rural society historically have been based around two opposing interpretations of the period, a time of stagnation as described by Henri Pirenne in his *Mohammad and charlemagne* posthumously published in 1937 or the counter Pirenne vision of growth⁴. Central to these debates are the degree in which trade continued to be prominent in the economy of the region or as Pirenne asserted be destroyed with the Arab expansion of the throughout the Mediterranean world⁵. The general consensus regarding trade now rests on Adriaan Verhulst's conclusion, reached in his 2004 work *The Carolingian economy*, that that the 9th century in north western Europe was a time of economic development, with the exception of two high points of Viking raids in the 830s and 860s⁶. However the agricultural side of the Carolingian economy will be the focus of this thesis, in particular production.

Jonathan Jarrett in his 2019 'Outgrowing the dark ages. Agrarian productivity in Carolingian Europe re-evaluated' noted that the ideas regarding agricultural poverty in the early middle ages

3 The spelling of polyptyque and all place names are taken from the translations of the texts from Leicester University to ensure continuity from source to thesis: Carolingian polyptyques <https://www.le.ac.uk/hi/polyptyques/index.html> (consulted 19 March 2021).

4 For a complete summary see: Adriaan Verhulst, *The Carolingian economy* (Cambridge 2004), 1-8.

5 Verhulst, *The Carolingian economy*, 4.

6 Marios Costambeys, Matthew Innes and Simon MacLean. *The Carolingian world* (Cambridge 2011) 132-135.

continue to exist in literature detailing the period despite a plethora of evidence to the contrary⁷. He identifies this trend stemming from Georges Duby's work during the 1960's⁸. Despite the fact, as Verhulst noted, that in 1988 at a conference in the abbey of Flaran Duby himself did not hold firmly to the opinion of agricultural poverty as described in his 1973 book *Guerriers et paysans*⁹. A result of this conference was the publishing of Pierre Toubert's 'La part du grand domaine dans le décollage économique de l'Occident (viii^e–xe siècles)' which highlighted the importance of the 8th through 10th centuries as a period of agricultural growth¹⁰. Though not an all together new argument, current scholarship is reaching the conclusion that the 9th century was a period of agricultural growth, with agricultural production being much stronger than historically thought¹¹.

Verhulst in the end of the introduction of *The Carolingian Economy* highlighted that archaeological work, which Pirenne could not have conceived of, would reignite debates surrounding towns and their role in the economy¹². What Verhulst could not have known is the level archaeological research in the realms of fauna and DNA would reach and how they had the potential to provide entirely new data sets to help evolve the historical understanding of agricultural economy. Archaeology provides the opportunity to expand on toponymy research of ninth-century Francia showing that the countryside was dotted with hamlets and villages, very similar to Coudray¹³. These hamlets represent the communities within which the vast majority of the Frankish people lived their lives and therefore reflect the economic reality of the majority of the population. A strong agricultural performance is key to increased prosperity as 9th century Francia was an agricultural society, with farming being the backbone of the economy, and with the elites of society benefiting from being large scale land owners¹⁴. The new realm of information provided from archaeological research will be used to help inform this thesis.

7 Jonathan Jarrett, 'Outgrowing the dark ages. Agrarian productivity in Carolingian Europe re-evaluated', *Agricultural History Review* 67:1 (2019) 1-28, q.v. 1-3.

8 Ibidem, 2-6.

9 Verhulst, *The Carolingian economy*, 6-7.

10 Pierre Toubert, 'La part du grand domaine dans le décollage économique de l'Occident (viii^e–xe siècles)', in: Jean- Baptiste Marquette ed., *La croissance agricole du Haut Moyen Âge* (Flaran 1990) 53–86.

11 Jarrett, 'Outgrowing the dark ages'.

12 Verhulst, *The Carolingian economy*, 7-

8. 13 Ibidem, 15-20.

14 Ibidem, 31-60.

The principal large scale land owners of the region were the aristocracy, the king and monasteries. Land was possessed by free peasant land owners, unfortunately this class has left little documentation and they must be set aside. Land ownership in the Carolingian period was complicated with one individual owning a village but another owning estates within it¹⁵. Even what is implicated by owning land is debatable or as Charles West wrote in *Reframing the feudal revolution* "... owning large tracts of land could be less an abstract 'property' than a claim to exercise power."¹⁶ Given the complicated nature of land ownership this thesis will approach not 'land ownership' but the right to collect dues.

Monasteries would have been a new collector of dues from land for many peasants. Starting in the 8th century but continuing into the 9th century a monasteries had begun to expand their holdings to a scale unseen before¹⁷. The monastery's land was primarily acquired through donations from aristocrats, the king and even the free peasantry left land to monasteries on their death¹⁸. Due to the nature of these donations, monasteries possessed territories that often were not connected and came to the monastery with tenant run farms.

Through the 8th and 9th centuries a form of agricultural organization of these tenant farmers known as the "bi-partite estate" developed on aristocratic, royal and monastic lands. The "bi-partite" estate was described by Hagermann and Hedwig as the division of land between the lord's reserve and tenanted plots, where those tenants would work their plots as well as the lord's reserve¹⁹. The "bi-partite" estate was once thought to be the dominant framework of the agricultural Carolingian as well as Merovingian world²⁰. However, scholarship since the 1960s, starting with the work of Adriaan Verhulst, has shown that the agricultural systems across Francia during the period of Frankish rule were diverse²¹. The documentation, including polyptyques, used to argue in favour of extensive "bi-partite" systems across Francia and beyond was in fact only tied to the limited area from Paris to the Rhine, the focus region for this thesis²².

15 Charles West, *Reframing the feudal revolution* (Cambridge 2013) 67-69.

16 Ibidem, 71.

17 Verhulst, *The Carolingian economy*, 241-242.

18 Costambeys et al., *The Carolingian world*, 241-246.

19 Taken from Charles West's summary in: West, *Reframing the feudal revolution*, 67.

20 Costambeys et al., *The Carolingian world*, 252-258.

21 Verhulst, *The Carolingian economy*; Similar developments in manorial agriculture may have occurred in Lombardy as well see: Verhulst, *The Carolingian economy*, 56-57.

22 Verhulst, *The Carolingian economy*; Developed further in: Charles West, *Reframing the feudal revolution*.

The polyptyques in brief are a form of administrative document. The polyptyques which will be studied in this thesis were recorded by monasteries in an attempt to detail goods and services the monasteries expected to receive from the peasantry who worked the monasteries' land. The polyptyques were primarily organized by village, noting the number of farms in each settlement then the specific goods the farms within it owed. In some cases the polyptyques detailed the names of tenant peasants such as Gerbertus and his family. The nature and origin of these documents will be fully explained and explored in chapters three and four.

The concept of the Carolingian peasantry is caught between the notions of peasantry in late antiquity and the high middle ages. These notions are bogged down with conceptual issues of serfdom and slavery imported from either the ancient or late medieval world. The distinct nature of peasantry during this period has been championed by Chris Wickham who argues for a level of variety and standing of members within the broad term peasantry²³. However while individual people may have differing levels of freedom or prestige during the early medieval period, the limited comparative research on diet of people in similar economic situations shows little variation between individuals²⁴. Indicating that people of the same economic level had very similar diets, regardless of standing among their peers. Therefore, unless otherwise noted, in this thesis the term "peasantry" will specifically refer to those dependent farmers working on the previously described "bi-partite" estates.

Within the peasantry there was a gendered divide of labour with specific tasks typically being done by men and others by women²⁵. Through textual analysis it will be shown that this gender division was present with chicken husbandry. I attest that the fact one of the reasons chickens and eggs are less present in historical documents is partially because chicken husbandry was viewed as women's work. Focusing on this aspect of chickens in Frankish society will further develop the understanding of gender distinction during the Carolingian era with wider implications for the study of food history of the period.

23 Chris Wickham, *Framing the early middle ages: Europe and the Mediterranean, 400-800* (Oxford 2005).

24 V. Garcina et al., "Dental health and lifestyle in four early mediaeval juvenile populations: Comparisons between urban and rural individuals, and between coastal and inland settlements", *Journal of Comparative Human Biology* 61 (2010) 421–439.

25 Jane Whittle, 'Rural economies', in Judith M. Bennet, Judith Mackenzie Bennett and Ruth Mazo Karras eds., *The Oxford handbook of women and gender in medieval Europe*. (Oxford 2013) 311-326.

To approach these issues, my main arguments has been broken down into five chapters. Chapter one of this thesis will explain and justify the methodology behind the use of polyptyques in this context as well as the thought process regarding the selection of which polyptyques to include in this research. Chapter two will detail the state of research of chickens, with a focus on zooarchaeological work and the reasons for the chickens spread to the region. The third chapter will describe the individual polyptyques and present the results of the quantitative analysis as well as presenting an analysis of the data in order to present a statistical reference for the number of farms with chickens and a possible ratio of eggs laid per chicken in the period. Chapter four, will turn the focus to the particular uses of eggs. Lastly, the final chapter before the thesis's conclusion, chapter five, will establish the gendered nature of chicken husbandry. This thesis will argue that the presence of chickens in the polyptyques shows that chicken husbandry was more extensively practiced than previously thought and that the start of growth in egg production begins in the 9th century. The thesis will also present a number of areas for further cultural research given the realization of extensive chicken husbandry in Carolingian Francia.

Chapter Two: Methodology

This thesis will combine quantitative and qualitative approaches to the study of 9th century Frankish polyptyques in the regions of Paris and the Alsace. The quantitative portion will be the tallying the numbers of chickens and eggs identified as owed by dependent farms to the monastery or army. What is produced on the part of the agricultural land designated as 'demesne farm' will be excluded. This choice was made due to the highly inconsistent recordings of which products were produced on particular demesne farms. As well as the varying form the lists of produced goods took between polyptyques compared to what is owed by dependent farms. The qualitative portion will employ a textual analysis of the polyptyques themselves, focusing on the societal context given for the provision of chickens and their eggs.

The Carolingian polyptyques are the primary source used in this thesis. They record the number and scale of farms, products produced, services to be rendered as well as information on the tenants, in particular what they owed to the landholders²⁶. Recording what a monastery expected to be given in the form of polyptyques had been present since the Merovingian period but came to their zenith post

26 For an in depth description of what can be found in a polyptyque see: Verhulst, *The Carolingian economy*, 37-41.

800AD²⁷. From the royal court, Christina Pössel and Darryl Campbell suggests, a model format was intentionally spread by the king via his *missi*, royal agents²⁸. The specific document presenting this system and the format may be the *Capitulare de villis* and the attached *Brevium exempla*²⁹. The *Capitulare de villis* was a thematic capitulary dealing with estate management and revenue collection of royal properties from the time of Charlemagne³⁰. The attached *Brevium exempla* appears to be a formatting guide for how to properly write estate inventories such as the studied polyptyques³¹. The increase in polyptyques coincided with the dramatic expansion of monastic holdings through the 8th and 9th centuries³². The collection of resources documented in the polyptyques was an essential part of the monastic economy. This collection process has been characterized by scholars such as Matthew Innes as a network of gift giving which was the glue that held all of Frankish society together³³.

The polyptyques have been central to constructing an image of 9th century land usage, with a focus on how these 9th century foundations became the economies of the 11th and 12th centuries³⁴. They have also been used as evidence for the presence of animal husbandry and the nature of the farming landscape as seen in Jamie Kreiner's work with pigs, where she uses the *Polyptyque of Wissembourg* to highlight the number of pigs in woodland regions³⁵. Another area of agricultural research with polyptyques has been a general preoccupation with the size of specific kinds of farms³⁶.

The polyptyques which will be studied in this thesis were polyptyques compiled by monasteries of their estates, not polyptyques of the previously mentioned royal estates. These particular documents were compilations created by monks from notes written by numerous different surveyors who visited

27 For a detailed account of the development see: Costambeys et al., *The Carolingian world*, 252-255.

28 Christina Pössel, 'Authors and recipients of Carolingian capitularies, 779-829.' in Richard Corradini ed., *Texts and identities in the early middle ages* (Verlag der Österreichischen Akademie der Wissenschaften 2006) 253-274; Darryl Campbell, 'The capitulare de villis and the brevium exempla', *Early Medieval Europe* 18:3 (2010) 243-264.

29 For a detailed account of the nature of the *Brevium Exempla* see: Campbell, 'The capitulare de villis and the brevium exempla', 243-264.

30 There was a debate regarding dating the capitulary to the reign of Louis the Pious but this has been dismissed by Campbell. *Ibidem*, 244.

31 *Ibidem*, 254-258.

32 Verhulst, *The Carolingian economy*, 241-242.

33 Matthew Innes, 'Framing the Carolingian economy', *Journal of Agrarian Change* 9:1 (2009) 42-58.

34 Constance Bouchard, *Rewriting saints and ancestors. Memory and forgetting in France, 500-1200* (Philadelphia 2014) 53-62.

35 For pigs in polyptyques see: Jaime Kreiner, *Legions of pigs in the early medieval west* (New Haven 2020) 99, 104; in particular for analysis of the *Polyptyque of Santa Giulia di Brescia* see: Kreiner, *Legions of pigs in the early medieval west*, 106-108.

36 For an example of the preoccupation with size of farms read Verhulst's discussion of the *demesne*: Verhulst, *The Carolingian economy*, 41-45.

the villages³⁷. The point of the original documents was to provide accurate accounts of monastic holdings. This can be seen by the surveyors responsible for collecting the data testifying to their accuracy in the *Polyptyque of Montiérender*: “Gerlin, Hermod and Angelbert testified and dictated [these things]. They bring to the monastery all tenths [tithes]”³⁸. If there were errors with the data the monks used to compile the polyptyques, they had made sure they knew who was responsible. Furthermore it needs to be acknowledged that the creation of the polyptyques was not a minor endeavor. The lands to be surveyed would have had to have been selected along with the surveyors to do the investigation. The men who completed the surveys would have been compensated in some capacity, the monks time required and physical resources needed to create the manuscripts acquired. It is believed that the polyptyques of Saint-Germain from c. 825-9 were compiled by a total of ten scribes under the guidance of the abbot Irmino³⁹. Given the manpower and resources required, the decision to create polyptyques was a major one and the accuracy of the documents the primary goal.

The compilation of accurate polyptyques also had clear benefits for the monastery. Monastery’s held vast unconnected land holdings not only resulted in an increase in wealth but also of corruption. The mismanagement of monastic wealth combined with corruption lead to monks of Moyeumontier reaching out to Louis the Pious to help reign in their wayward abbot⁴⁰. Partly due to complaints such as this, there was a period of reform under Louis the Pious related to monastery’s⁴¹. The goal of integrating monasteries and their newfound wealth into the Carolingian state⁴². The polyptyque had already been established by Louis the Pious’s father, Charlemagne, through the *Captulare de villis* as a tool to efficiently manage his own estates⁴³. The extension of this document to create accurate accounts of monastic holdings would have aided the effort to curtail corruption and mismanagement by solidifying expected revenues.

37 Bouchard, *Rewriting saints and ancestors*, 54.

38 The parenthesis additions are the clarifications of the translator: *Polyptyque of Montiérender*, James Palmer trans., <https://www.le.ac.uk/hi/polyptyques/montier/trans.html> (consulted 19 March 2021), 1.7.

39 Devroey, Jean-Pierre. ‘Au-delà des polyptyques. Sédimentation, copie et renouvellement des documents de gestion seigneuriaux entre Seine et Rhin (IX^e-XIII^e siècle)’ in Xavier Hermand, Jean-François Nieus and Étienne Renard eds., *Décrire, inventorier, enregistrer, entre Seine et Rhin au moyen âge*. (Chartres 2008) 53-83, q.v. 55-56.

40 The event is detailed in: Rutger Kramer, ‘Monastic Reform, and Authority in the Carolingian Era’ in: Alison I. Beach and Isabelle Cochelin eds., *The Cambridge history of medieval monasticism in the Latin west* (Cambridge 2020) 432-449.

41 Ibidem.

42 Ibidem, 436.

43 Campbell, ‘The capitulare de villis and the brevium exempla’, 243-264.

Due to the extensive efforts which went into the creation of the polyptyque combined with accuracy of their contents being beneficial to the managing of monasteries I believe the document's details can be used in quantitative research. However use of polyptyques in historical research is not without criticism. In order to engage with the polyptyques in an effective manner the criticism must be addressed.

The primary point of criticism regarding polyptyques is that despite the original intent of accuracy on the part of the monks, the use of specific details taken at face value from polyptyques has increasingly been called into question. Largely because, with the exception of the polyptyques of St. Germain-des-Prés, all surviving polyptyques are copies. These critics heavily impact work that depends on terminology. In particular debate is on-going as why *colonus*, a word for a free tenant in classical Latin, is present in some polyptyques but not others⁴⁴. As well, the degrees of freedom for people identified as *ingenui*, *mancipia* or *hospicia*, which may have implied degrees of freedom or be alternatives words for servant⁴⁵. The lack of definitions and inconsistencies of these terms resulted in Constance Bouchard to state that a polyptyque should be seen as an attempt to create these categories not the application of preexisting general rules⁴⁶. Ten years earlier Jean-Pierre Devroey came to the same conclusion in his work 'Les méthodes d'analyse démographique des polyptyques du haut moyen âge'⁴⁷. However, Devroey established methods to continue demographic work with polyptyques despite the inconsistent terminology across the corpus of polyptyques by focusing on individual polyptyques instead of the entire body of documents as a whole⁴⁸. Specifically, Devroey stating "l'absence de critères invariables devrait donc écarter toute analyse globale de polyptyque..."⁴⁹. However there are consistent terminology in regards to chickens, *pullos*, and eggs, *ova*, as the words remained consistent across all the polyptyques studied. The terms used to identify women change through the polyptyques between *uxor*, wife and *mulieres*, women or wife, as well as the use of a feminine suffix as seen with *lide*, the feminine of the class identifier *lidus*⁵⁰. These terms may imply different status or relation to

44 Bouchard, *Rewriting saints and ancestors*, 55.

45 The debate summarized in: Ibidem, 55-

56. 46 Ibidem, 54-55.

47 Devroey, Jean-Pierre, 'Les méthodes d'analyse démographique des polyptyques du haut moyen âge,' in: Idem, *Études sur le grand domaine carolingien*. (Aldershot 1993) 71-88.

48 Ibidem.

49 Ibidem, 74.

50 *Uxor: Polyptyque of St-Maur-des-Fossés*, Joanna Story trans., <https://www.le.ac.uk/hi/polyptyques/stmaur/trans.html> (consulted 19 March 2021), 22; *Polyptyque of St-Germain-des-Prés. Coudray*, 3-9, 11-13. *Polyptyque of St-Germain-des-Prés. Neuillay*, P. Dutton trans., <https://www.le.ac.uk/hi/polyptyques/neuillay/trans.html> (consulted 19 March 2021), 1-9; and *Polyptyque of Wissembourg*, James Palmer trans.,

other people mentioned in the passage but they do not change the ultimate identification that the person being referred to, regardless of which word is used, is invariably a woman. The consistency of terms used in the polyptyques to describe chickens, eggs and women shows that both original scribes and later copiers of the text did not have the same difficulties copying sections of the polyptyques pertaining to these details. Therefore making an “analyse globale de polyptyques” approach possible in this instance.

Bouchard also raised concerns about using specific numbers from polyptyques. She highlights the differing numbers between two accounts of St. Dizier⁵¹. The difference in numbers, she claims, points to the monks tasked with copying original Carolingian polyptyques have difficulty reading the documents centuries after the polyptyques composition⁵². Bouchard also raises the problem that the original scribes were presented with. In particular, the scribes were tasked with compiling notes from the varied groups of people who completed the survey work, which sometimes resulted in duplicated entries⁵³. Another error in polyptyques is mathematical, as not all the sums provided in the polyptyques of St-Germain-des-Prés match up with the numbers provided in the document⁵⁴. Finally there is evidence that some of the holdings present in polyptyques were added at later dates than their original composition⁵⁵. To limit the impact of individual input errors or interpolation in the polyptyques a large collection of polyptyques must be consulted. As illustrated above, the polyptyques are not historical documents without flaws. However they were not created with the intent to deceive. They were compiled at the behest of monasteries attempting to manage vast agricultural holdings, a practice which as mentioned above predated the contemporary political order. Therefore by taking a broad sample size to help isolate outliers, as is a core tenant of statistical research and analysis, valuable insights on chicken husbandry will be drawn.

<https://www.le.ac.uk/hi/polyptyques/wissembourg/trans.html> (consulted 19 March 2021), 2.4. *Mulieres: Polyptyque of Wissembourg*, 1.3, 4.1, 5.2, 7.2, 8.1, 16.4, 19.2, 20.2, 21.1, 25.2. *Lide: Polyptyque of St-Germain-des-Prés*. Neuilly, 14.

51 Bouchard, *Rewriting saints and ancestors*, 56-58.

52 Ibidem.

53 Yoshiki Morimoto, ‘État et perspectives des recherches sur les polyptyques carolingiens’, *Annales de l’Est* 5:40 (1988) 115–17; Even the only original polyptyque, St.-Germain-des-Prés, includes duplication and nonuniform entries: Jean- Pierre Devroey, ‘Problèmes de critique autour du polyptyque de l’abbaye de Saint-Germain-des-Prés’, *La Neustrie* (1989) 441-465, q.v. 452.

54 In regards to chickens and eggs see: *Polyptyque of St-Germain-des-Prés*. Coudray, 1., which says the sum is 33 chickens and 165 eggs but as seen in Figure 1., 21, the total is 34.5 chickens and 172.5 eggs. The discrepancy is caused by the total not including the “half farm” which owed half the goods of a full farm; *Polyptyque of St-Germain-des-Prés*. Coudray, 14.

55 Yoshiki Morimoto, ‘État et perspectives des recherches sur les polyptyques carolingiens’, 115–17.

A final piece of criticism is the realization that the polyptyques only reflect a marginal part society. Léon Menager in particular points out that the polyptyques did not cover all residents of communities detailed in their folios, in particular free landed peasants⁵⁶. This criticism has called into question previous scholarship which relied methodologically on polyptyques as complete pictures of the rural landscape, such as the early demographic⁵⁷. The lack of representation of free landowning peasants remains valid. Therefore, all findings regarding chicken husbandry from the selected polyptyques are limited to an understanding of dependent holdings and may not reflect free farms or the true numbers of chickens in a region.

The polyptyques which will be used in this analysis will be based in the Paris region along with the inclusion of the *Polyptyque of Wissembourg* in Alsace⁵⁸. The inclusion of Wissembourg despite being separated from the other monasteries by the Vosges mountain range is justified in three parts. First, the southern Rhine river valley along with the Parisian area are identified not only as centers for polyptyque development but also seen as having similar economic models by prominent economic scholars including Verhulst⁵⁹. Secondly, the polyptyque including farms on the western side of the mountain range near Reims⁶⁰. Finally, because the numbers of chickens per farm and ratio of eggs per chicken do not deviate significantly from the four other polyptyques studied⁶¹. The notable polyptyques which will not be included in this analysis are the famous polyptyques of Bobbio from 862 and 883, the *Notitia de areis* from the monastery of Saint-Maur-des-Fossés, the polyptyque of St. Bertin, the extensive collection from Prüm and the *Polyptyque of Reims*. While fascinating documents in their own right, the Bobbio polyptyques from the monastery bearing the same name in northern Italy, are in the completely separate Mediterranean agricultural climate and cannot be considered for this work. The *notitia de areis* meanwhile detail the urban holdings of the monastery within the city of Paris and therefore do not possess information pertinent to an agricultural study. In addition, St. Bertin is located only forty kilometers away from Calais but not only is this far removed from the Paris region but the agricultural model differs from that of the Paris region so for both of these reasons it has been

56 Léon R. Menager, 'Considérations sociologiques sur la démographie des grands domaines ecclésiastiques carolingiens', in *Études d'histoire du droit canonique. Volume 2* (Paris 1965) 317–35.

57 Argument detailed in: Devroey, 'Les méthodes d'analyse démographique des polyptyques du haut moyen âge', 71-88.

58 *Polyptyque of St-Germain-des-Prés. Coudray; Polyptyque of St-Germain-des-Prés. Neuillay, Polyptyque of St-Maur-des-Fossés, Polyptyque of Montiérender, and Polyptyque of Wissembourg.*

59 Verhulst, *The Carolingian economy*, 1, 5.

60 The village on the western side of the Vosges is St. Johann. *Polyptyque of Wissembourg*, 5. Also see: Figure 4., 24.

61 The chicken and egg totals are detailed in chapter four, 19-29.

excluded⁶². Further removed than St. Bertin is the much studied *Polyptyque of Prüm*. It is a wealth of information but some farms mentioned in the document are as far north as Oldenzaal, only fifty kilometers south of the modern province of Frisia in the Netherlands. Considering the extensive size of the polyptyque with 118 chapters and over 1700 farms, the inclusion of Prüm would dramatically shift the data too far north which is why I have chosen to exclude it. The time frame of the polyptyques as a whole ranges from 810 to as late as 872. While this may cover eight or more generations of chickens, changes over time cannot be analyzed with this material as any variation could be derived from any variety of geographic or environmental factors. Finally the exclusion of polyptyque of Reims is due to two facts. First, the *Polyptyque of Montiérender* covers the area, while south of Reims, between Paris and the Vosges mountains. Secondly, the *Polyptyque of Saint-Maur-des-Fossés* has the village of Champfleury detailed which is near Reims, providing evidence from nineteen farms⁶³. These accounts show a continuity of chickens across the region and the inclusion of Reims is therefore unnecessary.

To provide background for the study of the polyptyque a detailed account of the archaeological evidence regarding chickens will be given. Any study of the agricultural world would be incomplete without the inclusion of archaeology. A recent example of this interdisciplinary approach is Jamie Kreiner's definitive work on another domesticated animal in Frankish society *Legions of pigs in in the early medieval west*⁶⁴. She highlights how the pig is present throughout Frankish documents from illuminations, stories of the hunt to even legal documentations on pigs destroying property as they dig up neighbors property⁶⁵. When combined with the vast collection of archaeological work relating to the pig a picture successfully emerges of how present the pig was in society. The diverse cultural documents Kreiner uses to detail pigs in Frankish culture are not present for chickens. Chickens simply lack the ability to damage property to the same extent as a rooting pig nor do they have the glory associated with them that accompanies the hunt of a wild boar, though anyone who has attempted chicken catching can attest it is no simple task. However, by following a similar approach to Kreiner, archaeological evidence will be shown to help illustrate the presence of the chicken⁶⁶. Unfortunately, as will be detailed in the following chapter, chickens and their eggs pose unique archaeological challenges making archaeological evidence more fleeting than with Kreiner's pigs. Combined, the archaeological

62 For the details on St. Bertin see: Verhulst, *The Carolingian economy*, 51-52.

63 See Figure 2., 22; Figure 3., 23.

64 Kreiner, *Legions of pigs in in the early medieval west*, 78-119.

65 For pigs behavior resulting with their presence within legal documentation see: Ibidem, 34-43. 66 Ibidem, 78-119.

issues and lack of other documentation make the polyptyques an incredibly valuable source for understanding the penetration of the chicken into Frankish society. In particular zooarchaeological DNA research, which previous scholarship on polyptyques could not have accessed, will help illuminate the chicken filled Frankish countryside.

Chapter Three: Status Quaestionis

The idea that chickens were increasingly being kept in this time period for their eggs is supported by zooarchaeological research of chicken remains. In a study by Lisa Loog and colleagues, published in 2017, explores the changes in DNA specifically relating to husbandry practices in medieval chickens⁶⁷. The two loci, physical locations of a DNA sequence on a chromosome, focused on in the paper were TSHR and BCDO2. For our purposes TSHR is the section of importance. It is a hormone which is associated with reduced aggression and faster onset of egg laying⁶⁸. Loog and her colleagues determined that this hormone started becoming more present in chicken remains originally in only roughly half of chickens pre-500 to virtually all modern chickens⁶⁹. They found increases just prior to 800 CE but determined the date for the dramatic rise to be 920 CE⁷⁰. Loog concludes that this increase in the hormone TSHR is the result of breeding programs focused towards increasing the eggs produced per chicken throughout their lifetime⁷¹. Within the archaeological evidence a preference emerges for female chickens over non-egg producing male chickens. Evidence was also found for breeding in the species towards more efficient and easier to manage egg production compared to breeding trends previously among chickens. The hormonal evidence from chicken remains supports the hypothesis that egg consumption was on the rise in the 8th century before becoming firmly established by the 10th and 11th century, making it an important item to study for a deeper understanding of 8th and 9th century life. The archaeological remains found and the DNA analysis of period chicken remains, supports the hypothesis that hens were becoming more prominent due to their ability to produce eggs.

However research to further prove this point has not been completed and work on chickens in the Carolingian Francia in particular is virtually absent. The chicken egg has been particularly ignored

67 Lissa Loog et al., 'Inferring allele frequency trajectories from ancient DNA indicates that selection on a chicken gene coincided with changes in medieval husbandry practices', *Molecular Biology and Evolution* 34:8 (2017) 1981-1990.

68 Ibidem.

69 Ibidem.

70 Ibidem, 1983.

71 Ibidem, 1983-1987.

in the study of Carolingian agriculture for a number of reasons. Primarily the chicken bones not only expire quickly in the archaeological record but unless specific panning tools are used those that survive can be lost⁷². Also, identifying specific species of birds from avian bones can prove difficult which in the case of chickens has resulted in some chickens being identified as pheasants⁷³. This has led to the full extent of domestic chicken husbandry being under represented on farm sites. Secondly, eggs themselves are even rarer than chicken bones in the archaeological record. These issues are apparent in the study of the archaeological site “Kootwijk.4”. In this work the authors identify that taphonomic issues, the process of fossilization due to the nature of the soil of the site, led to a lower percentage of pig and sheep bones compared to the larger cow bones⁷⁴. The nature of the soil also dissolved an indistinguishable amount of bones⁷⁵. The possibility that those dissolved bones were delicate bones of birds, such as chickens, was not mentioned in spite of the fact that if sheep bones had difficulty surviving⁷⁶. The hollow chicken bones stood no chance in the “poor-bone” soils of Kootwijk erasing all evidence they existed on the site.

This lack of evidence has resulted in an under representation of chickens in the archaeological and historical records when compared to cows or pigs, which have had plenty of scholarly focus as major protein sources for the period. Regionally, archaeology has shown a preference for specific species; pigs dominated northern France, Belgium, and Rhineland Germany⁷⁷; sheep were more prevalent along with pigs in southern France⁷⁸; and cattle was king of domestic animal consumption Britain and Ireland.⁷⁹ Archaeological studies have also shown a shift toward the consumption of pig meat in England following the 1066 invasion of England by William the Conqueror bringing a continental aristocracy to England and with it the pigs⁸⁰. In all there is very little room for chickens or eggs on the plates of medieval elites who have been identified as primarily pork, beef, mutton or game eaters. This focus has in the past seeped down into descriptions of rural peasantry as in *Farm life in a*

72 Terry O'Connor, *The archaeology of animal bones* (Sutton 2004).

73 Dale Serjeantson, ‘Birds. Food and a mark of status’, in T. Waldron ed., *Food in medieval England. Diet and nutrition* (Cambridge 2009) 131-147.

74 G.F. Ijzereef, ‘The animal remains’, in: W. Groenman-vanWaaterigne and L.H. vanWijngaarden-Bakker eds., *Farm life in a Carolingian village* (Van Gorcum 1987) 389-51, q.v. 48-49.

75 Ibidem.

76 Ibidem, 48.

77 Christopher Loveluck, *North west Europe in the early middle ages, c. AD600-1150. Comparative archaeology study* (Cambridge 2013) 69.

78 Ibidem, 47.

79 Ibidem, 133.

80 Noami Sykes, *The Norman conquest: A zooarchaeological perspective* (Oxford 2007) 94.

Carolingian village by Groenman-van Waateringe and van Wijngaarden-Bakker. Within their description of daily life these authors make no mention of chicken keeping and goes as far as to exclude any mention of possible chickens or other birds remains from their chapter dedicated to animal remains⁸¹.

A larger issue within archaeology as a whole impacts the kind of animal bones found. This issue is the nature of sites chosen for digs. The general bias is in favour of “central sites” instead of rural farmland⁸². This has resulted in much more detailed evidence for consumption at what has been deemed “elite” or “consumption” sites. Substantially less research has been completed on the rural “production” sites, with the exception of eastern England⁸³. The importance of these specific meat products being tied directly to the elites in society increase the likelihood that these goods would have been better served being sold to the elite than consumed by the peasantry themselves. Research into this field has focused on the pigs, cows and sheep found at these “elite” sites. The result of this focus is the incorrect assumption that chicken farming had decreased during the period. The existing research has created a significant misinterpretation of eggs in society and therefore in the diet of the Carolingian peasantry. To fully understand the chicken and it’s role in society a brief description of it’s arrival in Francia should be given.

The chicken, or *gallus gallus domesticus*, is not a native to northern Europe. Geneticists have tied origin of the species to the red jungle fowl species of southeast Asia with multiple domestication events happening in South East Asia, the Indian subcontinent and northern China possibly as early as 8,000 BCE⁸⁴. The chicken then found its way westward primarily, or even exclusively, for entertainment purposes in the form of cockfighting, as seen in finds from the Levant and Egypt dating to the seventh century BCE⁸⁵. From here, the fighting rooster found its way into the iron age societies of Europe from Ancient Greece all the way to the British Isles⁸⁶. In 1993 Norbert Benecke suggested

81 Groenman-van Waateringe, W., L.H. van Wijngaarde-Bakker ed., *Farm life in a Carolingian village* (Van Gorcum 1987) 4-5.

82 Loveluck, *North west Europe in the early middle ages*, 37.

83 Ibidem.

84 Liu, Yi-Ping et al., ‘Multiple maternal origins of chickens: Out of the Asian jungles’, *Molecular Phylogenetics and Evolution* 38:1 (2006) 12–19.

85 K. C. McDonald and Blend, R. M. ‘Chickens’, in K. F. Kiple and K. C. Ornelas eds., *The Cambridge world history of food, vol. 1* (Cambridge: Cambridge University Press 2000) 496–9; Roy D. Crawford, *Poultry breeding and genetics* (Oxford: 2003) 12.

86 Serjeantson, *Birds*, 326-30.

the chicken was introduced to western Europe as a meat item, though not for their eggs given that rooster remains were three times more common than those of hens⁸⁷. This claim has been thoroughly discredited through Sykes work on the introduction of exotic species which noted that the species has always spread into societies through cockfighting through to the modern day⁸⁸. Her work is reinforced by archaeological research of chicken remains from Roman times which has found in both England and the Netherlands that the chicken population was predominately male. Further more, cock-spurs have been found in multiple Romano-British sites firmly establishing cockfighting in the region⁸⁹. Beyond cockfighting, roosters were common victims of animal sacrifice, especially in the cults of Mithras and Mercury proven by the high number of rooster remains found at identified temple sites⁹⁰. Finally, in *Gallic Wars* the first hand account written by Julius Caesar of his conquests in Gaul, noted that the Gauls refuse to eat the animal but “breed them for amusement and pleasure”⁹¹. Given the weight of evidence it is clear cockfighting was the spreading device which the chicken found its way across the Eurasian landmass. However I will argue through this paper that the focus began to shift to the hen and her eggs during the Carolingian period.

Before we continue some facts about chickens need to be established. Chickens do not lay eggs at the same pace year round, in fact many hens stop laying entirely during the early winter months⁹². Also chickens do not continue at the same level of egg production from year to year, peaking in their first year of life but slowly declining year to year⁹³. These are principle facts that must be kept in mind when approaching the topic of eggs laid per hen. In the fall and early winter months when days are shorter chickens are less likely to lay eggs. Typically hens egg production slows when exposed to less than twelve hours of light a day their egg production slows dramatically⁹⁴. For Paris the twelve hour

87 Norbert Benecke, ‘On the utilization of the domestic fowl in central Europe from the iron age up to the middle ages’, *Archaeofauna* 2 (1993) 21–31.

88 Naomi Sykes, ‘A social perspective on the introduction of exotic animals. the case of the chicken’, *World Archaeology* 44:1 (2012) 158-169.

89 Sykes, ‘A social perspective on the introduction of exotic animals’, 161; For evidence of cockspurs see: Serjeantson, *Birds*, 329; R. Hingley, “The deposition of iron objects in Britain during the later prehistoric and Roman periods”, *Britannia* 37 (2006) 231.

90 Anthony King, ‘Animal remains from temples in Roman Britain’, *Britannia* 36 (2005) 329–69.

91 Julius Caesar, *The Gallic Wars*, 5:12, W.A McDevitte and W.S. Bohn trans., <http://classics.mit.edu/Caesar/gallic.5.5.html> (accessed March 26 2021).

92 James C. Hermes, ‘Why did my chicken stop laying eggs?’, *Pacific Northwest Extension* 565 (January 2003), https://ir.library.oregonstate.edu/concern/administrative_report_or_publications/vm40xr92f.

93 C.J. Joyner, M.J. Peddie and T.G. Taylor, ‘The effect of age on egg production in the domestic hen’, *General and Comparative Endocrinology* 65:3 (March 1987) 331-336.

94 Modern farms use artificial lighting to drive biological timer which has been proven to increase egg production: Musa Sarica et al., ‘Effects of Light Stimulation Age on Body Weight and Egg Production Traits of Broiler Pure-lines in the

plus threshold stems from the March equinox, famous for being used for the dating of Easter, until October. The exclusion of this period provides roughly a twenty seven weeks of prime laying of fresh nutritious eggs a year. The closest estimate for eggs laid by chickens in the medieval period comes from the work of Philip Slavin who calculated an average of eggs laid between seventy to one-hundred by analyzing late medieval demesnes in southern England from 1250-1400⁹⁵. Through an analysis of eggs owed in the polyptyques a higher average of eggs laid per year will be argued for in this thesis.

The most comprehensive archaeological research into medieval chicken husbandry comes from south eastern England. In 'Birds: Food and a mark of status' by Serjeantson, a work that presents a synthesis of research on the medieval chicken thus far, shows a shift towards a majority hen population through the 9th century. Serjeantson claims that eggs were firmly established in a culinary context by the 10th and 11th centuries. The author includes the evidence that egg shells have been discovered on the floor of a kitchen dating to this period⁹⁶. The focus on chicken egg production instead of cock fighting or ritual rooster sacrifices is evident at the Anglo-Saxon site of Lyminge. The site dates from the 5th-9th century and shows in particular a high concentration of female chicken remains in the 9th century site compared to three Roman sites addressed in Fothergill's comparative archaeological paper for southern Britain⁹⁷. The conclusion B. Tyr Fothergill and her colleagues make is that the higher percentage of female chickens along with the fact hens were killed later in their lifespan indicates that the chickens were being kept at Lyminge primarily as egg producers⁹⁸. While there is some evidence that there was a decline in the number of chickens being bred this can reasonably be understood as a decrease in the demand for roosters for sacrifice in Roman religious ceremonies. This decline was caused by the rise of Christianity and new Germanic religious influence in the fifth century after the departure of the Roman legions⁹⁹. This leaves the realization that a decrease of chickens being raised for meat or eggs was not the reason for the decrease in chicken remains in post-Roman western Europe. The extent of chicken husbandry in the 9th century will be made clear through a study of the polyptyques.

Laying Period', *Turkish Journal of Agriculture-Food Science and Technology* 8:20 (2020) 2702-2707.

95 Philip Slavin, 'Chicken husbandry in late-medieval eastern England. c. 1250-1400', *Anthropozoologica* 44:2 (Paris 2009) 42-43.

96 Serjeantson, *Birds*, 137.

97 B. Tyr Fothergill et al., 'Hens, health and husbandry. Integrated approaches to past poultry-keeping in England', *Open Quaternary* 3:5 (2017) 1-25.

98 Fothergill et al., 'Hens health and husbandry', 21-22.

99 King, 'Animal remains from temples in Roman Britain', 364.

The dues owed in polyptyques, other than chickens and eggs, have been heavily studied in Francophone scholarship¹⁰⁰. In the French tradition Jean Durliat, in his 'Les finances publiques de Diocétien aux Carolingiens (284-889)', proposed that the polyptyques were tax-registers of landowning peasants described as a continuation of late-Roman tax system until the collapse of the Carolingian state's period of dominance came to an end¹⁰¹. Durliat's opinions have proven controversial and has been largely dismissed by scholars including Jean-Pierre Devroey, Chris Wickham and Adriaan Verhulst¹⁰². The idea of a top down royal taxation system has been replaced by the concept of gift giving introduced by Timothy Reuter as the primary transfer of wealth instead of plunder¹⁰³. Matthew Innes in 'Framing the Carolingian Economy' uses this concept of expected annual gifts as the way to understand the dues owed in the polyptyques¹⁰⁴. Therefore, the eggs being transferred in the polyptyques should not be seen as part of a large scale state operation but seen instead on a smaller scale of individual transactions being given in context of establishing relations.

An aspect of dues owed which has surprisingly been connected to eggs and has garnered much scholarly attention are monetary dues. Kathy Pearson makes the connection between cash and eggs in her work 'Nutrition and the early-medieval diet'. She states the claim that the manner eggs were presented in the polyptyques imply that they were used as "a form of cash" and therefore eggs were not part of the peasantry's diet¹⁰⁵. Underlying Pearson's claim is the idea that coin was the desired way dues were expected.

Pearson's notion of coins as the expected dues which can be replaced by eggs goes counter to the trend identified by Alfons Dopsch. In a study of the *Polyptyque of Prüm*, he correctly identifies that coinage was offered as an alternative means of payment for goods or services typically rendered¹⁰⁶. He notes that the use of coins as payment of dues were not as prominent early in the 9th century¹⁰⁷. The use

100 In particular see the work of Jean-Pierre Devroey and Yoshiki Morimoto.

101 Jean Durliat, *Les finances publiques de Diocétien aux Carolingiens (284-889)* (Sigmaringen 1990).

102 For the definitive counters to Durliat's book see: Chris Wickham, "The fall of Rome will not take place", in Lester K. Little and Barbara H. Rosenwein eds., *Debating the middle ages: Issues and readings* (Blackwell Publishers Inc., 1998), 45-57; Adriaan Verhulst, *The Carolingian economy*, 45; For a critique on Durliat's previous work see: Devroey, Jean-Pierre, 'Polyptyques et fiscalité à l'époque Carolingienne: une nouvelle approche?', *Revue Belge de Philologie et d'Histoire* 63 (1985) 783-94.

103 Timothy Reuter. 'Plunder and tribute in the Carolingian empire', *Transactions of the Royal Historical Society* 5:35 (1985) 75-94.

104 Innes, 'Framing the Carolingian economy', 42-58.

105 Kathy Pearson, 'Nutrition and the early-medieval diet', *Speculum* 72:1 (1997) 1-32.

106 Taken from Adriaan Verhulst's summary of the argument: Verhulst, *The Carolingian economy*, 120-123. 107 Ibidem.

of coin increased under Louis the Pious as he completed three major minting releases between 814 and 823¹⁰⁸. The results of increased the monetization of the economy can be seen through the 10th century the trend of coins as payment in lieu trend increased, even in regions where there was a lack of Carolingian mints indicated an increase in currency distribution¹⁰⁹. In particular, Verhulst gives examples from the *Polyptyque of Prüm* regarding offering silver instead of labour and how shortages in corn or wine could be paid with coin¹¹⁰. The Carolingian monarchs were attempting to develop a monetized society. The idea that replacing coins with eggs as Pearson suggests is not supported by any evidence in the polyptyques.

The research to date has established that chicken husbandry existed. However the degree true extent of chicken husbandry, in particular egg production, has not been adequately addressed. In the following chapter the notion that eggs were not part of the peasant diet will be dismissed. This will be done by establishing that the number of eggs produced vastly outnumbers the number of eggs given away in the polyptyques. Leading to the logical conclusion that the excess eggs were likely being consumed by dependent farmers.

Chapter Four: The Five Polyptyques; their Chickens and their Eggs

“In St. Johann there are... 16 farmsteads... 13 each [are to provide service] 3 days a week; and 6 from among them owe 1 tribute of suckling pig at Easter, 5 chickens, and 15 eggs.” - Polyptyque of

Wissembourg.

“In Coudray there are 11 and a half free farms that pay each year 5 and a half oxen for the army tax, 33 chickens, 165 eggs.” - Polyptyque of St-Germain-des-Prés: Coudray

These two quotes are just two examples of the dozens of mentions of chickens and their eggs in the polyptyques. They raise a number of questions. Who was receiving the eggs and for what purpose? Are these eggs provided at once all in one basket or over time? Who in the family specifically is charged with the rearing of these chickens? All of these questions will be addressed later in the paper.

108 Ibidem, 119.

109 Ibidem.

110 Ibidem, 121.

Prior to delving into these topics, I will examine how many chickens these farmers reared and how many eggs said chickens produced. The results of this study will reveal just how present chickens were in Carolingian society. The polyptyques will be examined starting with the smallest collection of farms, Saint-Germain-des-Prés, to the largest collection being the *Polyptyque of Wissembourg*.

The Polyptyques of Saint-Germain-des-Prés: Coudray and Neuillay

The polyptyques of Saint-Germain-des-Prés are the only polyptyques which remain in their original forms dating to c. 825-9¹¹¹. The two sites are located south of Paris between the city and Orleans. The first polyptyque covers the eleven and a half farms of Coudray and their goods owed for an army tax. The concept of the army tax was to provide for other members of your community who paid their *hostilitum* with military service¹¹². A similar format is repeated for the polyptyque of Neuillay. In terms of chickens and eggs owed, every family in the eleven and a half farms of Coudray owed the same as that of the *colonus* Gerbertus, three chickens and fifteen eggs¹¹³. The total, tallied at the start of the polyptyque, being thirty-three chickens and one-hundred and sixty-five eggs.¹¹⁴ In this polyptyque, all farms are implied to have chickens present. Each full-sized farm is assumed to provide nine hens and thirty eggs as army tax¹¹⁵. In total Neuillay is made up of six occupied full farms as well as a single occupied half sized farm. Combining their dues, the polyptyque registers forty-eight chickens and one-hundred and sixty eggs owed by the community¹¹⁶. Only the half sized farm of the slave Electeus and the quarter sized farm of Bertlinus are not required to provide chickens or eggs. However neither provides any goods at all as they cover their dues via physical labour and the caring of pigs¹¹⁷. The exclusion of the smaller farms leaves six out of six farms which had chickens present. Meanwhile the lack of chickens being mentioned in conjunction with the smaller farms does not exclude the fact they may also have had chickens for personal use. The following figure shows the totals of dependent farms present in each village along with the number of chickens and eggs owed by said farms as stated in the polyptyque. In lines where there is no village name in the first column this reflects farms which had a different number of chickens or eggs owed than the rest of the village.

111 Bouchard, *Rewriting saints and ancestors*, 54.

112 Walter Goffart, 'Frankish military duty and taxation', *Early Medieval Europe* 16:2 (2008) 166-190, q.v. 173-174. 113 *Polyptyque of St-Germain-des-Prés. Coudray*.

114 *Ibidem*, 1.

115 *Polyptyque of St-Germain-des-Prés. Neuillay*, 2-3.

116 *Ibidem*, 10.

117 *Ibidem*, 2, 9.

Figure 1.

Polyptyques of St Germain	Farms	Chickens	Eggs	Chickens per Farm	Eggs per Chicken
Coudray	11.5	34.5	172.5	3	5
Neuillay	5.75	51.75	172.5	9	3.33
	0.75	0	0	0	N/A
Totals	18	86.25	345	4.7	4

The Polyptyque of Montiérender

The account here is detailed by monks from the monastery of Montiérender, called *Dervi* in the text, located near St. Dizier to the east of Paris. The polyptyque was compiled between 832 and 845. It details eleven communities as well as the holdings of the monastery of Puellare. Combined these sites have one-hundred and sixty-nine farms as well as a half sized farm. This tally includes farms dedicated to local churches. A trait which separates this polyptyque from Saint-Germain is that not all the entries note the number of eggs due. In the polyptyque it is worded as “chickens with their eggs” or “chickens with eggs”. This word choice will be explored in the analysis sub section. The dependent farms from the five villages which do give a specific number of eggs all tally to five eggs per chicken, the same as Coudray in Saint-Germain. For this reason, I would assume that when the scribe wrote “chickens with eggs” the assumption was a ratio of five eggs per chicken. The community of Sauraterra demonstrates this, as the first group of farms are specifically noted as owing five eggs per chicken then the following two groups of farms are noted as owing “chickens with eggs”¹¹⁸. Having set the number of eggs in the first group of farms at a ratio of five per chicken the assumption can be made that five eggs are expected from the other farms as other differences between the farm dues are specifically noted. The following figure follows the same format as the preceding figure. However in cases where it was noted in the polyptyque that chickens or eggs were given but a number was not provided a “?” has been added to reflect this. Regarding the total “eggs per chicken” only the villages with both chicken and egg totals will be used. In the case of Villa, Ragisicore and Milperario they were combined for the figure as they were combined in the polyptyque itself¹¹⁹.

118 *Polyptyque of Montiérender*, 6.

119 *Polyptyque of Montiérender*, 4.1.

Figure 2.

Polyptyque Montiérender	Farms	Chickens	Eggs	Chickens per Farm	Eggs per Chicken
Sommevoire	13	78	390	6	5
	3	3	?	1	?
Puellare, a monastery	23	0	0	0	N/A
	7	?	?	?	?
Mortrigus	18	108	540	6	5
	1	0	0	0	0
	2	2	0	1	1
	10	30	?	3	
Villa + Ragisicore + Milperario	32	96	?	3	?
Tilio	4	24	120	6	5
Sauraterra	8	24	120	3	5
	3	18	?	6	?
	3	6	?	2	?
Brah	27.5	82.5	412.5	3	5
	1	4	?	4	?
Prisiacum	4.5	13.5	?	3	?
Dudiniaca	8	24	?	3	?
	3	9	?	3	?
Brais	3	9	?	3	?
Totals	174	531	1582.5	3.1	5

The Polyptyque of St-Maur-des-Fossés

The *Polyptyque of St-Maur-des-Fossés's* farms are primarily based around Paris itself. Though there are a pair of locations near Reims. It was preserved in the last folios of the *Rorigo Bible* and composed between 867 and 869¹²⁰. Within the folios of the polyptyque, over sixteen separate communities which total two-hundred and sixty-two farms plus another half farm are documented. In addition to this number there were two farms of the lord, likely demesne farms, which had seventy-nine farms assigned to them¹²¹. In total the polyptyque covers three-hundred and forty-two full farms and as well as a half farm. St-Maur-des-Fossés does not provide a specific number of eggs due for the majority of communities. The polyptyque presents the same situation as described above with the *Polyptyque of Montiérender*, with only three locations specifying a specific number of eggs per chicken

120 BnF, Département de Manuscrit Latin 3 (ARC: btv1b8426789) f., 407v-408r. <https://gallica.bnf.fr/ark:/12148/btv1b8426789n> (consulted 12 April 2021).

121 *Polyptyque of St-Maur-des-Fossés*, 9-10.

totaling to five eggs per chicken. The following figure follows the same format as the preceding figures.

Figure 3.

Polyptyque St-Maur-des-Fossés	Farms	Chickens	Eggs	Chickens per Farm	Eggs per Chicken
Varena	55	165	?	3	?
Nogent-sur-Marne	24.5	73.5	?	3	?
Torcy	35	105	?	3	?
	6	6	?	1	?
Coupvray	4	4	?	1	?
Boissy-Saint-Léger	34	102	?	3	?
	13	26	?	2	?
Ferrières-en-Brie	20	60	?	3	?
Belleville	7	21	?	3	?
Drancy	7	21	?	3	?
Miré	60	180	900	3	5
Champfleury	12	36	180	3	5
	7	21	?	3	?
	19	38	0	2	0
Turgiacum	9.5	19	?	2	?
Belsa	8.5	17	?	2	?
Vitlena	11	33	?	3	?
Montry	12	36	?	3	?
Yvette	9.5	19	?	2	?
Favières	7	21	105	3	5
Totals	361	1003.5	1185	2.8	5

The Polyptyque of Wissembourg

The *Polyptyque of Wissembourg* was compiled c. 818-819 and has properties across the Alsace region, primarily based south of Frankfurt but including one near Nancy. Dwarfing even the stature of the *Polyptyque of St-Maur-des-Fossés*, the Wissembourg polyptyque covers twenty five communities. Twenty four of which combine for six-hundred and fifty four and a half farms. There are excluded farms from this list, in particular from Lamsheim which had eight farmsteads and “ten with a priest in *beneficium*”¹²². There are no details regarding products owed by these ten farms associated with the

122 *Polyptyque of Wissembourg*, 15.

priest therefore those ten farms were excluded¹²³. The Wissembourg polyptyque has specific references to the number of eggs to be provided with chickens accompanying each mention. The numbers of required eggs per chicken are lower in this document than in the Parisian based polyptyques but remain consistent throughout its composition with the vast majority of farms owing three eggs per chicken. The following figure follows the same format as the preceding figures.

Figure 4.

Polyptyque Wissembourg	Farms	Chickens	Eggs	Chickens per Farm	Eggs per Chicken
Wissembourg	58	986	870	17	0.88
Altenstadt	20	80	120	4	1.5
	21	0	0	0	N/A
	3	9	0	3	0
Klingen	31	62	465	2	7.5
Leinsweiler	33	165	495	5	3
St Johann	13	65	195	5	3
Pfortz	33	99	0	3	0
	39	195	585	5	3
Edesheim	13	65	195	5	3
	11	27.5	165	2.5	6
Herxheim	9	45	135	5	3
Ottersheim	15.5	77.5	232.5	5	3
Altdorf	14	70	210	5	3
	26	78	390	3	5
Hassloch	60.5	302.5	907.5	5	3
Mussbach	22	66	220	3	3.33
	4	20	60	5	3
Mutterstadt	16.5	82.5	247.5	5	3
Eyersheim	10.5	52.5	157.5	5	3
Lambsheim	8	40	120	5	3
Littersheim	15	75	225	5	3
Westhofen	43.5	217.5	652.5	5	3
Weinholdsheim	21.5	215	645	10	3
Grötzingen	26.5	132.5	397.5	5	3
Bruschal	15	75	225	5	3
	5	12.5	75	2.5	6
Öwisheim	3	15	45	5	3
	5	40	150	8	3.75
Derdingen	14	0	0	0	N/A
Zaisenhausen	23	0	0	0	N/A
Witegowenhusen	9	18	0	2	0
	2	0	0	0	N/A
Renningen	22.5	67.5	337.5	3	5
Totals	666	3455.5	8522.5	5.1	2.5

123 Ibidem.

Analysis

Two points which are made clear by the direct tie of chickens to eggs in the polyptyques is that when eggs are mentioned they are referring to chicken eggs and when chickens are mentioned they are referring to hens. In every reference to eggs in all five polyptyques studies are connected to chickens. There is no reference to quail, duck or any other type of avian eggs. Clearly this shows that all eggs mentioned in these documents are chicken eggs. In the case of hens, through the five polyptyques analyzed there are ninety-three individual mentions of chickens being owed by individual farms or collections of farms of those eighty-one specifically associated eggs to accompany the chickens, or eighty-seven percent¹²⁴. A number of the twelve references to chickens which do not mention eggs appear directly after a reference to chickens which does mention eggs. Examples of these references are found in the *Polyptyque Montiérender* “3.2: They witnessed at that [demesne] farm 19 unfree farms. There are 18 of these which each owe... 6 chickens with 30 eggs... The other farm owes as above except for firewood and chickens. 3.3: Two farms also render firewood and one chicken each.”¹²⁵ The same trend is found in the *Polyptyque of Wissembourg* in the village of Altenstadt where the majority of farms owe four chickens and six eggs but three farms are separate as they “pay everything in work for the abbot” and make a single payment of three chickens¹²⁶. Therefore, it is possible that a few of those twelve references to chickens which do not mention eggs imply the eggs as an essential aspect of the chicken owed. There is also the phrasing in the *Polyptyque St-Maur-des-Fossés* which asks for “chickens with their eggs” specifically five times¹²⁷. Assigning possession of the eggs to the chicken in this polyptyque as well as the overwhelming number of references for chickens with eggs in other polyptyques illustrates that what is stated directly in the polyptyque of Neuillay is implied in the remaining documents.

The idea that a hen would be given with her eggs has a legal basis as well. The concept of *usufruct*, inherited from the Romans, was regularly applied in donations of territory during the Carolingian era¹²⁸. *Usufruct*, as typically seen in the Carolingian era donations and charters, was the

124 For totals see: Figures 1-4., 20-24.

125 *Polyptyque of Montiérender*, 3.2-3.3.

126 *Polyptyque of Wissembourg* 2.3.

127 *Polyptyque of St-Maur-des-Fossés*.

128 Hummer, Hans Josef, *Monastic property, family continuity and central authority in early medieval Alsace and southern Lotharingia* (PhD dissertation for History, University of California, Los Angeles 1997).

right to collect what was produced from a territory¹²⁹. However in the Roman law this concept went beyond land and was applied to specific things, such as the right to the peaches grown on a peach tree or in our case eggs laid by a hen¹³⁰. Therefore it is reasonable to assume that the chicken to be supplied is the female egg laying hen who came with the eggs she produced and not the rooster. This further reinforces that the transition from cockfighting's sacrificial past to the egg producing hen's future is entrenched by the early 9th century.

As stated above, the polyptyques detail what the peasantry owed. They do not account for the entire sum of goods that peasants produced. The peasantry produced goods for their own consumption and for their respective landlords. Therefore, considering the numbers provided in the polyptyques only cover what was to be given to the landlords, a total estimate of the number of chickens per farm or total eggs gathered cannot be proven. In this section I will establish the extent of chickens in rural dependent farms and provide an estimate for the number of eggs produced through the year by each chicken.

In terms of farms with chickens instead of chickens on farms the polyptyques combine to show an immense spread of chickens across Francia. For the polyptyques of Saint-Germain-des-Prés a total ninety-six percent of farms owed chickens and eggs to the monastery¹³¹. Therefore it can be deduced that at least that percentage of farms had chickens. The overall percentage of farms with chickens is lower in Montiérender's polyptyque with eighty-six percent of farms owing chickens¹³². St-Maur-des-Fossés' document saw every single farm of the two-hundred and sixty-three and a half farms covered owed chickens meaning one-hundred percent of farms had chickens present¹³³. Finally Wissembourg's polyptyque saw ninety percent of farms in the polyptyque owing chickens¹³⁴. In total across the five polyptyques, ninety-two percent of farms possessed chickens which were to be given to the monastery or for army provisions. It is important to keep in mind that this is a minimum assumption for dependent farms as just because a farm did not owe chickens does not mean they did not possess them.

These chickens, as chickens continue to do to this day, laid eggs which possess a protective coating people with ready access to refrigeration may be unaware of. This coating means the majority

129 Ibidem.

130 David Johnston, *Roman law in context* (Cambridge 1999) 67-68. 131 Figure 1., 21.

132 Figure 2., 22.

133 Figure 3., 23.

134 Figure 4., 24.

of fresh unwashed eggs can last two weeks without refrigeration¹³⁵. Due to this, eggs being provided to monasteries or the army could have been provided fresh. Assuming that the landlord would not be interested in eggs about to spoil or old hens, I suggest that the regular expected eggs owed to the designated authority was a week's production of eggs from a prime hen. For the Parisian region the polyptyques would indicate a five eggs per chicken average is possible during a week. Given that the number of prime laying weeks in a year, this would total one-hundred and thirty-five eggs. For the Rhine where three eggs was the average, this would be eighty one eggs. This range of eighty to one-hundred and thirty-five eggs is higher than the average Philip Slavin reached of seventy to one-hundred eggs per year¹³⁶. However it should be noted that his totals were primarily derived from the late 13th through 14th century, a period coinciding with the fallout of the Black Plague which resulted in a decline of agricultural production of approximately sixty percent¹³⁷. As well, his totals would reflect egg production numbers from all hens on these sites and therefore would be made including hens passed their egg laying prime. Consequently, I believe the slightly higher range of eighty one to one-hundred and thirty eggs a year is reasonable for a prime Carolingian period hen.

To take the example of Gerbertus from the *Polyptyque of Saint-Germain-des-Prés: Coudray*, his family of four was expected to provide three chickens and fifteen eggs a year¹³⁸. Understanding that Gerbertus possessed these three chickens for a calendar year his chickens would produce him and his family three-hundred and ninety extra eggs per year. Even taking into account the lower egg count of three eggs per week expected in the Rhine region, the total of eggs would amount to two-hundred and twenty-five eggs. Given the understanding that eggs are available only six months of the year this would mean the family would have access to one or two eggs a day from these three chickens. These calculations are based on Gerbertus only keeping the specific number of chickens which he would be giving up as tax to the army. It is likely that he would have more than three chickens on his farm at one time which would result in more eggs for the family.

135 D.V. Vadehra, R.C. Baker and H.B. Naylor, 'Role of cuticle in spoilage of chicken eggs', *Journal of Food Science* 35 (1970) 5-6.

136 Slavin, 'Chicken husbandry in late-medieval eastern England', 42-43.

137 Ben Dodds, 'Output and productivity: common themes and regional variations', in: Ibidem and Richard Britnell eds., *Agriculture and rural society after the Black Death. Common themes and regional variations* (Hertfordshire 2008) 73- 88.

138 *Polyptyque of Wissembourg*, 3.

From the *Polyptyque of St-Germain-des-Prés: Neuillay* there are two farms which do not provide chickens, the farms of Electeus and Bertlinus¹³⁹. In terms of status Electeus is referred to as a slave while Bertlinus is called a *lidus*. Both men are married to *colonus* women. Their identified status in the polyptyque is not justification for the lack of chickens as other slaves and *lidus* owe chickens and eggs in the village of Neuillay¹⁴⁰. Another detail that connects these two men and their wives is that they both have farms which are smaller in size, Electeus has half a farm and Bertlinus a quarter of a farm. However, two other half farms mentioned in the polyptyque owe chickens and eggs, specifically half of a full farm¹⁴¹. It is noted that they both provide alternative service which the polyptyque states exempts them other dues, including chickens. Electeus spreads manure on the lord's fields while Bertlinus takes care of the lord's pigs. The only selection of farms from the *Polyptyque of Montiérender* not owing chickens are the only section to owe pigs, despite multiple other areas mentioning woods where pigs could be fattened¹⁴². The mentioning of areas for pigs despite not owing pigs supports the idea that the same could be true for chickens. A lack of chickens owed does not exclude the possibility that the farm possessed chickens solely for themselves. These details lead to the hypothesis that the status of the farmer or the size of farm do not impact if a farm keeps chickens.

The nature of the land may have a role to play in the keeping of chickens as seen from the village of Altenstadt in the Wissembourg polyptyque. Here the farms are noted as being on two different parts of a river. One side predominantly provides service related to wine production as well as grapes while the other with a similar number of farms primarily provides wood¹⁴³. This difference in land, wine producing versus woodland, appears to impact the presence of chickens on farms as all twenty-one wine producing farms owe chickens and eggs, while only three of the twenty four farms which provide wood provide chickens as well¹⁴⁴. Notably however, all the other farms in villages which document the owing of wood, Pfortz, Eysersheim, Lamsheim, Westhofen and Weinholdsheim, provide chickens as well as eggs¹⁴⁵. The final farms which do not owe chickens in the polyptyque of Wissembourg are in the entirety of farms from the villages of Derdingen, Zaisenhausen and two from

139 *Polyptyque of Saint-Germain-des-Prés. Neuillay*, 1, 9.

140 For *lidus* see: *Polyptyque of Saint-Germain-des-Prés. Neuillay*, 4; for slave see: *Polyptyque of Saint-Germain-des-Prés*, 2-3, 5-7.

141 *Polyptyque of Saint-Germain-des-Prés. Neuillay*, 7-8.

142 *Polyptyque of Montiérender*, 2.2.

143 *Polyptyque of Wissembourg*, 2-2.3.

144 *Ibidem*.

145 *Ibidem*, 6, 14-18.

the village of Witegowenhusen¹⁴⁶. These three villages are all from east of the Rhine river valley in an area of higher elevation between the Rhine and the Neckar river valley¹⁴⁷. This reinforces the idea that there was a geographic limitation to chicken production. However due to the lack of wood owed by these three villages and the fact that many chicken providing villages in the polyptyques also provided wood the polyptyques cannot conclusively prove that chickens were limited to particular terrain types.

Concluding this chapter, the number of chickens and eggs from the polyptyques show a world where chickens were present on virtually every farm and eggs were potentially a daily component of the diet. Given the presence of chickens on over ninety percent of dependent farms, the DNA evidence which indicated a steady practice of breeding helpful traits in chickens could have developed during the 9th century. With the sheer extent of chickens across the landscape established, the societal impact of the chicken and her eggs is an essential aspect of life in the Carolingian era will now be explored.

Chapter Five: What did they do with the eggs?

As described earlier, the polyptyques document what is owed by individuals to a variety of institutions higher in society, from the king, the central manor or demesne, to a monastery or finally to the army. Like other goods documented in the polyptyques, chickens and their eggs were sent to all these groups with the monasteries and the army being the most common recipients. This chapter will detail possible usages these institutions could have had for the eggs they received.

In the *Polyptyque of Wissembourg* we see farmers from Klingen and Leinsweilder tasked to come to the monastery with their plough at least once a year to work the monastery's fields, while some farmers from Herxheim and others must attend to the monastery three times a year¹⁴⁸. Meanwhile the unfree farmers mentioned in the Montiérender's polyptyque are noted to work fifteen days over a year at the monastery¹⁴⁹. From St-Maur-des-Fossés there is an account of a farmers of Belsa bringing

146 Ibidem, 22-24.

147 See map created by the University of Leister, Derdingen is not marked but the community of Oberderdingen can be seen six kilometers south of Zaisenhausen and is a likely culprit: *Map of Polyptyque of Wissembourg* (accessed 22 March 2021) <https://www.google.com/maps/d/u/0/viewer?hl=en&ie=UTF8&msa=0&ll=49.11823859243126%2C8.929996351562515&spn=2.516823%2C4.669189&t=p&z=10&source=embed&mid=1tscHtHGzMINZUvAwIoHpDdiRG0A>.

148 *Polyptyque of Wissembourg*, 3-4, 8.

149 *Polyptyque of Montiérender*, 1.1, 3.2, 5.1, 6.2, 9.2.

produce, in this case primarily grain but also two chickens with their eggs, to the monastery themselves¹⁵⁰. While many dues are detailed in the polyptyques the sheer number of eggs can be shocking. In the case of Wissembourg the monastery was expecting to receive almost nine-thousand five-hundred eggs from the farms listed in the polyptyque¹⁵¹. With the transfer of this much produce to the monasteries the possible motivations for this vast transport of goods needs to be analyzed.

First what was a monastery in the 9th century. Monasteries had emerged as a communal expression of the Christian asceticism focused on the idea that the perfection of the soul could be reached by removing one's self from the world¹⁵². Monasteries varied in size but some larger monasteries housed hundreds of monks¹⁵³. By the 9th century these monks were primarily raised within the confines of the monastery since they were prepubescent children¹⁵⁴. These children were almost entirely from the elite classes who had been given to the monastery by their parents, often because they were ill¹⁵⁵. As they grew up within the monastery they primarily focused on liturgy, which occupied most of their time¹⁵⁶. Importantly while they attempted to remove themselves from the wider world and focus on prayer, they still needed to have their worldly needs taken care of.

To maintain their lifestyle monasteries were given donations of land to provide for the food goods they needed¹⁵⁷. Managing land for its produce may have solved the issue of where their food was coming from, for monks it also proved a challenge to their ascetic lifestyle. Therefore the task of managing this land was given to the abbot of the monastery¹⁵⁸. However the abbot was concerned with feeding more than just the monks of the monastery.

An important role of the monastery was hospitality. Monasteries operated as both hotels for

150 *Polyptyque of St-Maur-des-Fossés*, 12.

151 See: Figure 4., 24.

152 Costambeys et al., *The Carolingian world*, 117.

153 Fulda had four-hundred adult monks by 754AD: Mayke deJong, 'Carolingian monasticism' in: Rosa McKitterick ed., *Church and society* (Cambridge 1995) 522-653, q.v. 624.

154 Isabelle Cochelin, 'Monastic daily life (c. 750-1100). A tight community shielded by an outer court' in: Alison I. Beach and Isabelle Cochelin eds., *Cambridge history of medieval monasticism in the Latin west* (Cambridge 2020) 542-560, q.v. 550-553.

155 *Ibidem*.

156 *Ibidem*, 542-545.

157 Jean-Pierre Devroey, translated by Michael Webb, 'Monastic economics in the Carolingian age', in Alison I. Beach and Isabelle Cochelin eds., *The Cambridge history of medieval monasticism in the Latin west* (Cambridge 2020) 466-484, q.v. 468-469.

158 Devroey, 'Monastic economics in the Carolingian age', 468-469.

wealthy guests and for pilgrims or the poor¹⁵⁹. In hosting their guests monasteries ensured the guests were fed according to their standing from the monastery kitchens¹⁶⁰. The need to maintain hospitality was funded primarily through a tax on income from property held by the monastery, known as the tithes¹⁶¹. Though, Devroey speculates in his 'Monastic economics in the Carolingian age' that the need to provide hospitality was behind expansion of monastery entitlements to food goods¹⁶². Was the inclusion of eggs in the dues owed to monastery's part of this operation to provide food for the monastery or was there other uses for the egg in a monastic setting?

The most natural function of an egg is of course to incubate a chicken making the possibility that the eggs were collected to provide chickens for the monasteries one that cannot be ignored. A strict interpretation of the idyllic lifestyle of the monk laid out in *The rules of Benedict* would encourage monks to support their living by hand. However, the 48th chapter, which narrates this point, had been interpreted by contemporaries in the region as being fulfilled by maintaining a garden¹⁶³. Rearing chickens would fit into this model. In the *Plan of St. Gall* there is space designated specifically for a chicken coop. Given the *Plan of St. Gall* is a highly divisive source in terms of authorship, intention and realism therefore I will make no attempt to engage with any specifics in much detail¹⁶⁴. While specific details regarding the size or scale of chicken husbandry within monasteries as a whole cannot be deduced, given the complex nature of the source, the existence of chickens in a monastery cannot have reasonably been the wholesale invention of the author. While this is a logical conclusion, the *Polyptyque of Montiérender* presents information that casts doubt on the idea that chickens were raised in monasteries. The monks of Dervi who compiled the polyptyque, document the contents of the monastery of Puellare which had seven dependent farms produce chickens with eggs for the monastery, without noting the particular numbers of either.¹⁶⁵ It cannot be claimed with certainty that monks did raise chickens within the monastery but if they did it would still make more sense for eggs laid by the monasteries own chickens to be reared rather than an extensive egg gathering operation for the purpose of incubation and birth.

159 Cochem 'Monastic daily life', 555.

160 deJong 'Carolingian monasticism', 638.

161 Devroey, 'Monastic economics in the Carolingian age', 468. 162 Ibidem.

163 Ibidem, 471.

164 For a summary of scholarship on the *Plan of St. Gall* see: Richard E. Sullivan, 'What was Carolingian monasticism? The plan of St Gall and the history of monasticism' in: Alexander C. Murray ed., *After Rome's fall. Narrators and sources of early medieval history* (Toronto 1998) 251-287.

165 *Polyptyque of Montiérender*, 2.1-2.4.

One of the most famous aspects of monastic life may be the painting of the beautiful illuminations found in the codex's they produced. Some of the paint used was dependent on eggs for their adhesive qualities, in a type of paint known as tempera which used egg yolk among other ingredients¹⁶⁶. It is possible that monasteries made their own paints for their scriptoriums and therefore could have been accruing eggs to make this form of paint. Given that egg-tempera paints were the dominant form of paint in the medieval period this is real possibility for egg usage in monasteries¹⁶⁷. However, calculations on the number of eggs used for this activity would vary monastery to monastery, it is beyond the scope of thesis to conclude the amount of eggs used in the creation of egg-tempera paint.

While the egg's most basic function is to provide a safe environment for a chicken embryo to grow, monasteries at their core are a religious institution and may have required eggs for a religious reason. In the polyptyques there are sometimes specific dates mentioned for the delivery of products, such as in the *Polyptyque of St-Maur-des-Fossés* where planks of wood and reeds are to be delivered on "...at the feast of St Martin, and at Christmas and at Easter..."¹⁶⁸. In regards to eggs owed, they are specifically requested to arrive at Easter in the *St-Maur-des-Fossés* polyptyque and multiple references in the *Polyptyque of Wissembourg* including this one from the community of Herxheim "At Easter, each farmstead owes 1 tribute of suckling pig or 9 *denarii*, 5 chickens and 15 eggs."¹⁶⁹ No due date for eggs are connected to the feasts of St. Martin or Christmas as was mentioned above for other goods and it should be noted as well that for the polyptyques which explicitly reference being provisions for the army there is no reference to an Easter collection date¹⁷⁰. There are also references to eggs being collected at other times including in winter¹⁷¹. Alternatively, most references to provisions for Easter involve suckling pigs with chickens and eggs following after. There is a mention in *Wissembourg* that leaves out the pig "...and at Easter pay 5 *denarii*, 3 chickens and 15 eggs."¹⁷² From this evidence there could be a connection between eggs and Easter which raises the unsolved mystery of the Easter Egg.

166 deGetaldi, Kristin, *From egg to oil. The early development of oil painting during the quattrocento* (PhD dissertation for Preservation Studies, University of Delaware, Newark 2016).

167 Ibidem.

168 *Polyptyque of St-Maur-des-Fossés*, 14.

169 *Polyptyque of St-Maur-des-Fossés*, 16; *Polyptyque of Wissembourg*, 8.1.

170 *Polyptyque of St-Germain. Coudray; Polyptyque of St-Germain-des-Prés. Neuailly.*

171 Winter see: *Polyptyque of Wissembourg*,

5.2. 172 Ibidem 21.1.

The origins of the Easter egg are hotly debated with no firm conclusions having been established. The traditional interpretation from medievalists has been that the Easter egg stems from the Lenten restriction on the consumption of eggs along with meat and dairy¹⁷³. With this evidence of deliveries of eggs specifically on Easter, it is clear there was a connection between the egg and Easter as early as the compiling of the Saint-Germain-des-Prés polyptyques in 810. The key to understanding the Easter egg could be found in the agricultural shift which saw the rise of the hen as the predominant gender of chicken in Frankish society. However an exploration reaching back into the 7th century is beyond the scope of this paper. That being said a possible ceremonial religious function, blessing or painting of eggs for example, could be a possible use for some eggs being sent to the monasteries. Questions referring to the origins of the Easter eggs are intricate and establishing answers to said questions goes beyond the scope of this thesis.

In the end regarding eggs owed to monasteries, barring the possibility of large-scale paint making operations for which there currently is no evidence, there would still be a dramatic surplus of eggs at the monastery of Wissembourg. The same is true for the other monasteries covered in the polyptyques as well. Therefore, as is the case for many chicken eggs today, the likely fate of the eggs brought to monasteries would be to be consumed by the monks. Possibly at the feasts of St. Martin, Christmas or Easter when many eggs were supposed to be delivered to the monastery.

Not all the eggs owed in the polyptyques were dedicated to a monastery. As seen with the case of the farmer Gerbertus's dues in the *Polyptyque of St-Germain-des-Prés: Coudray*, which includes his farm ties eggs directly to the army. This "army tax" was known as the *haribannus* described by Matthew Innes in his *State and Society in the early middle ages: The middle Rhine valley, 400-1000* as "...the ninth-century *haribannus* was to all intents and purposes an army tax, it is significant that it was never presented as a tax, but as the result of personal obligations owed by free men to their king"¹⁷⁴. Therefore the eggs in reality are being given to the king and not to an institutional army. As the concept of the army in the Carolingian context was not a standing army as in the modern context. An army during this period was a group of primarily free peasant men assembled for a particular campaigning season which typically lasted only from May to June¹⁷⁵.

173 L. Gougaud, 'Easter eggs', *Irish monthly* 53 (1925) 184-186.

174 Matthew Innes, *State and society in the early middle ages. The middle Rhine valley, 400-1000* (Cambridge 2000)

156. 175 Guy Halsall, *Warfare and society in the barbarian west, 450-900* (New York 2003) 71-110.

The need to enforce an army tax on Carolingian society was the product of a shift in the nature of military conflict between the 8th and 9th centuries. During the 8th century the Franks were expanding their territory through Charlemagne's lucrative wars against the Avars and Saxons¹⁷⁶. In *Warfare and society in the barbarian west, 450-900*, Guy Halsall notes that towards the end of the 8th century recruiting men for the army had become increasingly difficult for Charlemagne¹⁷⁷. The difficulty has been identified by Timothy Reuter as the result of a shift from offensive to defensive wars, thanks in part to the start of viking raids into Francia¹⁷⁸. Defensive wars lacked the reward of plunder that had enticed generations of Frankish elite to warfare. In the 9th century they had to be enticed and armies increasingly Frankish leaders had to consider organizing the provision of basics such as food¹⁷⁹.

Every item owed in the *Polyptyque of St-Germain-des-Prés: Coudray* is for the army tax totaling thirty-three chickens and one-hundred and five eggs from the eleven families documented¹⁸⁰. Evidence of chickens going to the army are again seen from the village of Hassloch in the Wissembourg polyptyque where the twenty farmsteads owe "Each one owes 5 chickens, 15 eggs, and 4 cows for the army with 3 men and 2 mares."¹⁸¹ In total this amounts to two-hundred and twenty eggs from this village alone. The *Polyptyque of St-Germain-des-Prés: Neuilly* also shows three families, both free and unfree, owe a total of 9 hens and 30 eggs as well as other goods to the army¹⁸². The examples noted are representative of a trend found throughout the polyptyques of the army being a destination for eggs from dependent farms.

Unlike the monasteries the army lacks artistic or cultural reasons for acquiring eggs from the peasantry. However, the eggs are listed with beasts of burden as well as unquestionably consumable food good in the form of pigs and not listed with or as an alternative to coin payments. The fact that eggs were listed together with consumable goods implies that arguing that eggs are a form of currency is a weak claim at best. Another possibility is that the eggs are intended to be hatched into chickens and later used for their meat. This does not make logistical sense given the short four month regular

176 Ibidem, 71-89.

177 Ibidem, 79.

178 Timothy Reuter, 'Plunder and tribute in the Carolingian empire', 75–94. 179 Guy Halsall, *Warfare and society in the barbarian west*, 93.

180 *Polyptyque of St-Germain-des-Prés. Coudray*, 1.

181 *Polyptyque of Wissembourg*, 11.2.

182 *Polyptyque of St-Germain-des-Prés. Neuilly*, 2.

campaign seasons after which the army would then be dismissed. Even if the army dedicated the attention and transportation needed to grow the animals from hatchlings to adulthood, in the end the chickens do not provide enough meat to justify the attention given their diminutive meat content during this era¹⁸³. I therefore argue that the eggs were being requested by the army to feed the army directly. Presumably these eggs were used to feed the very peasantry who produced them when they performed military service as the polyptyques shows there was a three *denarii* fine for farmsteads in Ferrières-en-Brie for not providing a man for the army¹⁸⁴.

One final point regarding both eggs in monasteries and with the army is a simple question of logistics. In both the case of the army and monastery hundreds of eggs are owed from numerous villages in the polyptyques and need to be transported. This inspires the question of whether these eggs were provided in bulk or staggered over time? Evidence from the *Polyptyque of Wissembourg* regarding the village of Bruschal mentions that twice a year a man is supposed to proceed to the monastery and along with other goods they are to "... in 1 year they pay 2 chickens and the next year they pay 3 chickens, 15 eggs..."¹⁸⁵. This is also seen as the expectation from multiple other villages through the Wissembourg polyptyque, indicating that owing chickens and eggs is, clearly not a one off instance¹⁸⁶. From St-Maur-des-Fossés, farms of Favieres owe "... 12 *denarii* at Easter and three chickens with 15 eggs."¹⁸⁷ Here too the polyptyque references the provision of goods on a particular day. Trips to the demesne farm for work were part of many farmers' dues as seen in the Wissembourg polyptyque with repeated references to three days of work on the demesne farm or the monastery per week¹⁸⁸. These trips would provide the opportunity to bring goods to the center. Therefore, I attest that they were primarily provided in bulk during a single trip to the demesne farm associated with their farm.

In all five polyptyques it is clearly indicated that that chickens were prevalent on the vast majority of farms. These chickens laid likely at least five if not ten times the number of eggs which were owed to the monasteries covered in these polyptyques. This surplus was in all likelihood primarily

183 Modern chickens are possibly twice the size of their medieval European counterparts: Carys E. Bennet et al., "The boiler chicken as a signal of a human reconfigured biosphere", *The Royal Society Open Science* 5.12 (2018) 180325.

184 *Polyptyque of St-Maur-des-Fossés*, 6.

185 *Polyptyque of Wissembourg*, 20.2.

186 *Ibidem*, 1.2, 8.1, 10.2, 11.2, 14.2, 21-25.

187 *Polyptyque of St-Maur-des-Fossés*, 16.

188 *Polyptyque of Wissembourg*, 6, 9, 10, 12, 14, 18.

for the farmers own consumption as was shown to be the likely case for eggs being given to the army and the monasteries. These eggs seem to have been delivered in single installments and the evidence suggests that feast days were a major arrival date. What has not been answered to this point, is who was tasked with the care for the chickens which laid these eggs. This will be the subject of the following chapter.

Chapter Six: Gender Division in Labour

Regarding gender and the creation of these texts, it is important to realize that the polyptyques are texts written by men about dues owed to men provided by men, leaving little room for evidence of the contribution of women. Despite this, there are a few select references towards women and their responsibilities. In the *Polyptyque of Wissembourg* it is clear that the primary product identified as being made by women is cloth, seen by references to the “wives” making cloth in nine of the villages¹⁸⁹. Some wives are also noted as providing bread or beer¹⁹⁰. In multiple polyptyques however there is an intentional separation given for the dues owed by women and men in regards to chickens and eggs. In the titular village Wissembourg itself where fifty-eight farmsteads rest it is stated that “The women make cloth 10x4 cubits and if they do not they must give 5 chickens”¹⁹¹. Another reference comes from the *Polyptyque of Saint-Germain-des-Prés: Neuillay*, where four slave women named Frotlina, Ansegundis, Alda and Framberta all keep chickens and only make cloth if supplied the wool¹⁹². However, in the polyptyque women of a higher rank are asked to pay *denerii* instead of being tasked with making cloth or chickens¹⁹³. This could present the hypothesis that chicken keeping is a task for slaves. However this would be inaccurate as servant men are listed as offering their labour and not their chickens showing that the distinction is a gendered one not primarily based on the class of the women as servants¹⁹⁴. Seeing that women are specifically mentioned as keeping chickens, that they can provide eggs in lieu of other goods and that evidence comes from multiple sources, I attest that it is women who are tasked with the rearing of chickens.

189 Ibidem, 4, 5, 7, 12, 14, 15, 19, 20, 25.

190 Ibidem, 11.

191 Ibidem, 1.3.

192 *Polyptyque of Saint-Germain-des-Prés. Neuillay*, 13.

193 Ibidem, 14.

194 Ibidem, 11.

A gendered division of labour regarding chicken husbandry is supported through research by both Joan Thirsk and Karen Sayer¹⁹⁵. This research established that from prior to the Black Death until the modern day the role of chicken caretaker has fallen on women. From reading the polyptyques, there is evidence which points towards the rearing of chickens as a gendered activity as far back as the 800s. It could also be the case that children were engaged in collecting eggs as it is a similar task to those proven to be done by children such as the collection of apples¹⁹⁶. The gendered nature of chicken husbandry which is insinuated by the polyptyques could be an indication as to why there was significant silence surrounding this agricultural sector in the written accounts. Compare this to the male dominated domains of hunting, cattle and pigs which are well documented and what is left is a possibly gender driven hole in the agricultural understanding of 9th century Francia.

Jean-Pierre Devroey has engaged in research regarding gender in the polyptyques in his article 'Men and women in early medieval serfdom. The ninth-century north Frankish evidence'. Here he applies Susan Mosher Stuard's work on slavery 'in the feminine' to the 9th century through analyzing the polyptyques¹⁹⁷. Devroey identifies that women owed chickens and eggs but makes no connection to their role in the agricultural process¹⁹⁸. He goes on to claim that the lower retention rates of women compared to men on rural land was due to the masculine nature of rural farming, stating that women were "unsuitable, outside of marriage, for the demands of agricultural labour"¹⁹⁹. However, unmarried women were specifically noted in Neuillay²⁰⁰. As proven in chapter four chicken husbandry was a staple part of the agricultural landscape, given the chickens presence on ninety-six percent of farms covered in the polyptyques of Saint-Germain-des-Prés. Therefore, the polyptyque suggests women, including unmarried women, contributed to agricultural success of farms through chicken husbandry which was present on almost every single farm in the area. If there was a role for women in the agricultural production of chickens and eggs, an area of agriculture which only grew in prominence over time, the reasons behind the lack of women documented in rural polyptyques may need to be reexamined. Or at least the idea that the woman's role in rural society needs to be expanded beyond

195 Joan Thirsk, *Alternative agriculture. A history* (Oxford 1997); Thirsk, Joan, *Food in early modern England. Phases, fads, fashions 1500–1760*. (Oxford 2006); Sayer, Karen, 'His footmarks on her shoulders. the place of women within poultry keeping in the British countryside, c. 1880 to c. 1980', *Agricultural History Review* 61:2 (2013) 301–329.

196 B. Gregory Bailey, 'Children in medieval England', *Journal of Family History* 33-1 (2008) 41-60.

197 Jean-Pierre Devroey, 'Men and women in early medieval serfdom. The ninth-century north Frankish evidence', *Past & Present* 166 (2000) 3-30, q.v. 27.

198 Ibidem.

199 Ibidem, 19-21.

200 *Polyptyque of Saint-Germain-des-Prés. Neuillay*, 13-14.

their role as a wife they, to borrow Devroey's words, "assured the permanence of the family"²⁰¹ to include their role in chicken husbandry.

Conclusion

The chickens of Francia have suffered an inglorious fate of being sidelined in the historical debate surrounding the period's agriculture. The lack of study on this topic is the result of a lack of evidence to their existence thanks to chicken bones being less likely to survive in the archaeological record. This anatomical fact is compounded by medieval authors and scribes not feeling the need to document the existence of chickens to the same level of other animals associated with the culture of the elite. However, the extent of chickens in Frankish society should no longer be ignored and their presence has ramifications for the role of women in the period, the nature of Franks' diet and the development of chicken husbandry over time.

Through the study of five polyptyques, the evidence supports that the presence of chickens on upwards of ninety-percent of dependent farms is without doubt. However the lack of evidence pertaining to independent farms or the products of non-monastic dependent farms leaves conclusions for chickens across all of Frankish society impossible to state concretely. Similarly the geographic limitations of this thesis restricts conclusions drawn to a limited part of the Frankish kingdom. The polyptyques are also limited due to the fact they only point to the existence of eggs and their transferal between parties. We can only hypothesis what the eggs were actually used for due to a lack of physical evidence.

The conclusion of this thesis is that there was a large number of eggs produced in access of the number of which were owed by individual farms to the monastery. Therefore the dependant farming peasantry regularly ate eggs during the laying season. The monasteries that received the majority of eggs in the polyptyques used them primarily as food for themselves and for the various guests who enjoyed the monastery's hospitality. The army as well used the eggs gathered as provisions to feed the men who filled it's ranks during the campaigning season. Finally on gender, the polyptyques point to the fact women did tend to chickens. However, these documents do not indicate the level of

²⁰¹ Devroey, 'Men and women in early medieval serfdom', 19.

involvement in breeding or when this gendered division of labour began. Returning to the Frankish family of the farmer Gerbutus, perhaps I should have instead highlighted his wife Adalgundis, who likely reared the chickens and then collected the chicken's eggs with her two children.

Further work can be completed to examine if a similar number of eggs can be identified from the polyptyques of Bobbio, St. Bertin, Prüm and others in order to broaden the conclusions of this thesis. Further research into the extent of *tempera* usage in Frankish monastic may also cast light on the numbers of eggs being dedicated to this purpose. Finally considering the numbers of chickens in the landscape there is need for a reexamining of primary sources for references to hens and roosters. A reexamination with this explicit objective could help illuminate the cultural shift from rooster to hen which could give rise to new avenues for gender-based research.

In conclusion, it is important to realize that the chicken was not static in the 9th century. How people interacted with the animal had begun to change. Being previously raised primarily for religious sacrifice or for combat, these animals were now recognized as an important source of food. Modern western understanding of the chicken as a source of eggs and meat is based entirely on the female hen. Therefore, the transition of the chicken's role in society from the male fighting rooster to the female egg laying hen was a shift which can be directly traced to this period of Francia. Ultimately the hen's rise to prominence changed the cultural as well as agricultural landscape of the future.

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