Climate Change And The Rise Of Bourgeois Society: The Role Of The Little Ice Age In Shaping John Locke’s Views On Property

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Introduction

 In 1690, coming off the heels of the Glorious Revolution of 1688, John Locke would publish his *Two Treatises of Government*. Locke would write this book with the intent to justify the constitutional revolution that took place in 1688, along with the ethos behind those who led this revolution. One aspect of the prevailing revolutionary ethos was a new way of looking at property accumulation and wage labor, which Locke neatly outlines in chapter five of the *Second Treatise of Government*. Within the secondary literature on Locke scholars have grappled with this new theory of property articulated in chapter five along with the driving forces that shaped this theory. One emphasis that has emerged out of this literature is to look at the social and economic contexts in which Locke was writing in. This section of Lockean scholarship nicely situates Locke’s work within the nascent bourgeois milieu of the late seventeenth century, and demonstrates Locke’s work as emblematic of this environment and its central principles.[[1]](#footnote-1) Thus, within this strain of scholarship Locke’s political thinking on property espoused in chapter five of the *Second Treatise of Government* is seen as based on the “social assumptions” within the bourgeois milieu of his time.[[2]](#footnote-2)

 This paper seeks to compliment this section of scholarship within this literature through examining how the ethos of this nascent bourgeois milieu came about. More specifically, this paper seeks to examine how this group came to form their views on property accumulation and wage labor that John Locke neatly presented in chapter five of the *Second Treatise of Government*. As an empiricist and a political economist John Locke wrote about material realities and their social contexts within late seventeenth century England. Moreover, he was embroiled in the economic debates of his day, which were based around how to stop continual economic crises. As Patrick Kelly points out: “War was by no means the only source of economic crises in the seventeenth century: More frequent were natural disasters, such as plague and famines”.[[3]](#footnote-3) Therefore, to conduct this examination into the formation of John Locke’s views on property this paper will look at one factor that has been overlooked in Lockean secondary literature: climate change. More specifically, this paper will examine the role the climatic change of the Little Ice Age had on England’s economy, specifically on wheat production and the wool market.[[4]](#footnote-4) The climatic change of the Little Ice Age and the frequent natural disasters it created brought about continual disruptions in wheat production along with the displacement of peasant populations from their feudal manors. Moreover, the anticipation of these frequent natural disasters and their effects became a way of life by certain groups within English society who hoarded grain to dump on the market during bad harvest caused by inclement weather. This group would eventually form the bourgeois in England and this anticipation of natural disasters would lead this group to favor property accumulation and the use of wage labor. Thus, this paper will argue that one of the many driving forces behind the shaping of the nascent bourgeois views on property and the “the turf my servant has cut” were the effects the climatic change of the Little Ice Age had on England’s physical and social landscape.[[5]](#footnote-5) Moreover, since John Locke was situated within this bourgeois milieu his writings in chapter five of the *Second Treatise of Government* on property accumulation and wage labor were informed by processes shaped by the Little Ice Age. Before showing how climate change played a role in shaping processes of property accumulation and wage labor in Early Modern England, however, this paper will briefly look at what the climate change of the Little Ice Age was characterized by, and the way this weather phenomenon shaped social events within Early Modern England.

Climatic Change and the Beginnings of a New Climatic Regime

 Towards the end of the thirteenth century and at the beginning of the fourteenth century the earth’s climate began a process of rapid change that would spur an era of unsettled weather over the continent of Europe. Prior to this switch much of Europe had enjoyed a climatic cycle that began around the ninth century AD known as the Medieval Warm Period.[[6]](#footnote-6) This period was characterized by mild and stable weather that produced “some of the warmest four centuries of the previous 8,000 years” in Europe.[[7]](#footnote-7) Moreover, during this time summer temperatures were on average 0.7 C to 1.0 C above twentieth century average, which allowed much of Europe to benefit from sufficient harvests.[[8]](#footnote-8) These warm temperatures and sufficient harvest allowed England’s population to blossom from around 1.4 million in the late eleventh century to five million by the thirteenth century.[[9]](#footnote-9) Thus, leading up to the start of the Little Ice Age England was in the midst of enjoying several centuries of idyllic weather that brought about population growth accompanied with sufficient harvests that supported this growth.

At the start of the fourteenth century the earth’s climate began to shift, which brought about a new climatic cycle over the continent of Europe. This new era would be characterized by extreme volatility in temperatures, rain, and snowfalls throughout the continent of Europe, especially Northwestern Europe. Colder conditions persisted throughout this time frame, which combined with altered patterns of atmospheric circulation to cause intermittent spates of heavy rains and droughts. On average, summers during this period were characterized as being unseasonably cool and wet, but could vacillate from time to time to extremely hot and dry. Winters became increasingly harsh during this era with the duration of this bitter cold lasting longer. Due to these extremes that were normally on the colder side the average temperature of the northern hemisphere from the fourteenth century to the nineteenth century was 0.6o C to 0.8o C cooler than twentieth century averages, with most periods being much colder while a few were much warmer and wet.[[10]](#footnote-10) This period of climatic history has come to be known as the Little Ice Age since it was on average colder than normal historical temperatures.

The New Climatic Regime’s Effects On The English Economy

 The effects the Little Ice Age would have on the English economy would not bring great amusement to English society. Floods, longer than usual winters, and increased snowfalls would bring about sporadic dearths and famines due to poor harvest, which would lead to spikes in the prices of crops. In anticipation of these poor yields and subsequent price spikes certain groups within English society began hoarding grains to dump on the market during dearths and famines. These actions eventually led this group to accumulate more land in order to grow and hoard more crops to dump on the market when inclement weather caused poor yields. In addition, this group would turn part of this arable land into pastures for the raising of sheep for wool, a commodity they could profit from when crop prices were normal.

 This section will trace these processes and the role of the Little Ice Age in bringing them about through viewing the reactions of the landed gentry to low yields and price spikes in wheat caused by the inclement weather of the Little Ice Age.[[11]](#footnote-11) Moreover, this section will also view how poor harvest yields, famines, the Bubonic Plague, and the reaction of this nascent bourgeois group to these effects displaced peasants from their feudal lands, which caused them to sell their labor for wages. Thus, this section will attempt to trace the shaping and normalization of property accumulation and preference for wage labor within the ethos of John Locke’s time through viewing reactions to the effects the Little Ice Age had on England’s economy.

*The Great Famine of 1315 and the Bubonic Plague*

 The first signs of the effects the Little Ice Age would have on England’s economy and society can be seen in the Great Famine of 1315-1317. Heavy Rains began to fall over much of England in the summer of 1314, which resulted in a partial harvest of wheat for this year.[[12]](#footnote-12) These downpours were followed by a harsh winter that included late winter rains, which were then followed by unseasonable downpours in the spring of 1315 that would continue into the summer.[[13]](#footnote-13) This constant onslaught would cause the harvest of this year to be a total failure, which caused a catastrophic famine and the price of wheat to spike throughout England.[[14]](#footnote-14) In an effort to combat this poor harvest Edward II would encourage the import of grain.[[15]](#footnote-15) As will be seen this policy would become one of several factors that helped drive a future natural disaster in England.

 The winter of 1315 was again severe and was followed again by torrential downpours in the spring of 1316 that lasted into the fall of this year. These downpours came with such frequency and intensity that their effects could not be controlled, which resulted in the harvest of this year being deficient. The price of wheat again this year would spike nationally, which led some people within English society to hoard grain with the intent to dump the grain on the market once prices reached their apex.[[16]](#footnote-16) These downpours would begin to wane in 1317, which allowed for the harvest of this year to improve compared to the prior two years. Moreover, the hoarding of wheat to dump on the market when prices were high would continue throughout this year. These practices would subside in 1318 as the weather would ameliorate, which allowed for a good harvest and the price of wheat to drop.

 In 1319 weather conditions began to deteriorate again as intense windstorms and heavy rain would again affect wheat harvests in England. Moreover, these extremely wet conditions brought about a cattle plague, which led to a lowering of agricultural productivity due to peasants subsisting on a malnourished diet.[[17]](#footnote-17) These weather conditions, the cattle plague it spawned, and low output of agricultural production would continue until 1322 with wheat prices spiking. The practice of regularly importing grains to offset potential bad harvests would continue during this time. This policy, however, along with several other factors would eventually aid in bringing the Bubonic Plague, a disease that came about in Central Asia after a great flood in 1332[[18]](#footnote-18), to the shore of England in 1348. This plague would have enormous effects on English society and its economy.

 The Bubonic Plague that started in 1348 would decimate England’s population. At the start of 1348 England’s population stood at 3.8 million. By 1360 the Bubonic Plague would shrink England’s population to 2.7 million. This lowering of the English population would decrease the supply of laborers within England, which allowed those laborers who survived to demand higher pay for their work.[[19]](#footnote-19) Pre-bubonic plague wages for agricultural laborers in England were on average one shilling and one pence per week.[[20]](#footnote-20) By 1350, this wage rose by forty-seven percent to one shilling and seven pence. Moreover, due to their increase in power laborers began to demand better accommodations from lords. If these accommodations were not met laborers would leave for another manor where the lord would acquiesce the laborers demands.[[21]](#footnote-21)

 Over the next one hundred years after this initial outbreak of the Bubonic Plague this disease would sporadically reappear in English society, which would continually thin its population and supply of laborers. Laborers who survived these outbreaks would demand increases in their wages with some using this leverage to gain freedom to move about and find the best price for their labor. An outbreak of the plague would occur in 1369 and kill off fifteen percent of the English population.[[22]](#footnote-22) Laborers who survived this outbreak demanded and received higher wages with the average wage for an agricultural worker now being one shilling and ten pence per week. In 1390, another national outbreak of the plague would occur that killed ten percent of the English population.[[23]](#footnote-23) Again, the laborers who survived demanded and received a wage increase while some moved about to find better pay. In 1400, 1411, 1433-35 there would be national outbreaks of the plague. In each of these instances agricultural laborers would demand and receive wage increases while some would move about to find the best wage offered. Moreover, restrictions on the movement of peasants were eased during this time, which allowed these peasants to secure better wages and to become freemen. These freeman would earn enough money to buy or lease pieces of land for farming with some becoming wealthy enough to employ farm workers. This group would come to form the yeomanry and would make up the English middle class during this time.[[24]](#footnote-24)

*Arable Land And Pastures*

 Over this time span the inclement weather of the Little Ice Age would continue to produce sporadic poor harvest of wheat. However, due to the plague intermittently reducing England’s population and the overall demand for wheat the price of this grain would not spike unless a harvest was deficient.[[25]](#footnote-25) Although the Little Ice Age would not continually affect the price of wheat during this time the weather system would have massive effects on the physical landscape of England. Several villages within England were deserted between 1430 and 1485 due to frequent cold winters and wretched summers reducing these areas to marginal arable land.[[26]](#footnote-26) Moreover, a traveler during this time visiting the Brecklands, an area in the Eastern part of England that thrived during the Medieval Optimum period, would remark that the area was a near desert and had sands like those in modern day Libya.[[27]](#footnote-27)

 The reaction to this phenomenon was that wheat growing only took place during this time frame on large scale manors with the best arable land, which were in Southern and Midlands England.[[28]](#footnote-28) Outside of these large manors the landed gentry converted their ploughland into pastures for the grazing of sheep. Sheep meat and wool were expensive luxury goods during this time and the rise in wages brought on by the Bubonic Plague increased the demand for these products. Moreover, large landowners during this time favored the raising of sheep since they required the supervision and employment of only one shepherd instead of the employment of many farmers needed to grow crops on arable land. Therefore, the landed gentry began enlarging their property by combining several farms into one and seizing the common land in order to raise sheep.[[29]](#footnote-29) Moreover, large landowners would buy up the leases of all the farms in small villages that were run by a leasehold system. When these leases ran out the large landowners would pull down all farm houses and convert all the arable land into pasture to raise sheep.[[30]](#footnote-30) These actions led to several small farmers complaining that large landowners leave “no grounds for tillage, thei enclose al into pastures, thei throw doune houses, thei plucke doune towns and leave nothing standynge”.[[31]](#footnote-31) Moreover, a conversation during this time was recorded between a doctor and a knight to whom the doctor asked “What maketh man to multiply pastures and Inclosures thus gladly”? The Knight’s reply was simply, “Marry, the profit that growth therebye”.[[32]](#footnote-32)

 From 1450 to 1520 wages for agricultural workers stagnated at four shillings per week. One reason for this stagnation would be the conversion of arable land to pastures, which lowered the demand for laborers on farms since pastures employed fewer people. This lowering in demand for agricultural laborers can be seen in the migration of these laborers to towns and cities for work in industrial trades, which began around 1507.[[33]](#footnote-33) Moreover, the growth in population that began in 1500 can be seen as a contributing factor in the long continuation of stagnating wages for agricultural laborers during this time.[[34]](#footnote-34) From around 1500 to around 1550 the Little Ice Age would wane, bringing about a temporary return to a warmer and more stable climate. This spate of favorable weather would allow wheat prices to mostly stabilize since harvests were continually good. Moreover, these stabilized wheat prices between 1500 to 1550 allowed for the English population to continually grow. The gentry reacting to this growth in population would enclose more land during this time in order to increase the food supply.[[35]](#footnote-35) This increase in enclosures and the stagnation of agricultural wages would provide more profits for the gentry during this time.

 The farming techniques employed on enclosed lands during this time began to switch. After converting marginal land to pastures at the end of the fifteenth century farmers began to notice that sheep’s manure made the soil of these marginal lands fertile. This observation led farmers to diversify by raising sheep and crops simultaneously on these lands. Farmers began placing their sheep in pens and folds on certain areas of these enclosed lands to graze. These sheep would stay in that area for four years during which they would make the land more fertile with their manure.[[36]](#footnote-36) After this four year period the farmer would move these pens to another section of the land and begin to grow crops on the section of land just vacated by the sheep. This diversification allowed these land owners to profit at all times since the price and profits from grains and sheep meat/wool rose inversely to each other.[[37]](#footnote-37) More specifically, when grain prices rose sheep meat/wool prices fell, and profit was to be made in the grain market. The reverse held true in the sheep meat/wool market; as sheep meat/wool prices rose grain prices fell, which meant more profit could be made in the meat/wool market. This led to the gentry being able to make profits both when there was a dearth in the harvests of crops and when these harvests were good.

 From 1550 to 1660 diversification through growing crops and raising sheep on enclosed land allowed the landed gentry to profit immensely. During this time the English population would continue to rise, which would lead to the steady increase in the price of wheat during this time. Moreover, wages for agricultural laborers increased during this time, though these increases would not keep up with the increase in grain and sheep prices. In addition, the main phase of the Little Ice Age would begin in 1550 bringing with it colder climates and unpredictable weather. This unpredictable weather would produce sporadic bad harvest that caused huge spikes in the price of wheat since demand for wheat remained high due to the continual growing of England’s population.

 In the 1660s two major changes would occur in the English economy. The first was that improvement in the efficiency in growing crops brought about successive abundant harvest, which caused the prices to drop and stay low. This turn of events led the House of Commons to ban grain importation in March of 1669 and place ceilings on grain importation while removing old export floor price restraints to allow these grains to be exported.[[38]](#footnote-38) The second change that occurred was that rents on land began to drop. This phenomenon took place due to English people emigrating to other parts of the world, which decreased England’s population. Moreover, the Great Plague of 1665 would help in depopulating the country. Two extremely hot summers contributed to the spread of this plague along with the great fire of September 1666 that burned down London.[[39]](#footnote-39) This trend of lower grain prices would continue into 1690 while enclosures would continue to increase throughout the countryside.

The Voice Of A Movement

 The effects the Little Ice Age had on the English economy and its physical landscape would contribute to reshaping social and economic relations in England. Through these processes laborers and peasants would move about freely looking for wages while large landowners would begin to rely strictly on wage labor for production. An ethos would begin to form within these two groups with one group’s ethos based around selling their labor while the other group’s ethos was based around buying this labor. This section will explore Locke’s political thought as being emblematic of this latter group through closely reading a section of his Second Treatise of Government. More specifically, this section will examine section twenty-eight within chapter five of Locke’s *Second Treatise of Government* in relation to processes that were present within the ethos of seventeenth century English society. Within section twenty-eight the famous line “the turfs my servant has cut” will receive the most attention.[[40]](#footnote-40) Viewing this section in relation to the processes ingrained within the ethos of seventeenth century English society will further elucidate how Locke’s political thought was emblematic of this revolutionary group. In addition, viewing this section in relation to the creation of social processes during this time will provide light on the role climate change played bringing about an ethos for property accumulation.

*“The Turfs My Servant Has Cut”*

 Locke begins section twenty-eight by building on his labor theory of property that began in section twenty-seven. Within this part of section twenty-eight Locke places labor as the distinguishing marker that makes property owned by individuals different from property held in common. This labor adds something more than nature to this property, which makes property added with an individual’s labor their private right.[[41]](#footnote-41) Thus, an individual has a right to the property they remove “out of the state nature leaves it in”, and the taking of this property does not depend on the consent of all commoners.[[42]](#footnote-42)

 Locke then outlines within this section the type of property an individual can remove from nature once their labor is mixed with it: the grass “my horse has bit, the turfs my servant has cut, and the ore I have digged”.[[43]](#footnote-43) Two of these three forms of property that Locke states are an individual’s private right have been generally accepted by scholars: the property an individual removes from nature and the property an individual’s animal removes from nature for sustenance. The third form of property Locke espouses an individual has a right to, the property removed from nature by an individual’s servant, has produced much literature with scholars trying to understand its rationale. Of these scholars, Macpherson nicely sums up what the phrase “the turfs my servant has cut” means by stating “to Locke, a man’s labor is so unquestionably his own property that he may freely sell it for wages”[[44]](#footnote-44) Moreover, to Macpherson this phrase shows that the bourgeois sees property as a right to enjoy, use, dispose of, exchange, or alienate.[[45]](#footnote-45) Thus, within the bourgeois milieu of this time labor was seen as property an individual owned and sold at will. In contrast, this individual’s labor can be purchased as property and used at the discretion of the buyer who also holds a right to the property produced by this labor during the time frame.

 The normalization of purchasing labor sold by an individual and keeping the property produced by this labor during the time it is in possession of the buyer can be seen as coming about through processes brought on by several different forces. The Little Ice Age and the Bubonic Plague would be one of the many driving forces behind the creation of these processes. As seen in the previous section Edward II would encourage the importation of grain as a measure to counteract the famine of 1315 that was brought on by inclement weather produced by the Little Ice Age. This policy of increased grain importation would continue throughout the 1320s and 1330s due to inclement weather continually causing poor harvest and famine. The continuation of this policy would continue over this time, which would help bring the Bubonic plague to the shores of England in 1348. The Bubonic plague of 1348 would last through 1350 decimating England’s population by killing roughly twenty-nine percent of English society by 1350. Surviving laborers and peasants of this time began to demand higher wages for their work while simultaneously demanding better accommodations from lords and large landowners. If these demands were not met laborers and peasants would leave these manors and search for a lord or large landowner who would. This same process would repeat itself in 1369 after an outbreak of the plague killed fifteen percent of the English population. Moreover, this process would again repeat itself in 1390 when an outbreak would kill ten percent of the population, and in 1400, 1411, and from 1433-35, which were all national outbreaks of the plague that killed a large portion of England’s population. During these outbreaks in the early 1400s restrictions on the movement of peasants were eased, which allowed these peasants to secure better wages and to become freemen. Some of these freemen would earn enough money to buy or lease pieces of land for farming with some becoming wealthy enough to employ farm workers.

 Around 1450 the landed gentry began to convert their lands into pastures to raise sheep for three reasons. The first was the inclement weather of the Little Ice Age altering the physical landscape of England by relegating most arable land to a marginal status. Second, the demand for sheep meat and wool during this time increased due to laborers receiving higher wages. Sheep meat and wool were considered luxury goods during this time and the rise in wages allowed commoners to consume more. Third, large landowners favored the raising of sheep since they required the supervision and employment of one shepherd instead of many laborers needed to grow crops. Since laborers and peasant wages had risen steadily from the introduction of the Bubonic Plague the employment of fewer laborers was one way these large landowners could cut cost.

 This shift from crop growing on arable land to pastures for sheep raising would cause the wages of agricultural workers to stagnate from 1450 to 1520. Moreover, in 1500 the weather would stabilize as the virulent weather of the Little Ice Age would wane, which would allow for continual good harvest to support the growth of England’s population. This increase in population would contribute to the stagnation of wages during this time as the supply of laborers would outpace demand. These effects would start a mass migration of agricultural laborers to towns and cities around 1507. Within these cities agricultural laborers would find demand for their labor in industrial trades.

 Farm techniques employed on enclosed land switched by 1550 due to farmers noticing that sheep’s manure made the soil of marginal land fertile. This observation would lead farmers to grow crops and raise sheep simultaneously, which would increase the demand for agricultural laborers in the countryside. This rise in demand for agricultural laborers would cause workers to migrate between cities and the countryside continually looking for employment. This process of laborers moving between cities and the countryside would continue into 1690, the year Locke published his *Two Treatises of Government*. Thus, by the time Locke wrote his *Two Treatises of Government* wage labor being sold by laborers as property and bought by large landowners who kept the property produced by this labor was ingrained as an ethos within English society. One of the many driving forces that shaped this ethos was climate change and the Bubonic Plague, which also shaped Locke’s views on wage labor in section twenty-eight of chapter five in his *Second Treatise of Government*.

Conclusion

 This paper has argued that climate change was one of the many driving factors that shaped John Locke’s views on property accumulation and wage labor. To make this argument this paper traced the effects the Little Ice Age and the Bubonic plague had on the English economy and the physical landscape of England. These effects on the English economy and physical landscape of England would combine with the Bubonic Plague to displace peasants and laborers from their feudal manors. These displaced peasants and laborers would move about the countryside of England looking for work or better wages. In addition, the landed gentry would react to the changes of the physical landscape of England by constantly reshaping farming techniques used on their land. This transformation of farming techniques would lead to the gradual reliance on wage labor by this group for production. All of this would combine to reshape the social landscape in England, which concededly shaped John Locke’s views on property.

1. Works within this strain of scholarship include C. B. Macpherson, “Locke on Capitalist’s Accumulation”, *Western Political Quarterly* 4, No. 4 (1951): 550-566; C. B. Macpherson, *The Political Theory of Possessive Individualism: Hobbes to Locke,* (Oxford, Oxford University Press, 1962); E. J. Hundert, “The Making of Homo Faber: John Locke between Ideology and History”, *Journal of The History of Ideas* 33, No. 1 (1972): 3-22; Joyce O. Appleby, *Economic Thought and Ideology in 17th Century England,* (Princeton, Princeton University Press, 1978); Neal Wood, *John Locke and Agrarian Capitalism,* (Berkeley, University of California Press, 1984); Karen Vaughn, “The Economic Background to Locke’s Two Treatise of Government” in *John Locke’s “Two Treatises of Government”: New Interpretations,* (Lawrence, University Press of Kansas, 1992); Ellen Meiksins Wood, *The Origins of Capitalism,* (New York, Monthly Review Press, 1999) [↑](#footnote-ref-1)
2. C. B. Macpherson, *The Political Theory of Possessive Individualism: Hobbes to Locke*, (Oxford, Oxford University Press, 1962): 197 [↑](#footnote-ref-2)
3. Patrick Kelly, ed., *Locke On Money, Two Volumes,* (Oxford, Clarendon Press, 1991): 39 [↑](#footnote-ref-3)
4. Credit for the name Little Ice Age is given to the glacial geologist François Matthes, who coined the term in his “Report of Committee on Glaciers 1939” at the twentieth annual American Geophysical Union Transactions meeting of 1939. [↑](#footnote-ref-4)
5. C. B. Macpherson, ed., *John Locke: Second Treatise of Government*, (Indianapolis, Hackett Publishing Co., 1980):20, 29. All proceeding citations of John Locke’s *Second Treatise of Government* will be by section number from this edition. [↑](#footnote-ref-5)
6. Hubert Lamb is credited with coining the term Medieval Warm Period in “The Early Medieval Warm Epoch and Its Sequel”, Plaeogeography, Palaeoclimatol, Palaeoecal., 1 (1965): 13-37. [↑](#footnote-ref-6)
7. Brian Fagan, *The Little Ice Age*, (New York, Basic Books, 2000): 7 [↑](#footnote-ref-7)
8. Ibid., 33 [↑](#footnote-ref-8)
9. Brian Fagan, *The Great Warming,* (New York, Bloomsbury Press, 2008): 32 [↑](#footnote-ref-9)
10. Mann, Michael E., “Little Ice Age” in *Encyclopedia of Global Environmental Change, Volume 1: The Earth System: Physical and Chemical Dimensions of Global Environmental Change*, (Chichester, Wiley, 2002) 504 [↑](#footnote-ref-10)
11. The price spikes and yields of wheat will be followed since it was the main staple of the English diet during this time. [↑](#footnote-ref-11)
12. William Chester Jordan, *The Great Famine: Northern Europe in the Early Fourteenth Century,* (Princeton, Princeton University Press, 1996): 52. Moreover, estimates for agricultural yields within this article come from either William Abel, *Agricultural Fluctuations in Europe from the Thirteenth to the Twentieth Centuries,* (New York, St. Martin’s Press, 1996); Alexander Apostolides, et al. “English Agricultural Output and Labour Productivity, 1250-1850: Some Preliminary Estimates” from the Reconstructing National Income of Britain and Holland, c. 1270/1500 to 1850 project; and Robert C. Allen, “English and Welsh Agriculture, 1300-1850: Output, Inputs, and Income”, 2005. [↑](#footnote-ref-12)
13. Jordan, *The Great Famine: Northern Europe in the Early Fourteenth Century,* 18 [↑](#footnote-ref-13)
14. Prices of wheat nationally come from Gregory Clark, “The Price History of English Agriculture, 1209-1914”, *Research in Economic History,* 22, 41-123. All prices from this article had to be converted into quarters of wheat (eight bushels equals one quarter of wheat). [↑](#footnote-ref-14)
15. Buchanan Sharp, “Royal Paternalism and the Moral Economy in the Reign of Edward II: The Response to the Great Famine”, *Economic History Review* 66, 2 (2013): 628 [↑](#footnote-ref-15)
16. Jordan, *The Great Famine: Northern Europe in the Early Fourteenth Century*, 137 [↑](#footnote-ref-16)
17. Phil Slavin, “On Dying Cattle, Starving Humans and Never Dying Money: The Great Cattle Plague in England and Wales, 1319-1327”, Yale Economic History Workshop (2208): 14 [↑](#footnote-ref-17)
18. Hubert Lamb, *Climate, History, and the Modern World,* (London, Routledge, 1982): 189 [↑](#footnote-ref-18)
19. Wilhelm Abel, *Agricultural Fluctuations in Europe from the Thirteenth to the Twentieth Centuries,* 45 [↑](#footnote-ref-19)
20. Agricultural laborer wages come from a dataset produced by Robert C. Allen of the Department of Economics at the University of Oxford. For this article pence are converted to shillings (12 pence = 1 shilling). [↑](#footnote-ref-20)
21. Phillip Ziegler, *The Black Death*, (New York, John Day Co., 1969): 190 [↑](#footnote-ref-21)
22. Robert Gottfried, *The Black Death: Natural and Human Disaster in Medieval Europe*, (New York, The Free Press, 1983): 131 [↑](#footnote-ref-22)
23. Ibid., 131 [↑](#footnote-ref-23)
24. Barnett Smith, *History of the English Parliament; Vol.1*, (London: Ward, Lock, Bowden and Co, 1892): 187 [↑](#footnote-ref-24)
25. Harvest deficient enough to cause a spike in the price of wheat occurred in 1362-64, 1390, and 1437-38. [↑](#footnote-ref-25)
26. Lamb, *Climate, History, and the Modern World*, 203 [↑](#footnote-ref-26)
27. Ibid., 356 [↑](#footnote-ref-27)
28. Ibid.,132 [↑](#footnote-ref-28)
29. Slicher Van Bath, *The Agrarian History of Western Europe: A.D. 500-1850,* (London: Edward Arnold, 1963): 164 [↑](#footnote-ref-29)
30. Ibid., 165 [↑](#footnote-ref-30)
31. Van Bath: 165 [↑](#footnote-ref-31)
32. Abel, *Agricultural Fluctuations in Europe from the Thirteenth to the Twentieth Centuries,* 90 [↑](#footnote-ref-32)
33. Fagan, *The Little Ice Age*, 84 [↑](#footnote-ref-33)
34. Population statistics come from Alexander Apostolides, et al. “English Agricultural Output and Labour Productivity, 1250-1850: Some Preliminary Estimates” in the Reconstructing National Income of Britain and Holland, c. 1270/1500 to 1850 project [↑](#footnote-ref-34)
35. Abel, *Agricultural Fluctuations in Europe from the Thirteenth to the Twentieth Centuries,* 114. The freeing of the gentry from the ecclesiastical condemnations of the Catholic Church through the reformation played the main role in this increase in enclosures. [↑](#footnote-ref-35)
36. Ibid., 115 [↑](#footnote-ref-36)
37. W. G. Hoskins, “Harvest Fluctuations and English Economic History, 1480-1619”, The Agricultural History Review 12, (1964): 35: Wilhelm Abel speaks of this same relationship between sheep products and corn in *Agricultural Fluctuations in Europe fro the Thirteenth to the Twentieth Century*, 114 [↑](#footnote-ref-37)
38. R. B. Outhwaite, “Dearth and Government Intervention in the English Grain Markets, 1590-1700”, *The Economic History Review* 34, No. 3 (1981): 392 [↑](#footnote-ref-38)
39. Gordon Manley, “Central England Temperatures: Monthly Means 1659 to 1973”, *Quarterly J. of the Royal Meteorological Society* 100, (1974): 394 [↑](#footnote-ref-39)
40. Locke, *Second Treatise of Government,* section 28 [↑](#footnote-ref-40)
41. Ibid., section 28 [↑](#footnote-ref-41)
42. Ibid., section 28 [↑](#footnote-ref-42)
43. Ibid, section 28 [↑](#footnote-ref-43)
44. Macpherson, *The Political Theory of Possessive Individualism: Hobbes to Locke, 115* [↑](#footnote-ref-44)
45. Ibid., 115 [↑](#footnote-ref-45)