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The Double-Headed Eagle, Richard of Cornwall, and Grain from Almaine: Reconfigurations of Rulership during the Famine of 1256–58 in the wake of Samalas Eruption[1]

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Abstract: The environmental crisis following the eruption of the Samalas volcano in the mid-1250s led to a massive dearth of grain and severe famine crisis across Europe from 1256 onwards. English chroniclers and other contemporaries commented extensively on these effects at the time, and Richard of Cornwall responded to the famine in 1258 by organizing grain shipments. Although there are few instances of monarchs intervening at this scale on behalf of broad sections of the population in the thirteenth century, scholars have largely ignored Richard's attempts to alleviate the famine. The article suggests that it was his close contacts with merchants from Lübeck that enabled him to access such ressources, while the grain imports were a key element in the emerging trade with Baltic producers for English grain provisioning. The ruler's approach can probably best be explained by his kinship ties to Henry III, Richard's English estates and his own experiences in the Mediterranean region. In this context we also find the first representation of the double-headed eagle coat of arms on profane objects in use for bulk goods like grain, adding a heraldic layer to an extraordinary monarchical relief measure.
Keywords: Volcanic eruption; famine; England; Baltic Sea area; grain; Richard of Cornwall; heraldry.

ES El águila bicéfala, Ricardo de Cornualles y el grano de Almaine: La reconfiguración del poder durante la hambruna de 1256-58 a raíz de la erupción de Samalas

Resumen: La crisis medioambiental que siguió a la erupción del volcán Samalas a mediados de la década de 1250 provocó una escasez masiva de grano y una grave crisis de hambruna en toda Europa a partir de 1256. Esto es comentado masivamente por los cronistas ingleses y otros contemporáneos. Se ha prestado poca atención al hecho de que Ricardo de Cornualles hiciera paliar la hambruna en 1258 gracias a los envíos de grano que él mismo organizó. Esta sorprendente anticipación de la atención monárquica a amplios sectores de la población es un rasgo bastante singular en el siglo XIII. El artículo sugiere que fueron los estrechos contactos de Ricardo con los mercaderes de Lübeck los que le permitieron acceder a tales recursos, mientras que la importación de grano fue un aspecto clave en el incipiente comercio con los productores del Báltico para el aprovisionamiento de grano inglés. El enfoque del gobernante puede explicarse probablemente por sus lazos de parentesco con Enrique III, sus propiedades inglesas y sus propias experiencias en la región mediterránea. En este contexto encontramos también la primera representación del escudo del águila bicéfala en objetos profanos en uso para mercancías a granel como el grano, añadiendo una capa heráldica a una destacada medida de relieve monárquico.
Palabras clave: Erupción volcánica; hambruna; Inglaterra; zona del mar Báltico; comercio de grano; Ricardo de Cornualles; heráldica.

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Summary: 1. The weather and food crisis of the late 1250s. 2. Grain from Almaine as a measure of royal food relief. 3. Origin of the grain: Traces lead to the Baltic Sea. 4. The royal miller and the double-headed eagle. 5. Conclusion. 6. References.

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1. The weather and food crises of the late 1250s

The twelfth and thirteenth centuries saw the development of a particular medieval form of meteorology, based on the classical heritage, but benefiting from advances made in the Muslim-Arab world. These scientific developments are known under the name of astrometeorology. Planets were thought to influence the atmosphere and hence to produce meteorological effects. Understanding such changes in the weather thus required the sort of extensive skills in geography, mathematics, and geometry that only an academic education could provide. As a result, a close relationship developed between the new discipline and the more established discipline of medicine. Astrometeorology was not associated with magic, but recognized as hard science, and it was practiced by doctors.[2] Problems with weather forecasting based on astrometeorology were explained by the complexity of variables one had to take into account, so empirical observation was the solution. We do find a particular prognosis in an influential treatise *De impressionibus aeris* attributed to the English scholastic philosopher, scientist, and bishop of Lincoln, Robert Grosseteste (before 1173–1253). But his authorship, based on a single manuscript (MS. Bodl. 464) from the first two decades of the fourteenth century,[3] remains ultimately unproven.[4] The treatise explains the most important concepts in astrometeorolgy and ends with two predictions, one for July 1249, predicting particularly hot temperatures, which are confirmed by later marginal comments to the text. More interesting for the present study is the forecast of a five-year long stay of Saturn in Capricorn, starting in 1255, and the prediction of unusually cold weather, long winters, and wet, cool summers with devastating effects on the harvests:

> If you want to foresee extreme cold, you will consider many converging testimonies of cold planets. For example, in the year of our Lord 1255, Saturn will be in its own house, namely in Capricorn, residing there for five continuous years and then in Aquarius. It will cause, therefore, five continuous winters according to its nature, and it will greatly impede both warmth and summers due to its aspect with the opposite sun, and thus it will hinder the ripening of fruits. Therefore, the times of autumn will be dangerous because of cold and the death of flowers. It is to be feared, therefore, concerning crops and especially wine and fruit.[5]

The astrometeorological forecast is astonishingly consistent with descriptions of the weather in the years 1256 to 1258 by various English chroniclers, including their foremost representative, Matthew Paris, who reports heavy rainfall and flooding and a moderate harvest for 1256.[6] The year 1257 was very similar, characterized by months of continuous rain and flooding. There was dearth and outbreaks of epidemics.[7] Processions with relics of the saints were organized in Matthew Paris's place of work, the monastery of St. Albans in Hertfordshire, roughly thirty-five kilometers north of London. Little changed in 1258, when the spring and summer in particular were very cool and rainy.[8] The documentation of meteorological conditions of these years corresponds closely with independent proxy data, namely the tree rings of moisture-loving oaks in southern England[9] and the reconstructions of summer temperatures and precipitation conditions based on written sources, i.e., the start and duration of the grain harvest in East Anglia[10] (Fig. 1). Although this data is only sporadically available for the second half of the 1250s, comparisons with the rest of the thirteenth century clearly show that at least 1258 was very cool and the year 1256 quite damp, while 1258 was exceptionally wet.

2 Stuart Jenks, "Astrometeorology in the Middle Ages," *Isis: An International Review Devoted to the History of Science and Its Cultural Influences 74, no. 2 (1983):* 185–210; Anne Lawrence-Mathers, *Medieval Meteorology: Forecasting the Weather from Aristotle to the Almanac* (Cambridge: Cambridge University Press, 2020).

3 Andrew G. Watson, *Catalogue of Dated and Datable Manuscripts c. 435–1600 in Oxford Libraries* (Oxford: Clarendon Press, 1984), 1455.

4 Mathers, *Medieval Meteorology,* 136–39.

5 "Cum frigus excellens praevidere volueris, testimonia frigidorum planetarum concurrentia plurima considerabis; verbi gratia anno Domini 1255 erit Saturnus in domo sua scilicet in capricorno 5 annis continuis ibidem et in aquario moraturus. Disponet ergo tunc 5 hiemes continuas secundum naturam suam, et calores et aestates multum impediet propter aspectum cum sole oppositum, et sic impediet fructuum maturationes. Erunt itaque autumnorum tempora frigoribus perniciosa et florum mortificationes. Timendum [p. 51] est ergo de annonis et maxime vinorum et fructuum" (Robert Grosseteste, De impress. aeris, 50,23–29 = Ludwig Bauer, ed., *Die philosophischen Werke des Robert Grosseteste. Bischof von Lincoln. Zum ersten Mal vollständig in kritischer Ausgabe* (Münster: Aschendorff, 1912), 50–51.

6 Matthew Paris, *Chronica Majora,* ed. Henry Richards Luard, 7 vols. (London: Longman & Co, 1872-1883), 5:561, 600.

7 Ibid., 5:607, 630, 645, 661–62.

8 Ibid., 674, 690, 710–11.

9 Bruce M. S. Campbell, "Global Climates, the 1257 Mega-Eruption of Samalas Volcano, Indonesia and the English Food Crisis of 1258," *Transactions of the Royal Historical Society 27* (2017): 87–121, https://doi.org/10.1017/S0080440117000056.

10 Kathleen Pribyl, *Farming, Famine and Plague: The Impact of Climate in Late Medieval England* (Cham: Springer International Publishing, 2017), 77–93, 143–59.

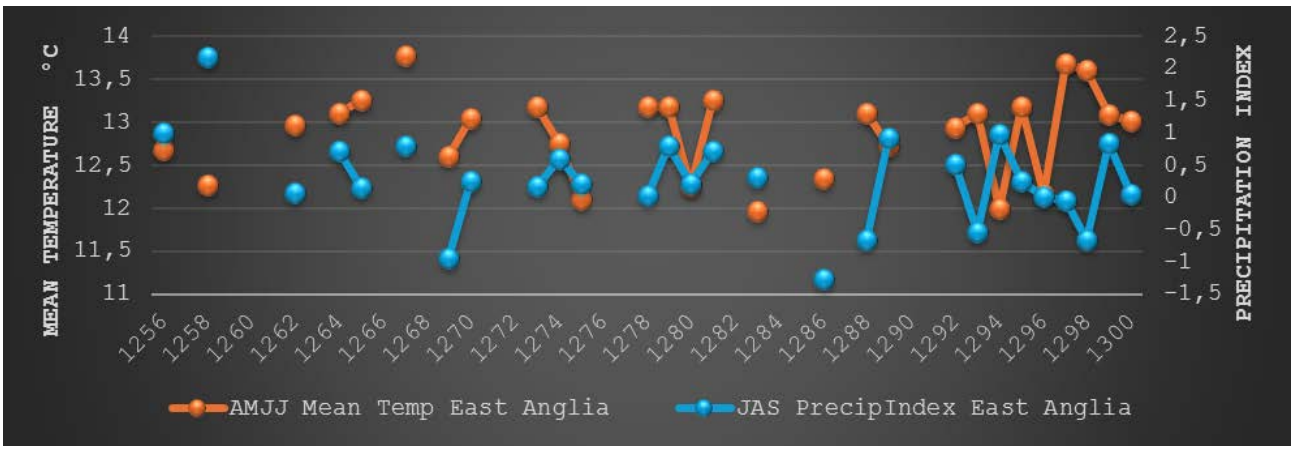

Fig. 1: Reconstruction for the years 1256–1300 of mean temperatures (red) between April and July and precipitation indices (blue) for July to September. Data: Kathleen Pribyl, *Farming, Famine and Plague: The Impact of Climate in Late Medieval England* (Cham: Springer International Publishing, 2017), 274–75, Appendices 4 & 5.

These three extremely cold, damp summers in succession resulted unsurprisingly in crop failures and famine. Arnold Fitz Thedmar, who had been the "elderman" of the German merchants in London since 1245, reported a crop failure and famine in 1257: *In this year, there was a failure of the crops; upon which failure, a famine ensued, to such a degree that the people from the villages resorted to the City for food; and there, upon famine waxing still greater, many thousand persons perished.*[11] Other chronicles for 1258 also report malnutrition, massive famine, and starvation.[12] Excavations in the years 1999–2002 unearthed skeletons from a mass grave in the Augustinian church of St. Mary's Spital, located off Bishopsgate just outside London's city walls. The skeletons were dated to the mid thirteenth century; as the dead can plausibly be attributed to the famine of 1256–58, we realize it was mainly young men and women from outside the city who starved to death on the streets of London.[13] The skeletal finds from this site were very quickly linked to a global environmental event, the eruption of the Indonesian volcano Samalas,[14] which scientists have since dated to 1257 using a combination of tree-ring data, ice-core evidence, and written sources.[15]

While 1258 has long been recognized as a remarkable year of famine in English economic history, the recent reconstruction of this period has revealed some surprising facts: The harvests in 1256 and 1257 were considerably worse than in 1258, and the summers had been exceedingly wet since 1255. Already in 1256, there are reports of shortages and dearth. Bruce Campbell and other colleagues have thus concluded that the volcanic eruption of Samalas in present-day Indonesia, dated to 1257, should not be regarded as sole cause of the British famine of 1256–1258, but only one event in a series of climatic disturbances. The present article cannot offer a conclusive answer to this question either, but it can state the following: The forecast for markedly bad weather from 1255 to 1259 in the astrometeorological treatise *De impressione aeribus* refers to a massive climatic anomaly with horrendous consequences for many of England's inhabitants. The limitations of the manuscript evidence make it impossible to say whether the apparent prediction was added after the fact in an attempt to lend credibility to astrometeorology. Such a prediction would have certainly helped those in positions of responsibility to make provisions to deal with the shortages. Advance information of the kind would obviously be attractive to rulers, which helps to explain the value the treatise places on the possibility of making long-term weather forecasts.[16] One person with such decision-making authority might have been Earl Richard of Cornwall, the influential and extremely wealthy brother of the English king, who had already campaigned for price controls in his dominions in 1257.[17] On the other hand, there is no known contact between Robert Grosseteste and Earl Richard. It is remarkable nonetheless that the king's brother was much more specifically involved in combating the famine in 1257/58 than simply by regulating prices.

11 Arnold Fitz Thedmar, *Chronicles of the Mayors and Sheriffs of London, A.D. 1188 to A.D. 1274: Translated from the original Latin and Anglo-Norman of the "Liber de antiquis legibus," in the possession of the corporation of the city of London*, ed. Henry T. Riley (London: Trübner, 1863), 1150.

12 Matthew Paris, *Chronica Majora*, 5:701–2, 710–11.

13 *A Bioarchaeological Study of Medieval Burials on the Site of St Mary Spital: Excavations at Spitalfields Market, London E1, 1991-2007, ed.* Brian Connell (London: Museum of London Archaeology, 2012).

14 *Il Fuoco e l'Acqua: Prevenzione e Gestione dei Disastri Ambientali fra Medioevo e Età Moderna,* ed. Giuliana Albini, Paolo Grilli, and B. Alice Raviola (Milano: Pearson Education Resources Italia, 2022); Martin Bauch, "Chronology and Impact of a Global Moment in the Thirteenth Century: The Samalas Eruption Revisited," in *The Dance of Death in Late Medieval and Renaissance Europe: Environmental Stress, Mortality and Social Response*, ed. Andrea Kiss and Kathleen Pribyl (Abingdon, Oxon, New York, NY: Routledge, 2020), 214–32.

15 Sébastien Guillet, Christophe Corona, Markus Stoffel, Myriam Khodri, Franck Lavigne, Pablo Ortega, Nicolas Eckert, Pascal Dkengne Sielenou, Valérie Daux, Olga V. Churakova, Nicole Davi, and Jean-Louis Edouard, "Climate Response to the Samalas Volcanic Eruption in 1257 Revealed by Proxy Records," *Nature Geoscience 10* (2017): 123–32, https:/doi.org/10.1038/ngeo2875. The dating of the event is not entirely undisputed, but this is a question that does not need to be discussed here, cf. Bauch, "Chronology and Impact of a Global Moment."

16 Lawrence-Mathers, *Medieval Meteorology*, 139.

17 "Et nisi comes, prout consuevit, pro emptis libenter precium persolvisset, maior penuria universos coartasset aut etiam amovisset" (Matthew Paris, *Chronica Majora*, 5:628).

2. Grain from Almaine as a measure of royal food relief

Richard had been the elected Roman-Germanic king[18] since 1257 and had had considerable stocks of precious metals collected in England to finance his continental ambitions.[19] He brought these into the Empire with him, which, in the eyes of Matthew Paris, further aggravated conditions on the island.[20] On 29 April 1257, he set sail for the continent with fifty ships in order to be crowned in Aachen on 17 May and then establish his rule primarily along the Rhine. For the following year 1258, Matthew Paris reports a grain delivery to London, which Richard of Cornwall had organized: *applicuerunt ibidem de partibus transmarinis procurante rege Alemannie Ricardo, circiter quinquaginta naves magne, onuste frumento, ordeo, siligine et pane.*[21] It is striking that there were fifty ships that brought grain in March 1258. Richard's fleet of exactly the same size had landed in Dordrecht in early May 1257 and may therefore have had enough time to sail to London once or twice with grain from the Empire by March 1258. This delivery is confirmed in the aforementioned chronicle by Arnold Fitz Thedmar: *many thousands more would have died of hunger, had not corn just arrived from Almaine.*[22] This fact has received little attention in the historiography of the famine and none at all in the research on Richard of Cornwall.[23] An additional sentence by Matthew Paris on the subject, however, certainly deserves attention: "Had not the saleable harvest been brought in from overseas regions, England would have undoubtedly perished within itself."[24]

Of course, the years 1258/59 are also associated with outstanding events of the so-called "baronial reform/revolution,"[25] in which king Henry III was forced to make far-reaching constitutional concessions to the high nobility.[26] These concessions, however, were the result of longer-term developments and there is little to suggest that the volcanic-induced famine had any influence.[27] The reforms were not based on the threat of social upheaval for the majority of the population, let alone peasant revolts.[28] Nevertheless, King Henry III's financial situation was complicated, and his ability to act was severely restricted due to debts and dwindling sources of income. Whereas the monarch's income had been £37,000 in 1255, it was at least £6,000 lower in 1256/57.[29] In April 1258, King Henry III comparatively small gold hoard was worth about 3,333 pounds of silver.[30] Parliament's session from 7 to 9 April was the most dramatic in Henry's reign: grain prices were five to six times higher than in 1254/55, transport costs had risen sharply, and beggars were loitering in large numbers around Westminster and the magnates' houses[31]: "[The famine's] appalling course heightened the feeling at the parliament that the realm was out of joint and something must be done to put it right."[32] On 28 April, the king issued an ultimatum concerning his new tax demands to the barons, but on 30 April a large group of them appeared before him, wearing armor but unarmed, to express their resolute demand for reform. Fearing escalation, the king conceded, even if his retreat from the very fundamental reform of the taxation arrangements, also known as a revolution, was disguised at the time as a compromise between the two sides.[33] In the context of the reforms of 1258–64, there was a great awareness of local sensitivities, but these were of an exclusively legal-administrative nature.[34] The complete absence of famine as a factor

18 For a summary of the election and coronation, see Noel Denholm Young, *Richard of Cornwall* (Oxford: Basil Blackwell, 1947), 86–89; in detail cf. Andreas Büttner, *Der Weg zur Krone: Rituale der Herrschererhebung im spätmittelalterlichen Reich,* 2 vols. (Ostfildern: Thorbecke, 2012), 1: 188–202.

19 Where English capital might have flowed is shown by the example of the towns on the Middle Rhine: cf. Gerald Brönnen, "Richard von Cornwall und die Städte Worms und Speyer – Frieden und Macht, Netzwerke und Geld," in *Richard von Cornwall: Römisch-deutsches Königtum in nachstaufischer Zeit,* ed. Anton Neugebauer, Klaus Kremb, and Jürgen Keddigkeit (Kaiserslautern: Institut für Pfälzische Geschichte und Volkskunde, 2010), 205–26, here 212. The significantly higher payments to the royal electors are explained by Manfred Groten, "Mitravit me, et ego eum coronabo – Konrad von Hochstaden und die Wahl Richards von Cornwall," in *Richard von Cornwall: Römisch-deutsches Königtum in nachstaufischer Zeit*, ed. Anton Neugebauer, Klaus Kremb, and Jürgen Keddigkeit (Kaiserslautern: Institut für Pfälzische Geschichte und Volkskunde, 2010), 25–54.

20 "Ad cumulum insuper miseriarum, rex Alemanniae Ricardus regnum Angliae multis marcarum, quas de suis terries colligi fecerat in Anglia, milibus spoliavit" (Matthew Paris, *Chronica Majora,* 5:675).

21 Ibid., 177.

22 Arnold Fitz Thedmar, *Chronicles of the Mayors and Sheriffs of London,* 1150. Original: Arnold Fitz Thedmar, *De antiquis legibus liber. Cronica maiorum et vicecomitum Londoniarum,* ed. Thomas Stapleton (London: Societas Camdenensis, 1846), 37.

23 The biography by Denholm Young, *Richard of Cornwall*, does not even mention the fact. The highly relevant article by Nils Hybel ("The Foreign Grain Trade in England 1250–1350," in *Cogs, Cargoes and Commerce: Maritime Bulk Trade in Northern Europe 1150–1400,* ed. Lars Berggren (Toronto: Pontificial Institute of Mediaeval Studies, 2002), 212–41, here 215–20) makes surprisingly little mention of the arrival of the grain ships in 1258. Neither do other detailed studies pay any attention to the grain shipments: see, for example, Campbell, *Global Climates*, and Buchanan Sharp, *Famine and Scarcity in Late Medieval and Early Modern England: The Regulation of Grain Marketing, 1256-1631* (Cambridge: Cambridge University Press, 2016).

24 "Et nisi de ultramarinis partibus venalis annona asportaretur, quod Anglia in semetipsa deperisset, non dubitatur" (Matthew Paris, *Chronica Majora*, 5:728).

25 See the latest overview in *Baronial Reform and Revolution in England, 1258–1267, ed. Adrian Jobson* (Woodbridge, Suffolk, UK: The Boydell Press, 2016).

26 Sophie Thèrese Ambler, *The Song of Simon de Montfort: The Life and Death of a Medieval Revolutionary* (New York, NY: Oxford University Press, 2019); David Carpenter, *The Reign of Henry III* (London, Rio Grande, Ohio: Hambledon Press, 1996).

27 For example, a fiscal crisis, cf. Nick Baratt, "Crisis Management: Baronial Reform at the Exchequer," in *Baronial Reform and Revolution in England, 1258–1267*, ed. Adrian Jobson (Woodbridge, Suffolk, UK: The Boydell Press, 2016), 56–70; and the legislative reforms were at best aimed peripherally and with little specificity at the economic crisis situation of the vast majority of the population, see Carpenter, *The Reign of Henry III*, 340–41.

28 "If the movement of reform redressed peasant grievances it did so out of a mixture of self-interest and idealism, not from a fear of peasant revolt" (Ibid., 348).

29 David Carpenter, *Henry III: The Rise to Power and Personal Rule 1207–1258* (New Haven, CT: Yale University Press, 2020), 663–65.

30 Ibid., 669.

31 Ibid., 678.

32 Ibid., 679.

33 Ibid., 696–99.

34 John Robert Maddicott, "Magna Carta and the Local Community 1215–1259," *Past & Present 102, no. 1 (1983):* 25–65, https://doi.org/10.1093/past/102.1.25.

in this political process and its legal consequences requires explanation.

First of all, Henry III had already taken action to regulate bread prices with the so-called "Assize of Bread and Ale" in 1256, shortly before the famine began.[35] Nevertheless, Richard's actions were novel in that a king was not only concerned with prices, but very specifically with the capital's security of grain supply. Even more remarkable is that a Roman-Germanic king was here thinking of the welfare of London, whose supply situation he knew well.[36] Richard's close connection to London is evident in the fact that he had appointed the Bishop of London, Fulk Basset, and his brother as the two administrators of his lands in England.[37] The idea that rulers should be responsible not only for regulating bread and grain prices but also for procuring grain for their subjects remained rather exotic in both western and northern Europe until the early fifteenth century, and if measures were taken, they remained selective and situational.

If one were to look for a role model for Richard's actions, one might consider his brother-in-law, Emperor Frederick II, who ruled both the Empire and the South Italian Regno: when Richard set out to fight in the Crusade, he turned down Frederick II's invitations to travel via Italy.[38] The Crusade itself led to an agreement that formally restored the Kingdom of Jerusalem, and Richard was probably acting as the emperor's emissary here.[39] After landing at Trapani in Sicily on 1 July 1241, Frederick II and Richard of Cornwall met either at Terni or Foggia, and Richard spent several months as a guest at the imperial court.[40] He traveled back through Italy, and Matthew Paris's description of the imperial elephant entering Cremona has become famous.[41] In the preceding years, the Hohenstaufen emperor had intervened massively in the economic life of his empire: in 1231, at the same time as the Constitutions of Melfi, he had ordered that the twelfth part of the harvest, including that of grain, should be delivered to the royal barns, while the rest could be sold freely. Exports, on the other hand, were strictly regulated and this applied to almost all products.[42] The Regno's most important export commodity, grain, was subject to an exorbitantly high duty of one third, although this was substantially reduced by 1239. This was accompanied by an infrastructure program in eleven cities of the Regno, which included the construction of new warehouses and port facilities.[43] Although there is no evidence of an active grain import policy on the part of Frederick II, he repeatedly concerned himself with regulating the grain trade—not unlike the responsible officials in the emerging city states of northern and central Italy. While Frederick's English brother-in-law may have been inspired by this, any speculation about Frederick having served as a role model cannot be confirmed, given the deficiencies of the historical record concerning Richard's Italian sojourn.

3. Origin of the grain: Traces leading to the Baltic Sea

Aside from the question of where Richard of Cornwall might have gotten the idea to importing grain for a starving London from, a more concrete question remains: where did he get the grain itself from? The chronicles offer seemingly precise answers: *Alemannia* in Arnold Fitz Thedmar or, significantly less specific in Matthew Paris, *de partibus transmarinis*, or, elsewhere, *Alemannia et Hollandia.*[44] This localization in the west of the Empire makes sense, as Richard's first and longest stay in the Empire, from 1257 to January 1259, took him exclusively to the Middle and Lower Rhine areas, but there is no evidence of any concern for grain or contacts in this direction.[45] This is surprising, as the merchants of Cologne traditionally dominated trade with London.[46] If it was grain from along the Rhine that helped the Londoners during the famine, however, it seems likely that Thedmar, who was also the most important contact between Rhenish merchants and the locals and had his imposing townhouse next to the German merchant's guild hall, would have written about it.[47] In addition, there is

35 James Davis, "Baking for the Common Good: A Reassessment of the Assize of Bread in Medieval England," *The Economic History Review 57, no. 3 (2004):* 465–502, here 468; Sharp, *Famine and Scarcity*, 16.

36 On Richard of Cornwall's landholdings and their importance for the regular supply of London, see Derek Keene, "Crisis Management in London's Food Supply, 1250–1500," in *Food Supply, Demand and Trade: Aspects of the Economic Relationship Between Town and Countryside (Middle Ages–19th Century)*, ed. Erik Thoen and Piet van Cruyningen (Turnhout: Brepols Publishers, 2012), 19–29, here 24.

37 Denholm Young, *Richard of Cornwall*, 90.

38 Ibid., 41.

39 Ibid., 43.

40 Wolfgang Stürner, *Friedrich II, vol. 2, Königsherrschaft in Sizilien und Deutschland* (Darmstadt: Wiss. Buchgesellschaft, 2003), 347–48.

41 Denholm Young, *Richard of Cornwall*, 44; Stürner, *Friedrich II: Königsherrschaft*, 348; Matthew Paris, *Chronica Majora*, 4:166.

42 Stürner, *Friedrich II*, 2:212–13.

43 Ibid., 2:213, with further literature.

44 "Et ut plura paucis concludam, Anglia in semetipsa defecisset, nisi naves institorum ultramarinorum blado onustae ipsam feliciter refocillasse[n]t, vendendo communiter bladum et panem, quem de partibus suis, Alemanniae videlicet et Hollandiae, asportaverint venalem" (Matthew Paris, *Chronica Majora, 5:711).*

45 Alexander Thon, "Studien zur Bedeutung der pfälzischen Reichsministerialität für Itinerar und Herrschaftspraxis des römisch-deutschen Königs Richard Graf von Cornwall (1257–1272)," in *Richard von Cornwall: Römisch-deutsches Königtum in nachstaufischer Zeit,* ed. Anton Neugebauer, Klaus Kremb, and Jürgen Keddigkeit (Kaiserslautern: Institut für Pfälzische Geschichte und Volkskunde, 2010), 141–204, here 153–66; however, reference is made—in very general terms—to Richard's good contacts with the merchants from the Rhineland, who had a massive interest in English wool exports, cf. Denholm Young, *Richard of Cornwall*, 87.

46 Ian Stone, "Arnold Fitz Thedmar: Identity Politics and the City of London in the Thirteenth Century," *The London Journal 40* (2015), 106–22, here 108–10; there were also merchants from Picardy who sold grain in London from the 1230s, while Hanseatic grain sales are only documented from the 1280s. See James A. Galloway, "Metropolitan Food and Fuel Supply in Medieval England: Regional and International Contexts," in *Food Supply, Demand and Trade: Aspects of the Economic Relationship Between Town and Countryside (Middle Ages–19th Century)*, ed. Erik Thoen and Piet van Cruyningen (Turnhout: Brepols Publishers, 2012), 7–18. On the connection between the Cologne merchants and London in general, cf. Rolf Hammel-Kiesow, "The Early Hansas," in *A Companion to the Hanseatic League*, ed. Donald J. Harreld (Leiden: Brill, 2015), 15–63, here 34–37.

47 This is all the more true if one follows the reason for writing the chronicle as reconstructed by Ian Stone; Arnold Fitz Thedmar's

evidence, at least for the Middle Rhine, that the agricultural situation was also poor in 1258.[48] In view of the even more pronounced synchronicity of major famines in Europe and the Mediterranean region, as has been shown elsewhere, and even far beyond to East Asia,[49] it becomes all the harder to explain what should have had such astonishingly far-reaching climatic effects over the course of several years if not a volcanic eruption. It should be noted, however, that not all regions suffered such conditions: Southern Italy, Byzantium, and eastern (central) Europe seem to have been relatively unaffected.

The latter region is of interest if the western half of the Empire can be ruled out as the area of origin of the grain. Keeping the volcanic impact in mind suggests a plausible indication as to why there were still grain supplies in 1257/58 that Lübeck was able to convey to England. Of course, this grain is unlikely to have been produced locally in significant quantities around Lübeck, but the city and its allies had privileged access to grain from the Baltic region and continental east central Europe, especially present-day eastern Germany and Poland. There are also other indications as to why grain may have been more readily available in eastern Europe than in large parts of the European continent in the context of the climatic consequences of the Samalas eruption: Both climate models and instrumental measurements have shown that, in the first two winters after a tropical volcanic eruption, the northern parts of Eurasia experience a temporary warming rather than cooling—the so-called volcanic winter warming. The physical causes of this phenomenon have not yet been fully clarified, but empirical observations from the twentieth century have shown a warming of up to 3°C in the first, maybe also the second winter following the eruption.[50] We have little textual evidence for this in the 1250s, apart from a chronicle from Arras in northern France, which reports that it only froze on two days in 1255/56, which led to the blossoming of flowers and trees in January: *Mil II.C.LVI. [...] En cest an, fut le temps si doulz et si souef que en tout l'iver ne gela que deux jours: ou mois de janvier, trouvoit on les violettes et les fleurs de frasiers et estoient tous les pommiers tous blans flouris.*[51] What could also be revealing as an argument ex nihilo is the complete absence of evidence for cold, damp summers, poor harvests and famine east of the Elbe as far as eastern Europe in the years 1256–58; this silence of the sources is supported by palaeoclimatological reconstructions (Fig. 2):

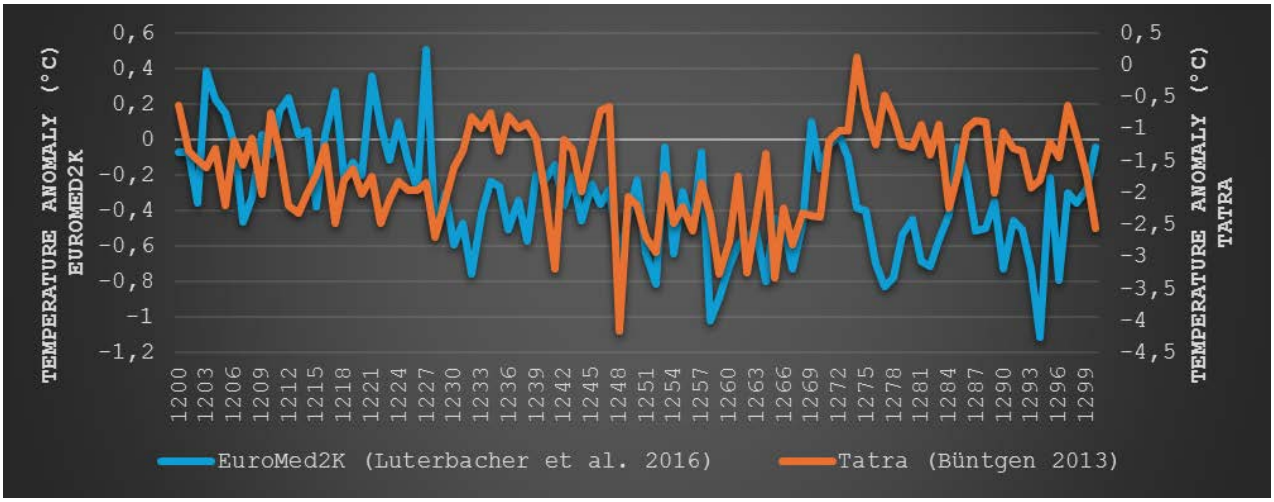

Fig. 2: Summer temperature anomalies (July-August) from tree rings for the thirteenth century, with data for all of Europe (in blue, data from Jürg Luterbacher et al., "European summer temperatures since Roman times," Environmental Research Letters 11, no 2 (2016): 24001, https://doi.org/10.1088/1748-9326/11/2/024001), and spring temperature anomalies forMay-June for the larger Tatra region (in red, data from: Ulf Büntgen et al. "Filling the Eastern European gap in millennium-long temperature reconstructions," Proceedings of the National Academy of Sciences of the United States of America 110, no. 5 (2013): 1773–78, https://doi.org/10.1073/pnas.1211485110. Graph: Martin Bauch.

According to the findings based on tree rings, summer temperatures in 1258 were extremely cold for most of Europe in general, but trees in the High Tatra

attempt to immunise himself against the xenophobic tendencies of English Londoners from the mid-1260s onwards and to reinterpret his German heritage in a positive light. Stone, "Arnold Fitz Thedmar," 115–17.

48 Bauch, "Chronology and Impact"; Guillet et al., "Climate Response to the Samalas Volcanic Eruption."

49 Bauch, "Chronology and Impact."

50 Muhammad Mubashar Dogar, Leon Hermanson, Adam A. Scaife, Daniele Visioni, Ming Zhao, Ibrahim Hoteit, Hans-F. Graf, Muhammad Ahmad Dogar, Mansour Almazroui, Masatomo Fujiwara, "A Review of El Niño Southern Oscillation Linkage to Strong Volcanic Eruptions and Post-Volcanic Winter Warming," *Earth Systems and Environment 7 (*2023): 15–42, https://doi.org/10.1007/s41748-022-00331-z.

51 "*Chronique anonyme finissant en 1308,"* in *Recueil des Historiens des Gaules et de la France,* vol. 11, ed. Natalis de Wailliy and Joseph-Daniel Guigniaut (Paris: Palmé, 1855), 130–37, here 131.

mountains in today's Slovakia and Poland, however, paint a much different picture: The summer of 1248 is the low point here, while the years 1256–58 are much less extraordinary. With regard to the thirteenth century as a whole, summer temperatures developed in opposite directions, but between 1246 and 1261, there is a high degree of synchronization in the trend, but not in the severity of the extremes.

Various indicators thus suggest that the summers east of the Elbe may have been significantly better than in the west of the continent in the years in question. But did the grain deliveries come from the region, or is there evidence for such efforts and for close contacts of Richard of Cornwall to east central Europe that might somehow be related to the grain? As is well known, Richard's kingship was not widely recognized in the north and east of the Empire—with one notable exception: as early as March 1258, in Aachen, the Bishop of Lübeck, John II of Diest, recognized Richard as the rightful king.[52] This was not the only established contact: Already in 1257, Richard had interceded with his brother Henry on behalf of merchants from Lübeck in England,[53] which may also have facilitated the initiation of a Lübeck grain trade.[54] There is no evidence, on the other hand, of Richard having contacts in other conceivable German export harbors, such as Hamburg[55] or Stade.[56] In addition, an original confirmation of privileges for German merchants in London, issued by King Henry III of England in 1260 at the instigation of his brother, King Richard of Cornwall, has been preserved in the Lübeck city archives.[57] The evidence therefore points much more strongly to Lübeck than to any other German city as the origin of the imported grain[58] that eased the situation in London somewhat in March 1258. This is supported not least by a letter of protection from Henry III for the Lübeck merchants in his lands dated 11 May 1258,[59] as well as by a purchase of oats on royal commission from a merchant named Johann von Lübeck.[60] After all, the far-reaching trading privileges that had already been granted to Lübeck merchants in England in May 1257 were tied to Lübeck's loyalty and devotion to Richard of Cornwall.[61] Ten days after Richard's coronation, but already in the second year with a poor harvest looming in England, the foundations were laid for the English to have privileged access to Lübeck's trade goods[62] and for a massive strengthening of Lübeck's position in England.

This is not all, however, for Lübeck attracted further attention: Richard of Cornwall was not the only pretender to the Roman-Germanic throne, for Alfonso X ("the Wise") of Castile also laid claim to it from 1256. Never actually entering the realm himself, Alfonso carried out his attempts to rule the Empire from afar and focused on the Italian part of the Empire.[63] Furthermore, Alfonso was in close negotiations with King Håkon IV to arrange the nuptials of his brother with the Norwegian king's daughter Kristina.[64] There were two possible motives for the Castilian-Norwegian contacts at the end of the 1250s: the Norwegian fleet was of the highest value for the Castilians' crusade plans toward North Africa.[65] In addition, however, there are indications that, as before, grain supplies to neighboring areas were expected from Lübeck—i.e., the Empire—and hence Alfonso of Castile's potential zone of influence.[66] Ten years earlier, in the context of a severe famine, Håkon IV had already intensively endeavored to protect Norwegian trading interests with regard to grain in and vis-à-vis Lübeck,[67] possi-

52 Georg Lemcke, *Beiträge zur Geschichte König Richards von Cornwall* (Berlin: Ebering, 1909), 64–71.

53 Henry III granted the Lübeckers freedom of trade in England for seven years. Verein für Lübeckische Geschichte, ed., *Urkundenbuch der Stadt Lübeck,* vol. 2.1, (Lübeck: Friedrich Aschenfeldt, 1858), 20–21 (no. 27).

54 This is supported by an undated exhortation from the bishop to the Lübeck council and parish to recognise King Richard, dated between 1258 and 1259: Verein für Lübeckische Geschichte, ed., *Urkundenbuch der Stadt Lübeck*, vol. 1 (Lübeck: Friedrich Aschenfeldt, 1843), 233–34 (no. 254). The fact that the bishop was still able to act as a quasi-ruler of his city is shown, for example, by the fact that he was at least responsible for the transcript of a document in which the joint deployment of Hamburg and Lübeck ships against pirates was decided in 1259; see ibid., 230 (no. 248).

55 This is even regarded in research as the most important harbour for trade with England in the middle of the 13th century. See Hybel, "Foreign Grain Trade," 224.

56 A confirmation of older charters by the Archbishop of Bremen for the town of Stade, which explicitly authorised the duty-free export of its own grain and the prohibition of foreign grain trade, is worthy of consideration here. See Konstantin Höhlbaum, ed., *Hansisches Urkundenbuch*, vol. 1, *975–1300* (Halle/S.: Verlag der Buchhandlung des Waisenhauses, 1876), 233–34 (no. 535).

57 On the state of preservation of the text, which in other Hanseatic cities only is preserved in much later copies, see ibid., 193–94 (no. 552, as a regest with extracts); full text in Verein für Lübeckische Geschichte, *Urkundenbuch der Stadt Lübeck*, 1:231 (no. 250).

58 In general, however, Lübeck's early trade with London was not characterised by grain, but by herring, stockfish, timber, etc. See Hammel-Kiesow, *The Early Hansas*. The same author also argues in favour of a Lübeck origin for the grain delivered in 1258, without directly citing contemporary evidence: Ibid, 70.

59 Höhlbaum, *Hansisches Urkundenbuch,* 177–78 (no. 506).

60 Ibid., 177 (no. 502).

61 "Dum tamen idem burgenses interim bene et fideliter se habuerunt erga prefatum fratrem nostrum." Verein für Lübeckische Geschichte, ed., *Urkundenbuch der Stadt Lübeck*, vol. 2, 51 (no. 27). This is emphasised in Natalie Fryde, "Arnold Fitz Thedmar und die Entstehung der Großen Deutschen Hanse," *Hansische Geschichtsblätter 107* (1989): 27–42, here 39.

62 At the same time, one could recognise in this an important stage in the creation of a Hanseatic League of all Germans in London, the emergence of which Natalie Fryde dates to the period between 1234 and 1282. Ibid., 40.

63 Ingo Schwab, "Richard von Cornwall und Alfons von Kastilien – Parallelen und Differenzen ihres Königtums," in *Richard von Cornwall: Römisch-deutsches Königtum in nachstaufischer Zeit,* ed. Anton Neugebauer, Klaus Kremb, and Jürgen Keddigkeit (Kaiserslautern: Institut für Pfälzische Geschichte und Volkskunde, 2010), 117–40, here 121–38.

64 Bruce E. Gelsinger, "A Thirteenth-Century Norwegian-Castilian Alliance," *Medievalia Humanistica Ser. NS 10* (1981): 55–80; Ellen Fischer, *Kristín Hákonardóttir 1234-1262: eine Prinzessin am norwegischen und spanischen Königshof* (Vienna: Fassbaender, 2016).

65 J. Garcia, "Henry III (1216–1272), Alfonso X of Castile (1252–1284) and the Crusading Plans of the Thirteenth Century (1245–1272)," in *England and Europe in the Reign of Henry III (1216-1272)*, ed. Björn K. Weiler (Aldershot: Ashgate, 2002), 99–120.

66 That this possibility was conceivable even in far-away Lübeck is shown by the explicit warning of Bishop Johann II of Lübeck to his city not to allow itself to be influenced by Alphonsos's enticements. Verein für Lübeckische Geschichte, ed., *Urkundenbuch der Stadt Lübeck*, vol. 1, 235 (no. 254): "Nec aliquod pretextu .. Regis Castelle in remotis agentis consurgat obstaculum". On the role of Lübeck as a hub of grain trade between Scandinavia, northern Germany, and the Baltic Sea countries, which is weakly documented in written sources but plausible based on archaeological findings, see Hammel-Kiesow, *The Early Hansas,* 59–67.

67 "Mittatis ergo ad nos naves vestras in estate more solito cum rebus regno nostro necessariis, cum blado et brasio, et ean-

bly even striving for supremacy over the city.[68] While England had traditionally been an important source of imported grain for Norway,[69] in the second half of the 1250s nothing was to be expected from there, as the island itself was suffering from shortages and famine.[70] Tree rings from Norway prove that at least the year 1258 could also be considered unusually cold and damp there and therefore unfavorable for grain.[71] King Håkon's decrees from 1260 regarding the many abandoned farms in his kingdom are probably also connected to this period of scarcity.[72] The trade relations between the southern Baltic coast and Norway in the late 1250s also play an important role in the *Hákonar saga Hákonarsonar,* which was written in Norway around 1264. Regarding the summer of 1259, the text reports the following: "That summer, King Hákon had all ships that came from Denmark, Wendland (= the southwest coast of the Baltic Sea) and Germany, as well as their possessions, brought into his power."[73] The context of this reference is somewhat unclear: the Danish–Norwegian conflict had ended precisely in the summer of 1259, so the capture of Danish ships could well have a military context that does not merely point to the appropriation of grain supplies. An attack on ships from the German-speaking areas can nevertheless hardly be explained simply by the war with Denmark, and Norway certainly remained attractive for merchants from the southern Baltic region.[74]

It should be noted that toward the end of the 1250s, Lübeck assumed a new, more dominant role as a trading partner in England and that there were privileged contacts with both the royal court and Richard of Cornwall, which were vigorously promoted by the English side. At the same time, the Norwegians certainly and likely also the English actors increasingly perceived of Lübeck as a hub of the grain trade in the Baltic. The origin of the grain imports for London via Lübeck from the Baltic region and eastern central Europe is also made more likely by palaeoclimatological data, which point to a favorable climatic situation after the tropical volcanic eruption of Samalas.

The importance of Richard of Cornwall's achievement in bringing grain to London in times of famine—which, as mentioned above, clearly went beyond what would have been expected of him in this era—can be seen in two unexpected archaeological finds.

4. The royal miller and the double-headed eagle

A metal pendant, more specifically a horse harness pendant, was found in Cornwall in 2019 (Fig. 3). The metal appliqué is thought to have belonged to Richard of Cornwall, his son, or their circle, though it is not clear whether it was brought from the continent or produced instead of used only in England. This pendant might be the oldest use of the double-headed eagle by a Roman-Germanic king to represent his dignity. It is difficult to distinguish clearly between the double-headed eagle of the emperor and the single-headed eagle of the Roman-Germanic king before 1433, which is when the seal of Emperor Sigismund quite clearly began doing so. The double-headed eagle first appeared in the fourteenth century on imperial gold coins of Louis the Bavarian and in the seals of his children, and similarly under Charles IV.[75]

Fig. 3: Horse harness pendant attributed to Richard of Cornwall, his son or their entourage (Royal Institution of Cornwall: Dudley, C (2020) CORN-71C94E, Licence: CC BY 4.0 DEED, Link: https://finds.org.uk/database/artefacts/record/id/987267)

dem nostris mercatoribus licenciam emendi concedatis, cum caristia in regno nostro duraverit" (Höhlbaum, *Hansisches Urkundenbuch*, 117, no. 356).

68 Thomas Behrmann, "Norwegen und das Reich unter Hákon IV. (1217–1263) und Friedrich II. (1212–1250)," in *Hansische Literaturbeziehungen: Das Beispiel der piðreks saga und verwandter Literatur*, ed. Susanne Kramarz-Bein, Heinrich Beck, and Johannes Hoops (Berlin: De Gruyter, 1996), 27–50, here 35–36; in more detail in Bruce E. Gelsinger, "Norwegian Jurisdiction over Lübeck: Background to an Unredeemed Offer," *Mediaeval Scandinavia 11 (1978/79):* 242–57. Hákon also showed an emphatically conciliatory attitude with regard to an unfortunately not precisely dated Lübeck attack on him and his subjects in the course of the 1250s. Verein für Lübeckische Geschichte, ed., *Urkundenbuch der Stadt Lübeck, vol. 1,* 232 (no. 252).

69 Behrmann, "Norwegen und das Reich," 36–37. On the displacement of English grain by Baltic grain around the end of the thirteenth century, see Hybel, "The Foreign Grain Trade in England 1250–1350," 220.

70 Campbell, "Global Climates."

71 Audun Dybdahl, "Climate and Demographic Crises in Norway in Medieval and Early Modern Times," *The Holocene 22, no. 10 (2012)*, 1159–67, here 1162–64, with references to data from Audun Dybdahl, "Klima og demografiske kriser i Norge i middelalder og tidlig nytid," in *Historisk tidsskrift 89, no. 2 (2010),* 183–222, here 210; for a more general overview of famine in medieval Norway, see Nils Hybel, "Klima og hungersnod i middelalderen," *Historisk Tidsskrift 102, no. 2 (2002):* 265–81.

72 Dybdahl, "Climate and Demographic Crises in Norway," 1164.

73 "Enn sumar þetta hafdi Hakon konungr latid taka oll skip þau er komin voru af Danmork, Vindlandi ok Þyduersku ok fe þeirra i sitt valld." *Hákonar saga Hákonarsonar, Bǫglunga saga, Magnúss saga lagabœtis*, ed. Sverrir Jakobsson, Þorleifur Hauksson, and Tor Ulset, 2 vols. (Reykjavík: Hið íslenzka fornritafélag, 2013), chapter 228. I would like to thank my colleague Carina Damm (Leipzig/Katowice), both for initially pointing me to this source and for her advice and translation.

74 Arnved Nedkvitne, *The German Hansa and Bergen 1100–1600* (Cologne: Böhlau, 2014).

75 Franz-Heinz Hye, "Der Doppeladler als Symbol für Kaiser und Reich," *Mitteilungen des Instituts für Österreichische Geschichtsforschung 81* (1973): 63–100, here 68–69.

The single-headed eagle, on the other hand, continued to dominate the seal and other depictions of Roman-Germanic kings and emperors in connection with their official coat of arms for a long time. The fact that the double-headed eagle as a coat of arms of the Roman-Germanic rulers was already being discussed in the thirteenth century is once again thanks to the English chronicler Matthew Paris, who depicts different coats of arms for King Otto IV and Emperor Frederick II and their descendants in his *Historia Anglorum* and the *Chronica Majora*, including double-headed eagles. Claus Bleisteiner's conclusive explanation, however, suggests this was all a misunderstanding stemming from the fact that the chronicler may have been familiar with Otto's coat of arms, which, in accordance with the common heraldic practice of dimidiating in England, united two heraldic images in a split shield: one side showed the Roman-Germanic eagle, and the other depicted three lions as a reference to Otto's English mother. An English observer might logically have concluded that the traditional coat of arms of the Roman-Germanic rulers was a double-headed eagle, even if this was not actually in use on the Continent. It seems that Matthew Paris was not alone in thinking along these lines: An English roll of arms, dated 1273, clearly suggests that both the Roman-Germanic king and emperor used the double-headed eagle as their heraldic animal.[76] Thus the imperial double-headed eagle would have been more than a brainchild of Matthaeus Parisiensis, and as such it was completely convincing to English contemporaries, even those of very high standing.

Fig. 4: Bronze weight of a steelyard balance with coats of arms of Richard of Cornwall, including the double-headed eagle (Source: London, British Museum, 1910,0512.1, Asset number 243558001, License: CC BY-NC-SA 4.0)

In a single instance on the horse harness of an unknown knight, this double coat of arms might be viewed as an isolated case, but in fact there is additional evidence in an even more unexpected place, namely, on steelyard weight balances. These counterweights for the scales already used by the Romans are relatively common archaeological finds for the thirteenth century. The English name of the scales refers neither to material nor length, but establishes a connection to the *Stalhof*, the name of the Hanseatic merchants' guild hall in London, first documented in the fourteenth century and anglicized as "Steelyard." The scales were particularly useful for bulky and heavy goods such as grain in sacks or bales of cloth[77]—goods associated with the emerging trade of Lübeck and other German towns with England. Several counterweights were essential for the use of these scales, and there is written evidence of their use by German merchants from the fourteenth century.[78] It has been noted that one group of these weights consistently features a combination of particular arms, those of Richard, Earl of Cornwall, and Poitou, or his second son Edmund (Fig. 4). Given the employment of these arms—including a lion rampant and the double-headed eagle—on more than sixty of these weights,[79] a consistency in the use of a high-zinc alloy, and other common features such as a band of engraved triangles above the shields, it has been argued that this group were officially produced weights, stemming from the centralized production of the successive Earls of Cornwall in the second half of the thirteenth century.[80] The fact that Richard's son Edmund of Almaine (1249–1300) depicted the single-headed eagle in his seal[81] may indicate that the weights were indeed produced under his father's rule and not later.

We now have an idea as to why these weights for measuring bulk goods such as grain might have been so important to Richard of Cornwall that he first displayed the double-headed eagle on them rather than using such symbols in the more typical context of buildings, works of art, or seals.[82] It would certainly be going too far to recognize a new element here in Richard of Cornwall's rather conservative conception of his reign.[83] But he must have considered the ac-

76 Norbert Weyss, "Die Entwicklung der Doppeladlerforschung," *Österreichisches Wissenschaftsforum* 1/2 (1988): 34–41; Hugh *Stanford, Aspilogia II: Rolls of Arms of Henry III (London: Boydell Press for the Society of Antiquaries of London, 1967), 166–204.*

77 Harald Witthöft, "Waren, Waagen und Normgewicht auf den hansischen Routen bis zum 16. Jahrhundert," *Blätter für Deutsche Landesgeschichte 112 (1976),* 184–202, here 197–98.

78 Ibid., 186.

79 John Cherry, "Steelyard Weights," in *Salisbury Museum Medieval Catalogue*, ed. P. Sanders, and E. Saunders (Salisbury: Salisburgy&South Wiltshire Museum, 1991), 47.

80 Brownsword, R., and E. E. H. Pitt, "A Technical Note on Some 13th Century Steelyard Weights," *Medieval Archaeology 27* (1983): 158–59.

81 Norbert Weyss, "Die Doppeladler des Vorgängers Rudolfs I. von Habsburg Richard von Cornwall," *Adler: Zeitschrift für Genealogie und Heraldik 14 (1986–88)*, 357–68, here 364.

82 Norbert Weyss, one of the most active heraldic experts working on the double-headed eagle, pointed early on to depictions of the double-headed eagle on ceramic tiles from the abbeys of Titchfield and Glastonbury. See, for example, Weyss, "Die Doppeladler des Vorgängers ," 359–60. Despite Weyss's arguments, however, there is precious little evidence of a connection between these ceramic tiles and Richard of Cornwall or his descendant, as no relation of these rulers to the monastic communities in question can be traced.

83 There are more classical concepts of rule that may have determined Richard's politics or in which his rule at least fits chron-

tions taken in 1258 important enough to connect his prestige and public image with them. There is further evidence that his grain imports did not bring the English prince any luck, but they did have a massive impact on his perception: according to three contemporary chronicles, Richard's enemies pinned him down at the Battle of Lewes in May 1264, allegedly in a windmill, and the enemy barons forced the Roman-Germanic king to surrender amid derisive chants and interjections that are remarkable in our context: "Descend, descend, wretched miller! Depart, depart, under the urging of the master of the mill. [...] Why did you have to become a miller, to our greatest misfortune?"[84] One might think of this as a coincidence—or see here a dramatically failed attempt to cultivate a specific royal image with the help of grain imports, in the shadow of a volcanically generated sulphate aerosol cloud and subsequent famine.

5. Conclusions

It is not possible to determine with certainty whether the use of double-headed eagle as a heraldic symbol of the Roman-Germanic rulers as early as the thirteenth century was based solely on a misinterpretation by Matthew Paris. At the very least there is no reliable evidence for the use of the double-headed eagle by the rulers themselves on the Continent. For the case of Richard of Cornwall, on the other hand, several pieces of available evidence suggest that he used the double-headed eagle to depict his rule, at least in an English context. Its presence is clearest on the counterweights of the teelyard Balance, which in turn have a vague etymological connection to the guild hall of the German merchants in London. In the second half of the thirteenth century, Richard of Cornwall and his descendants clearly marked a measuring instrument primarily used to weigh bulk goods such as grain with the new symbol of the double-headed eagle. This becomes less puzzling when one considers the Roman-Germanic king's extraordinary involvement in ensuring the supply of grain to London during the famine of 1258. In doing so, he acted without a clearly recognizable role model and did not establish a tradition—not in England, not in the Empire. The fifty grain ships that he organized probably brought their supplies from Lübeck, where Richard and his brother, the English king, built up close relations in the second half of the 1250s and massively strengthened the role of Lübeck in trade with England, a process that was to gather momentum in the following years. The food shortage of the late 1250s, which Lübeck played a key role in alleviating, would have been a strong impetus for this, as had also been recognized in Norway. Taking a broader view, the English famine turned out to be part of a pan-European, indeed northern hemispheric climate deterioration, presumably due to volcanic activity: the precise dating of the Samalas eruption will be discussed further, but the volcanic factor would explain why grain from eastern Europe saved western Europeans from starvation in 1258 via the phenomenon of winter warming and a favorable situation in eastern Europe as was repeatedly observed after such volcanic events. This organization of fifty grain ships may have been so important to Richard of Cornwall that he referred to his saving act by displaying the new double-headed eagle coat of arms to emphasize his dignity on the Continent and his good relations with the trading cities under the dominion of the Roman-Germanic ruler. Richard was a force present at numerous English markets and cherished the memory of his achievement in saving parts of London from starvation, but this new political approach was lost in the turmoil of the Baronial Revolution, and the double-headed eagle did not take an English detour to establish itself as the symbol of the Roman-Germanic rulers.[85]

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ologically. See, for example, Jörg Schwarz, "Herrschaft und Herrschaftskonzeption des römisch-deutschen Königs Richard von Cornwall," in *Richard von Cornwall: Römisch-deutsches Königtum in nachstaufischer Zeit,* ed. Anton Neugebauer, Klaus Kremb, and Jürgen Keddigkeit (Kaiserslautern: Institut für Pfälzische Geschichte und Volkskunde, 2010), 55–116.

84 "'Descende, descende, pessime molendinarie! Egredere, egredere, molendini magister instante.' [...] 'Quid tibi opus erat fieri molendinarium, per maximum infortunium, qui nos pauperes barones nuper diffidati ad bellum, qui etiam non minori nomine dum nos diffidares voluisti te appellari quam Regis Romanorum et Semper Augusti'" (Denholm-Young, *Richard of Cornwall*, Appendix 6, 175).

85 Unless one follows the hypothesis of Hye ("Der Doppeladler als Symbol für Kaiser und Reich," 69–70) that the gold coins depicting Louis the Bavarian, which were minted in 1328 with the double-headed eagle coat of arms, actually date back to King Edward III of England, who, as an ally of the emperor and imperial vicar, could have continued the tradition established by Richard of Cornwall.

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