

The Fields our Fathers Plowed:

Thwarted Change in the Development of a Professionalized Concept of Agriculture at the start of the Early Modern Period

By Elisabeth Yazdzik

Introduction: Agricultural Stereotypes and Agrarian Advice Manuals

The history of agriculture is one of the least studied and most important fields of history. Though the rising trend to social history has moved the historian away from dates and battles and into a more complex understanding of the daily lives of our ancestors, it has yet to stray very far into the fields, forests, streams and ponds which nourished them. As much myth as fact seems to lace our understanding of agrarian history. Economics mingles little with social science, archeology and engineering shy from old manuscripts, and linguistics weakly ties only disparate facts together. Yet despite this, the information is out there, vital, critical, especially now, as new interest in agriculture and a return to the land surfaces. Part of the issue with agrarian history is that events might have played out differently. Throughout history, many occupations eventually became professions. Farming never truly did. This paper seeks to examine the failed professionalization of agriculture, and to trace its roots to the drastic changes which were occurring in at the end of the Medieval era. At its core, the failure of agriculture to

professionalize lay in the conflict between two forces: the conservative body of peasant farmers striving to maintain a livelihood from the soil, and the body of early agrarian theorists, gentleman farmers whose freedom to write and innovate was the fruit of peasant labor. The key to understanding this conflict lies in the examination early Modern agrarian advice manuals.

Within the roots of Western European agrarian history, one sees the troubles and questions which even now dog the heels of modern society. Everyone eats, and historically, almost everyone has been somehow involved in the food production process. The transition to the modern era from the world of the ancients is a complex and fascinating one. Many modern attitudes towards agriculture, farmers, and the land date back centuries, to society's transition into modernity.

As western society transitions into a post-industrial age, it is invaluable to look back before the Industrial Revolution, to that murky and indistinct time known for various reasons and in various locales as the late Middle Ages, the Renaissance, or the beginning of the early modern period. During that span of several hundred years from the beginning of the fourteenth century and onwards into the beginnings of the sixteenth century, major societal changes occurred which led to the development of modern perceptions on agriculture.

Economic realities meant occupation outside the ancestral village was becoming more common. Growing cities, increased Guild regulation and the new availability of printed media, and thus, trade manuals, led to an increasing importance of the professional. Agriculture remained fast in its perception as stodgy: the work of the uneducated, ignorant, even savage man.

The reasons behind that negative perception of farmers and farming are many and complex. To fully understand both how and why such perceptions developed, one must understand the major transitions agriculture underwent through the late Middle Ages and into the early modern period. To understand that is to understand the history of that seldom understood ninety percent of humanity from whom we all descend; it is to understand the history of Western Europe at its most basic level.

For the sake of records, time, and coherency, this paper will focus on England, but will occasionally draw on other European countries when necessary. It is important to remember that throughout Europe at this point in history, nobility had more in common with those of their own social status than with peasantry of their own nationality. The same can be said of the peasantry, with some reservation. However, it is equally critical to understand that the economies of varying European countries differed widely. Lastly, when considering agrarian history, one is inevitably studying the landscape itself, which differed not only nationally but from county to county, village to village, field to forest to meadow. Therefore, the label “English agrarian history” is unfortunately as incorrect as it is necessary.

“Today, at the beginning of the third millennium, agriculture employs only 2 per cent of the United Kingdom's workforce and contributes less than .1 per cent to the national income....In the middle ages it was otherwise. Then, agriculture dominated the economy. At least three-quarters of England's national income came from agriculture.”¹. Most of the English population was rural, and most of the rural population was engaged in agricultural labor.

The history of agriculture is the history of technological innovation and its

1 Reginald Lennard, *A Social History of England, 1200-1500* p.179

implementation which slowly, slowly expanded the number of individuals who did not produce food relative to those who did. The Green Revolution of the 1970s which led to fewer than five percent of the population being required to engage in food production was radical. Most agricultural changes have happened slowly, yielding minor but significant increases in productivity. The significant benefits brought about by technological advances from the development of the heavy plow to that of the three-field rotation system should not be underestimated by modern eyes accustomed to radical and extreme results.

Even minor advances in how much of a population a given piece of land would sustain impacted greatly the culture and history of that land. For instance, the three field rotation system which developed in the 8th century saw an increase in agricultural productivity of one third. This new system was so significant Charlemagne actually rearranged the names of the months of the year in honor of when new harvests were now occurring. Further changes in the 12th century saw an increase in productivity of 50 percent over the old two field rotation system, resulting in yet denser populations and a greater ability to support urban centers. ²

Of great importance to technological and intellectual progress is whether, and how, that progress spreads. The fifteenth century saw a proliferation of new agricultural manuals as well as a revival of the classics such as Collumella's *De Re Rustica*. A continued debate among historians exists. It has been supposed that very few individuals had access to the limited editions of these books. Indeed, according to one group of historians overall literacy at the time was extraordinary low, with under ten percent of

2 Lynn White, *Medieval Technology and Social Change*. p.72

adult Europeans being able to sign their own name³. As social structures changed and peasants become more responsible for the direct farming of their own lands,⁴ it would have been critical not just that some in society were literate, but that the peasantry themselves who would implement the advice garnered from books be able to read. Sadly, peasant literacy rates of the time were estimated to be even lower. .

The other side of the debate, of course, holds that literacy levels across the general population were somewhat higher. Barbara Hannawalt estimates that 40 percent of Londoners read Latin, with over 50 percent literacy in the vernacular.⁵ Furthermore, this argument contends that regardless of literacy levels, the information contained within books was reasonably well circulated, if only in oral form. From the perspective of addressing whether agrarian science was widely disseminated, it is safe to say, from the tone of many advice manuals, that they were not intended primarily for a peasant audience, but, that it is my belief that the practical information contained therein was intended to be put into practice.

Almost all agrarian advice manuals of the day begin with an injunction to the general farmer and contain some advice on managing servants. Nonetheless, the advice within is practical enough it could easily be remembered and taught to the very individuals (bailifs, reeves, and yeoman) who are the servants the manuals reference. From there it follows that the general peasantry would come by the knowledge as well.

Regardless, agrarian practices did change over time, and new technologies were disseminated orally. Linguistic evidence from the spread of the heavy plow testifies to

3 Robert C. Allen *Progress and Poverty in Early Modern Europe* p.3

4 HPR Finberg, *The Agrarian History of England and Wales IV 1500-1640*.

5 Barbara Hannawalt *Growing up in Medieval London* p.82

this fact.⁶ Word of mouth was not so efficient a means of sharing data as the printed word, and those who overstate the literacy of the time period do a disservice to those who, without literacy skills, managed to acquire and implement new knowledge, but to assume a total divorce of the peasantry from the knowledge contained within written documents is likewise foolish.

Nonetheless, one of the difficulties lay in the fact that these documents were becoming increasingly scientific and that a disparity existed between those who possessed and understood the information and those who, in theory, would have benefited from employing it. Early works such as Walter of Henley's *Husbandry* (written in the 13th century) were simple in tone and easy to understand. A trend existed towards a more formalized, scientific style with florid and elaborate prose, such as that found in Conrad Heresbach's *Fovre Books* (written in the 16th century).

Another dilemma arose due to the nature of the manuals themselves. The Renaissance was marked by a return to, and a reverence towards, classical learning and text. Conrad Heresbach's *Fovre Books* addresses this in its epistle to the reader. "You have set down before you, not only the rules and practices of the ancient husbandes, as well Greeks as Latines, whose very orders (for the most part) at this day we observe, and from whom (if we confide the truth we have borrowed the best knowledge and skill, that our skill husbandes have: but also have coyned herewithall, the experience and husbandry of our owne husbandes, as farre as eyther mine owne observations, or the experience of sundry my frendes would suffer me."⁷

But by the Late Renaissance when the scientific revolution was truly taking off, a

6 Lynne White

7 Conrad Heresbach, *Fovre bookes of husbandry* p.i

conception of the knowledge of the ancients as incomplete or, even, heaven forbid, as wrong, was growing. The printing press was introduced in England in 1473, coincidentally the year of Copernicus' birth. Sixty years later, 1543 marked the advent of the scientific revolution, generally held by modern thinkers to be so as it was the date of publication for Copernicus' *De revolutionibus orbium coelestium*. Essentially, by the time printed material had come into common circulation, so had a radically different conception of the universe and the role of ancient knowledge.

This leads us to the following paradox. The high value of having a secondary landholding in the country advocated by the ancients was one of the chief reasons cited by many period agricultural manuals for a return to the land. The possession of a country estate offered relief from the stress, decadence, and politics of the city. It was a place to escape among nature, to busy oneself with the wholesome rhythms of agriculture. John Fitzherbert writes: "the fore-said *Columella* affirmeth, that in elder times, the Romaine Rules of Citties abode in the fields,& when any publique counsell was to be held for any place, then they were sent for, to their Farmes and Places of husbandry. *Cato* affirmeth, that the strongest and most able souldiers, and of best minddes, intending least mischief, are fetcht from tillage and fields: and that in his time, men never helde more commended or graced, then in being termed a good Colonus: that is, a good tillar or Husbandman."⁸

Urban life for contemporary nobles was undoubtedly harsh. The political dramas of the time by playwrights such as Ben Jonson reflect this. Often deadly games for inheritance and power were the outgrowth of the more direct violence of the feudal system. A country estate was a soothing balm to the harried urban noble. But the esteem in which the ancients held such an estate, an esteem touted in agrarian manual after

8 John Fitzherbert, *Booke of husbandrie*, epistle A4

agrarian manual, might have rendered it as much a relic of the past as an advisable undertaking. By seeking to elevate the agrarian lifestyle to a position of ancient honor, writers were also, unconsciously, continued to depict agrarian enterprises as outmoded and quaint.

Period perceptions held the countryside to be rough and uncouth. The early modern agrarian writer had to overcome that perception, but the tools he was working with—the high esteem of the countryside in the eyes of the ancients—were already blunted by the questioning mind of the Renaissance. Speaking of the ancients, Conrad Heresbach wrote “The only gentlemanly way of increasing the house is the trade of husbandry; and for this cause they were always accounted the perfect Gentlemen, that, content with the living their ancestors left them, lived in the country of their landes, not meddling with agging, chopping, and changing, nor seeking their living by handycraftes.”⁹ In writing so, he highlights the contrast between the supposed veneration the ancients had for gentleman farming, and the tendency of his own time to live in the city and seek one's living with handicraft or by other means. Furthermore, he demeans those who actually do the hard physical labor entailed in farming.

The cultural biases against agriculture proliferate in the writings of the period. The medieval separation of societies into estates was slow in changing. Increasing urbanification led to a diversification of society where new professions shifted and stretched the strict boundaries of the old system. Still, those who fought, those who prayed, and those who worked were miles apart in terms of how they were perceived socially.

Writers and thinkers of the new humanistic tradition were quick to point out that

⁹ Heresbach, p. 6

though the peasant might be rough, brutish, and dumb, his potential as an intellectual equal to the nobility was no less. It was simply a matter of education and upbringing. The flip side of this recognition of potential was the statement that, since they were not educated, peasants were rough, brutish, and dumb. "...look at men who farm the flatlands or who live in the mountains. You will find that in many countries they seem completely savage because they are so simple-minded. All the same, there is no doubt that Nature provided them with the qualities of body and mind found in the wisest and most learned men."¹⁰

It becomes clear that affording social esteem to agriculture was, and has always been, an uphill battle. And even if gentleman farming had its advocates, those whose very hands tilled the soil were the continued subject to poor perception. Due to the poor reputation of those who practiced it, agriculture itself had a poor reputation. And thus the most vital and necessary function within human society-the production of food-was reduced to the lowest occupation to which an individual could apply himself.

The rationale for the proponents of gentlemen farming might have been weak, and the ultimate fate of the cultural perception of agriculture poor. Nonetheless there did seem to exist a market for agrarian writings, judging, not least, by the sheer number of agricultural manuals dating from the early modern period. Gervase Markham, for instance, was a prolific writer on such subjects. His many books cover a wide variety of subjects, including husbandry in general, and in his book, *The Compleat Horseman*, horsemanship in particular. They are interesting for a variety of reasons. Most importantly, their target audience ranges from the bourgeois who might be new to landholding and farming to nobility seeking advice on the finer points of horsemanship to

10 Christine de Pisan, *The Book of the City of Ladies*, p.255

commoners and their draught animals.

This breadth of audience is significant. It implies that those of lower social station would have access to the information contained within his volumes. It also assumes that they would seek out, and effectively utilize, that information. Many economic volumes have been written which seek to discover the efficiency/rationality of farmers in the medieval and early modern period. This essentially bypasses the main question, which is whether farmers of the time were thought, by themselves and their contemporaries, to be capable of developing their holdings meaningfully and to the best of their abilities. Authors such as Gervase Markham certainly gave them the benefit of the doubt.

This brings one back to the matter of scientific versus general information. Even if general information was available to the common farmer, the increasingly scientific data would have been less and less useful to him. Furthermore, much of the agrarian information in use at the time was not “scientific” in the modern sense. Agricultural manuals are full of admonishments which might seem ludicrous nowadays: Palladius' advice on how to deal with hail, for instance. “Yit efte for hail a crodilles hide, a see calf skynne, or of a lyonesse. Bere uppe aboute thi lande on evry side, And whenne thou dredest hail or hevyness Lete honge it in thi yates or ingress.”¹¹ That makes it no less valuable or less true to the mind of the time. Silly as it might seem, one finds this in among very practical advice on how to manage servants or store seed.

Economic texts ask ceaselessly if the medieval farmer was in fact rational, assuming, of course, that his supposed backwardness and ignorance calls his very sensibility into doubt. Such questions will not serve the reader of this paper. The medieval farmer was as rational and irrational as his modern counterpart. He was both

11 Barton Lodge *Palladius on Husbandrie*: p.35

superstitious and religious, as most of humanity still is, much as academia would deny so. He was conservative, wise in some ways and foolish in others, and ultimately clearly invested in maximizing what his land could yield as best as he knew how. His survival and the survival of his kin depended on it. And it was the failure of agrarian professionalization which maintained society's perception of him as ignorant, not, as we shall see, his ignorance which prevented the professionalization of agriculture.

The Importance of Landscape and Landholdings

Having spoken so much about that hypothetical medieval farmer, one wonders who in fact he was. In the modern sense, a farmer is one who owns a farm on which he grows some natural commodity, typically for the market. This is one of the ways in which farmer *has* become its own distinct profession. However, that particular facet of agrarian professionalization does not trace its roots back to the early modern period.

English peasants typically did not own the land they worked. Society was loosely divided into three estates: those who worked, those who fought, and those who prayed. A merchant class was also developing and growing more powerful, especially as the middle ages drew to a close. This estate system ignores not only the merchant class but women and various other fringe groups, as scholars have been quick to point out. Nonetheless, it provides a useful, if overly general, framework for understanding society from the medieval perspective. The important fact to remember is that society was unevenly divided, with most individuals occupying the third estate, and most land ownership being

concentrated in the first and second estates (the clergy and nobility, respectively).

When considering the professionalization of agriculture, it was a top down phenomenon in which academics of the first two estates sought to professionalize and standardize the conduct of the last and largest estate while at the same time seeking to maintain their own social hegemony over the poor peasantry by keeping that peasantry weak and divided. This will become readily apparent with the discussion of the Peasant's Revolt.

As to the land holdings themselves, they were as diverse as the people who owned them. Large manorial estates have left the best records, which tends to skew modern perceptions of medieval estates, but they were nonetheless significant. These consisted of large estates with one or more adjoining villages under the control of the powerful lord, who might own similar property throughout England. Each of his estates would have operated independently, however, as its own jurisdiction. The land belonging to an estate might not necessarily be contiguous. It contained the manor house and the demesne, the part of land belonging to the lord for his personal use and farmed by peasants attached to his estate. Individual plots rented from the lord to a peasant and his family, common land and wilderness, and the village itself, rounded out such an estate.

Earlier, large estates had operated using feudal courts, but by the time of the late middle ages, the rule of the crown applied throughout most of England and feudal courts were by most counts obsolete. Though the justice system was becoming more standard and professional, then, land ownership itself was in flux. Instability of the system and the newness of land ownership for many landholders no doubt contributed to the failure of agriculture to professionalize.

Smaller manorial estates belonging to minor nobility and newly-landed members of the merchant class typically resembled larger manorial estates save for their smaller scale, their lack of feudal court, and the more intimate relationship between the lord and his tenants. Unlike the wealthiest of lords who might have as many as thirty or more different properties, these lesser nobility developed a much tighter connection to their land and those who farmed it. They would know their tenants by name and would feast with them during holidays. The system, while certainly exploitative of the peasantry, was not typically blind to the difficulties of their existence or the very real human suffering they experienced.¹²

These small estates were by far more common than their larger counterparts but less likely to survive in historical record. The agrarian manuals of the late middle ages seem geared for small property owners, with their injunctions that landowners be able to survey their lands, know their servants, etc. Had agrarian labor truly gained its due, small landholders would have seen a further shift in the tenuous power balance, one which was already being felt due to the economic realities sweeping the land in the 14th century. Thus, perhaps, the continued insistence on the ignorance, brutishness, etc., of the peasantry and the repeated condemnation of the actual work of farming. And so one finds one more key as to why agriculture never fully professionalized: the inherent conflicts in the desire of upper middle class, small-scale landholders.

The other large property holder in England at this time was the church. Monastic estates constituted the third big category of landholdings. Monasteries were by design poor but had accumulated a variety of wealth from bequests. In their inception they had been farmed by the monks who lived within them. Manual labor carried with it at least

12 Reginald Lennard

some of the honest and humble connotations it retains to this day. Chaucer's Nun's Priest is an excellent example of the popular culture image of the honest, fit, country lad as moral figure. But even salvation simply was not a sufficient incentive to engage in difficult work. With their growing wealth, monasteries turned to peasants to farm their lands, so that the monks themselves might spend their time in religious and intellectual pursuits more pleasing to God.

By the time the 14th century had rolled around hiring labor on monastic estates was the norm. The moral ideology serving as incentive to farm had vanished, with cultural value system continue to blatantly favor intellectual pursuits as more spiritual than physical labors. Agrarian manuals paid lip service to the virtue of farming, but one need only examine the spiritual elite of the day, the members of monastic orders, to see how that held up in practice. The protestant reformation in England seemed to affect farmers little. A veneration of poverty and hard work continued in theory, espoused by intellectuals removed from the drudgery of tilling the soil.

As to those who who worked monastic lands, whether their lot was better or worse than those on secular lands is a matter of debate. Certainly, the surviving diary of the 15th century Tuscan peasant Benedetto del Massarizia shows the church was not wholly pure in its business ethics: the Friars of Lecetto did everything in their power to prevent the peasant from returning a fallow, costly piece of land to the that they had granted him lifetime usage over. When they lost the case, measures were put in place to assure they actually paid their large legal settlement to him.¹³ One can assume that friars everywhere, even in England, were not above such pettiness.

These three types of estate, with their inherent political and class tensions, existed

13 Duccio Balestracci *The Renaissance in the Fields*, p.45-50

all over England. They encompassed marsh lands, meadows, fields, and forest. Land had come into fairly heavy usage during the 13th century, due to population expansion, but two centuries later entire villages had vanished from the map, not to return until the beginning of the modern period. What was most important to understanding changes in agrarian practice, perception, and ultimately professionalization was the thoroughness with which the land was used.

Two conflicting forces shaped land use patterns. Population density was the first such force. Intense population expansion entails increasing productivity but also entails a commensurate increase in available labor. Certainly technological advance assisted in feeding a larger population. The advent of the heavy plow and three crop rotation *both* preceded the population growth of the 12th and 13th centuries. But the major social changes which characterized the 15th and 16th centuries were the product of the second force governing land use: available labor.

In theory, available labor should correlate to population density. After all, the size of the population which needs to eat should be relative to the size of the population available to produce food. There are several factors, however, which must mitigate that assumption. These factors combined, at the tail end of the Middle Ages, in a way which could fundamentally have improved the status of agriculture. Could have, and did not.

1348 saw the outbreak of Bubonic plague in England. The effects on society were devastating, with anywhere between %30-40 of the population (sources vary on the exact number).¹⁴ While the disease hit hardest in closely packed urban areas, which had always suffered higher mortality rates than the countryside and depended on the country to maintain their population, the impact of plague on the countryside cannot be

14 <http://www.britainexpress.com/History/medieval/black-death.htm>

underestimated. Livestock wandered loose and crops withered in the fields as there was nobody to harvest them. This devastation came on the tail of particularly bad harvests and famines which had decimated England in the 1320s. Famine had hit poor country folk hardest, as the joint economic powers of larger urban areas bought up what little grain there was.

When England began to recover shakily from the Plague in 1350, the economic picture had shifted. “Demand peaked early in the fourteenth century. This was when medieval agriculture was at fullest stretch and pressure upon the land was at its greatest. Never again would so many people be so exclusively dependent upon domestic agriculture for their daily needs and for their employment.”¹⁵ Those who survived the Plague had more available resources. They could demand more for their labor, as workers were in short supply, and so disposable income increased. This pushed demand for consumer goods up.

People in post-plague England, even those from the lowest social stratas, lived and ate much better than their ancestors just a generation before. More people could afford animal products in their diets, and consumption of meat and dairy increased. As the labor force was small, as people demanded more consumer goods, and as empty jobs in lucrative professions beckoned, the value of agrarian labor increased. Plowmen saw unimaginable opportunities for economic advancement.

Unfortunately, the Statute of Labors passed in 1351 regulated wages at pre-plague prices. This was immensely unpopular and contributed to the peasant's revolt of 1381, among other peasant uprisings. Nonetheless, though weakly enforced, the Statute held, artificially depressing wages for workers and no doubt contributing to the notion that

15 Reginald Lennard p.183

farmers were artificially and unfairly underpaid for their efforts. It is not difficult to imagine that this confluence of events strongly influenced the mass immigration to urban areas and the rise in power of the artisan's guilds characteristic of the 15th century.

Artisans, handcraftsmen, reaped the benefit of professionalization as the value agriculture was artificially suppressed, this time in an economic rather than in intellectual manner.

The short term outcome, however, was that there was no shortage of arable land to feed the diminished population of the 14th century. The shortage of labor was the issue, and the solution lay in finding ways to increase crop yield and also ease the difficulties in production, rather than in increasing the amount of land under cultivation. Thus, one sees how two different populations, each with difficulties in their food supply system, required two separate solutions in order to sustainably feed themselves.

Let us examine more fully land cultivation in the first situation, that of explosive population growth, in order to understand not only 15th century attitudes towards agrarian matters but where they came from and by what process of change they had developed. Let us examine, in short, the English countryside in the 12th century, as it was responding to a growing, and hungry, population. Much of the information remained unchanged into the start of the Early Modern period. It is important to remember, however, simply that population density had decreased and with it, some of the more resource intensive features of cultivation.

The British landscape was and continues to be a diverse one. Up north, it was cold and not terribly productive as arable land, but better suited as pasture for large herds of sheep and cattle. Down south, grain was grown much more intensely. These are broad generalizations and the relationships between different villages even in the same county

meant that one village might breed livestock and another grow the grain to feed them, with trade serving to create balance on a larger regional level.

Much of the English landscape throughout this time period was wilderness of the sort unthinkable to a modern visitor of England. The centuries following the Norman invasion saw more intensive cultivation of the land and small inroads into the wilderness, but it is worthwhile to bear in mind that the common peasant lived in a village and its lands, surrounded by a sea of truly wild and untamed land.

Arable land had never predominated the English economy. Furthermore, a great deal of arable land was not under cultivation at any given time. After the development of the three-crop rotation system, only half to two thirds of all arable land was in crop production each year¹⁶. However, productive land was not confined to arable land. Marshes and bogs served as important sources for peat, a fuel. Sandy shorelines offered the perfect locale for commercial rabbit warrens. Pasture and meadow were valuable as grazing land; meadows had the additional advantage of being able to be harvested for hay to feed livestock over the winter months. Forrest, too, were productive. Though strictly regulated regarding who was entitled to hunt in them, they did provide wild game for the nobility, and another source for fodder for livestock, which ate acorns and the underbrush, but most importantly, they provided timber and fuel.

During the growth of the 12th century timber harvests had to be strictly controlled but by the 15th century forests had once again begun to flourish. One last major chronological change to note involves succession. As depopulated villages were abandoned and unneeded tillage returned to fields, the landscape quickly reverted to wilderness. Grass crept over villages; fields turned to forest. The English landscape was

16 Reginald Lennard, p.184

ever changing to meet the needs of those who took their subsistence from it, but also because nature is never static. One of the best reminders comes from the Manor of Wisbech, which during the 150 years of records which survive saw significant parts of the estate actually become submerged underwater, altering the lifestyle and expectations of those who farmed it¹⁷.

Far from the same field plowed diligently by the same peasant family under the same peasant lord since time immemorial, the English landscape was a vibrant assortment of terrains, farm types, village arrangements, and cultivation techniques, all constantly changing, responding to the social and economic forces at work. The landed estates varied greatly in character, and they were subject to change, given patterns of heredity. Even serfdom, that most disconcerting of medieval establishments (particularly to the modern mind), was changing, such that by late high middle ages the peasant families were no more constant to one plot of land than the land itself was constant.

There were ample opportunities for attitudes on agriculture to change, then. Especially as land use de-intensified, more economic value would have been placed on pasture and tillage specifically. In every facet of English agrarian history from this period, it is evident that the reputation of agriculture and agrarian knowledge and its value should and could have improved over time, peaking at the start of the Early Modern Period. Only the mitigating social factors, both political and cultural, visibly embodied in the writings of authors of the agrarian manuals, served to stymie that improvement in value, that genuine professionalization of the craft of farming. Having discussed the land itself, let us now delve deeper into those social factors, by looking closely at those who inhabited and worked it.

17 David Stone *Decision-Making in Medieval Agriculture*

Social Structure: Plowmen, Noblemen, Villeins and Serfs

Medieval society was rigidly hierarchical. It operated on the basis of a belief in an ordered universe, with God at the top, followed by the angels, Man, and then beasts. Within each strata there existed further subdivisions. Even as this notion of a rigidly ordered universe was starting to come undone as early science altered fundamental conceptual realities, it remained a useful framework for understanding societal structure.

Also crucial to understanding society is an understanding of the hardships faced by the medieval peasant. They operated at the bottom rung of that highly hierarchical society. As the medieval era came to a close, more peasants were directly responsible for the management and betterment of their own small holdings. Throughout the Medieval and into the Early Modern era, they had been responsible for their own survival, regardless of whether they owned the land they farmed or not.

Farming was a subsistence game, with the population locked firmly into the Malthusian cycle. Technology was such that even good harvests did not provide a significant surplus, and that storing surplus itself was problematic. Economics and politics were such that the people who grew food were the last to have access to it when times grew tough.

To understand why agriculture did not professionalize requires that one internalize the deeply conservative mindset of the farmers themselves. When one operates on a narrow margin of survival, making the wrong choice can lead to death for one's family and oneself. Agricultural theorists had the luxury of being, typically, wealthy

suburbanites sheltered by virtue of their place in society from the worst effects of famine and agricultural failure. Agricultural practitioners made that possible, but they themselves lived precarious and short lives. An enormous schism existed between the minds of those two individuals.

As already mentioned, the three estates were fundamental to understanding the medieval social mindset. Within each of these estates, there existed different roles and positions for those who were invested in the production of foodstuffs.

Landlords, from the first two estates, were responsible in the loosest sense for overseeing farm production. To be a landlord was to make financial decisions, from which lands to purchase, to how to administrate them. The old role of the feudal lord had also been to hold court and mediate disputes among his tenants, but this was becoming increasingly obsolete. As times changed, he was instead supposed to be more directly involved with the actual knowledge of what was being produced. No longer an absent warlord, he was supposed to peruse his estate and to possess detailed knowledge of soil types, animal breeds, horsemanship, and the intricacies of raising a variety of crops and livestock. And yet, he never dirtied his hands himself except in activities such as horsemanship, which was not only fitting for a gentleman but necessary.

Gervase Markham implores that “...the true Horse-rider shall not only re-create himself by riding the Horses whom others have made perfect, but shall by his own practice bring his Horse from utter ignorance to the best skill that can be desired in his motions.”¹⁸ True horsemanship, though dangerous and dirty, required *not* doling out tasks to the groom. The high end of the horse industry continues even today to be the realm of the wealthy, carrying with it not only an exorbitant price tag for participation but

¹⁸ Gervase Markham, *Compleat Horseman...* p.15

connotations of prestige and gentility, offering further proof that the value assigned to agrarian pursuits is defined in large part by society. Fancy horses have no practical place in modern society; crops and livestock have always and will always have practical value. The tendency to examine pre-modern agrarian history from a purely economic perspective, while tempting, thus bypasses the necessary consideration of crucial social factors.

Horsemanship in the Early Modern period hearkened back to the glory days of a chivalric system which never truly existed as it was idealized. And given the importance of food production to the national strength, overseeing agricultural production also accorded some measure of social import. “In most ages there is some body of men to whom their countrymen look with pride as representing in a special degree the strength and virtues of the nation. In the sixteenth century that class consisted of the substantial yeoman...The genius of England is a rural divinity and does not yet rule the waves; but the English yeomen have 'in time past made all France afraid'.”¹⁹

Actually tilling the soil, however, recalled only the nameless masses of serf laborers huddled together for feudal protection, not even free to determine where and how they would work day to day. No Early Modern farmer, whether weakened old nobility, a newly landed member of a growing commercial class, or the recently free, economically empowered peasant, would have been ignorant of those connotations. In fact, some historians argue that while villeinage disappeared in name, its social legacy continued on with hired laborers. “Villeinage disappeared in England...not for the ethical reasons given by Fitzherbert and Smoth and Norden but because the growth of a commercial commercial organisation of agriculture had made its maintenance both

19 R. H. Tawney, *The Agrarian Problem in the Sixteenth Century* p.20

useless and impossible...With the substitution of hired labour for the cultivation of the desmene by the service of bond tenants...Villeinage ceases but the Poor Laws begin.”²⁰

The social structure of the day provided farmers with ready access to servant manpower in the form of young men who had yet to establish themselves economically. The economic difficulties of the 15th and 16th centuries saw reduced possibilities for young men in apprenticeships. But an apprenticeship, at least, afforded the possibility of advancement with the official recognition of skill that progression to journeyman, and perhaps eventually master, status conferred. Servants in agriculture had no similar markers of progress.

Those who physically worked the soil were at the bottom of a long-established cultural hierarchy. And the very nature of farm work precluded a system which recognized and rewarded individual success. Agricultural labor is by nature egalitarian, with the natural world serving as the great leveler. Diligence, hard labor, and knowledge are vital, but so are good weather and luck. With craftsmen, master and apprentice shared similar class backgrounds. Likewise clerks, physicians, doctors. Those engaged in the various facets of agricultural production literally came from everywhere on the economic social spectrum.

Coalescing farming into a profession would have required that a young peasant day laborer have, as did all youth beginning professional careers, at least an opportunity to achieve success at the top of a career. In theory, that would have been managing the production of a huge landed estate. Conversely, the best management of an estate would first necessitate intimate knowledge with the craft of farming.

The cultural associations of physical farm labor, the ready supply of available

²⁰ Ibid p.46

young servants, and the chasmic gulf between those operating at the highest level of agrarian production and those operating at the lowest rendered the catch-all term “farmer” an impossible anachronism. Agricultural manuals illustrate clearly that divide they lack the vocabulary to explain. As much virtue as they saw in a gentlemanly interest in the betterment of one's holdings, they disdained a physical participation in tasks historically belonging to those of the lowest orders, even while elevating and exalting hands-on labor in culturally prestigious but no less difficult, dangerous tasks such as hawking or horsemanship. The ordered economic hierarchy of the middle ages might be vanishing rapidly, but the cultural associations survived, particularly in the socially conservative rural world of agriculture.

Let us continue down that economic hierarchy, continue to examine in which facets it changed and in which it stayed consistent. The failed professionalization of agriculture, as we have seen, owed as much to realities of the medieval past as to the unrealized potential which the transition might have afforded.

Larger landholders in the medieval era typically doled out their responsibilities to a reeve. The word reeve can refer to a variety of elected officials imbued with legal power, and the shire-reeve is the origin of the modern word sherrif. But on on a local scale, the reeve was the appointed official who saw to it that peasants worked when and where they were supposed to, that tithes were paid, that goods were bought and sold, that the running of the land continued while the master was away. In essence, he was the overseer, the link between the authoritative, intellectual power needed to produce any agricultural commodity and the physical labor of production.

Below these authorities came the yeoman, the freeholder, and the serf or villein.

Yeomen were wealthy small farmers, often landholders in their own right. Freeholders were free men who lived and worked their land, essentially as sharecroppers.

Serfs, or villeins, were the majority of men in early medieval England, but the peasant's revolt of 1381 marked the beginning of the end of English serfdom. Serfs were bound to the land they worked, transferring ownership when the land changed hands. Freeholders were generally given a specific appointment of duties. Bondsmen, on the other hand, were more generally subject to the whims of the lord. Serfdom lasted longest on the “ancient estates” of the crown and the large monastic estates, so it is somewhat overrepresented in modern considerations of the period, but it was generally on the outs by the 14th century.

In each household, there were also agricultural servants. The medieval family was very different from the modern family in that it did not distinguish between the modern nuclear family and the household at large. “Family” referred to mother, father, children, and any live-in servants who would have been common in households at any economic level. Most adolescents operated as servants or laborers for some portion of their life. Servants referred to live in help. Laborer referred to help who worked on a temporary basis, typically for terms less than a year, and who did not live with the family.

As the father oversaw his servants and laborers, and the reeve or master oversaw the peasants, so the village leadership oversaw the management of communally farmed lands. Peasants had greater incentive to work hard on their own rented lands, but of course there were those who were poor stewards even of their own holdings. Human nature is such that after the breakdown of the feudal courts, village leaders were always chastising those who were idle in their duties towards tending the communal lands of the

demesne. Such regulation was also needed to ensure that irresponsible behavior on the part of one peasant farmer did not jeopardize the well being of his neighbors, as, for instance, the improperly fenced livestock of one local peasant might destroy the crops of another.

The onset of the Early Modern period witnessed a breakdown in many of these traditional relationships. Period tracts focus on advice for new landholders. The basics of agricultural practices were cemented in writing. Agricultural practices had always been local, such that one community might use a certain type of plow while another was favored in the neighboring town. Of the arable husbandman “Many different ploughs were at his disposal, varying in shape and detail according to the depth and strength of the soil they were intended to plough, and in part according to local eccentricity and obstinacy which none could logically explain.”²¹ That need to codify and standardize production practices grew partially out of the beliefs of the scientific revolution, but also out of a break away from existing social models.

Serfs and villeins were disappearing. Large estates, especially church estates, were facing massive upheaval, disassembly, and redistribution. The precarious political relationships of the day meant that land shifted hands more readily. The 16th century saw the start of enclosure of communal lands, which meant the beginning of the disappearance of communally practiced agriculture.

Now, the freeholder was truly distinct from his lord, and his lord, from the peasants who farmed his landholdings. Wealth freed by the plague created a larger market for consumer goods. A cash economy was developing. By replacing crops with wool sheep, and kicking off tenant farmers, landlords could essentially divorce

21 HPR Finberg p.163

themselves from the food production process.

From an economic perspective, the chasm between the two “farmers”, lord and peasant, planner and enactor, could have widened yet further, or begun to fuse with the growing presence of the new small landholder. Culture saw to it that it widened. That culture was both the source and the product of agrarian writings of the time. One visionary pamphleteer might have made all the difference. Guillaume Tirel, in his fame as court chef and by writing *Le Viandier de Taillevent* at the turn of the 14th century, formally elevated the craft of court cooking to an art and a profession.

The nature of agrarian labor gave similar professionalization in agriculture many more hurdles to overcome than any other trade. Agrarian writers who maintained the status quo in their own writings, encouraging a gentleman's approach to farming without daring to suggest sullyng one's hands in the soil nevertheless neglected to seize an opportunity to radically re-conceptualize agriculture and the farmer. That, at a time when the role of farmer was open to interpretation as never before.

The new small farmer of the early 16th century looked very different from his ancestor of 200 years prior. He was free. He was likely to be a landholder in his own right, both exempt from the caprices of his lord, but also from the protection which medieval sharecropping afforded to peasants, who traded hard labor and a good share of their wealth for protection from violence during war, and starvation in famine years. He was beholden to no communal plot of land, but instead to new knowledge gleaned from books.

Even as other trades and professions saw the emergence of strong protective guild systems, the community ethos was falling away in agriculture. Knowledge came from

manuals. Farmers might come from cities, after the plague had decimated the countryside and afforded many without significant wealth the opportunity to purchase land and become gentleman farmers. And yet, even among small farmers, there persisted that conceptual divide regarding the work of farming itself, a vestigial cultural remnant of lordship and serfdom.

Thus the farmer transitioned from the middle ages, not into a new period where he was hailed, as his fellow working-class brethren (wheelwrights, butchers, smiths) as professional in his own right, but as a nobody. Like the clergy, peasant farmers fit very tightly into the structured universe of the middle ages. When the early modern period came around, both the clergy and the farmer were cast adrift in a much looser, more fluid social structure.

The farmer had all of the prejudices about his ilk still lingering from the middle ages. He now lacked the tight-knit social network to truly cement the value of his work. The Statute of Laborers had seen to it that he was working for wages below what the market would bear. He had little real power, being oftentimes illiterate. It is telling that very few diaries or property records survive for farmers, whereas they survive for large estates and merchants. The knowledge from which he might benefit and improve his lot was increasing, yet it suffered from major flaws that other tradesman's knowledge did not: it was absolutely critical to have correct information, but superstition in practice ruled agricultural behavior, and was very difficult to shed, given the inherent risks which lay behind any decision a farmer was likely to make.

It is ironic how complex agriculture was, how much knowledge it required to practice, and yet how it had a reputation for being the realm of the uneducated if not the

outright dumb. That irony still holds. In part due to economics, in large part due to culture, the professional farmer never emerged to transcend rigid hierarchy of medieval social structure in general and its specific application to the broad spectrum of those involved in agrarian production.

On Husbandry: Written Agrarian Theory

With information in hand about the English Medieval landscape and those who farmed it, it serves now to look at the theory behind farming. We continue to ask why agriculture did not professionalize, though we have already begun to answer that question. Many more answers await yet in the works which sought to professionalize agriculture at the time, but failed to: the agrarian advice manuals which flourished from the advent of printing onwards.

Agrarian advice manuals of the Early Modern period fit neatly into a growing body of works on practical subjects. Books on professional subjects from cooking to medicine flourished at this time. Oftentimes such works presupposed some familiarity by the reader with the subject matter involved.

The general effect of these works was that they depicted a formalized, professionalized state of the occupation which was their subject. In writing down and solidifying ideas on an occupation, these manuals helped to change its conception into something approaching a profession. The guild system, with its rigid ranking system and strict requirements concerning advancement, did the same thing. Agriculture had no guilds, which was certainly one of the many reasons it never professionalized. It did,

however, have trade manuals.

Such writings were modeled after the work of the ancients. In that sense, many of the advice manuals sought to legitimize the knowledge they conveyed by referencing the ancients from Seneca to Plato. At the same time, as characteristic of other Renaissance writings, they abundantly reference the self, and the practical knowledge they themselves have gleaned. Of course, one sees the folly in this. Other pamphlets on everything from manners and morals to goldsmithing were written by those from a position of immediate practical experience. For the agricultural writer, his legitimacy as a source depended on him distinguishing himself as anything *but* a crude, ignorant peasant. He was therefore already one step removed from the work about which he was writing.

This conflict between theory and practice is one which will arise over and over again. In examining how agriculture did not professionalize, one must look at the professional theory which was developing surrounding farming, and determine if it was applied. In many cases, it simply was not. This divide between theorist and practitioner, encountered already in the examination of the social hierarchy, serves to explain why it was not.

Returning to the idea of the conservative farmer, applying theoretical but unproven information was dangerous as a matter of survival. And from the reliance many of these pamphlets expressed on the ancients, there arises a related issue. Mediterranean soil and plant types are wildly different from English soil and plant types. It was a common debate at this time which plants mentioned in ancient herbariums actually were being referred to, since Northern European scientists could not find analogues for many of the species they saw in books in their local environment and vice versa. The best

minds of the day were only beginning to consider the idea that significant regional differences in species existed.

Modern research has shown that farmers and hunter-gatherers know, intimately, the myriad of living organisms which are a feature of their surroundings. It is only reasonable that the medieval farmer, intimately familiar with his local soil, local flora and fauna, and local breeds, did in many cases know better than the agrarian theorist repeating information centuries old and hundreds of miles away.

Nonetheless, agrarian theory was important, both in how it was implemented, and in how and why it was not. Many agrarian manuals shared basic features of content and structure, which enable the modern reader to identify period notions of what was important in making agricultural decisions, and why.

Almost all manuals share meat and bones basics on everything from breakdowns on the methods and advantages of cultivation of various cereals to disease management in livestock. There is a good deal of information which recollects a modern Farmer's Almanac, referential data which in tandem with written estate records or a small farmer's personal memories transcends its basic appearance with the value of its practical utility. Detailed information on complex subjects such as beekeeping or on rare but potentially economically useful subjects (breeding peacocks) also abounds.

It is in the subtle differences between manuals which are telling. For instance, the content differences in later works published towards the 17th century where this paper truly ends its scope rather than back by the 14th, where the opportunities for agrarian professionalization really began. After the ubiquitous introduction imploring the reader to take to the countryside and begin the virtuous and honest labor of farming, later books

tend to focus first on property selection. While learning the differences and advantages of different soils, drainage patterns, etc. is undeniably vital to one who wishes to take up farming, it is merely an academic exercise unless one had both the means and volition to purchase new or additional land. In short, it is advice for a novice, not a professional looking for a quick reference or to develop further.

This “ground up” philosophy is visible throughout such later manuals. Fitzherbert, writing at the end of the 16th century, actually devotes an albeit small section on how to carry wood. Naturally later printed text could delve more cheaply and easily into lengthy detail than manuscripts and the earliest printed works. Nonetheless there would have been no need to print the very basics if the entire target audience knew them. As an example in contrast, most cookbooks of the same time failed to include measurements or technique descriptions.

Such attention to detail can also be taken as an attempt to render agrarian manuals more scientific by making them appear thorough. Such a reading is reenforced by the presence of features such as the table of hard words found in Gervase Markham's *Cheape and Good Husbandry* or the random experiments on distillates in Fitzherbert's *Fovre Books*. In either case, such changes in show that as the agrarian manuals evolved and found their voice, so to speak, that voice was increasingly one which spoke indirectly, if at all, to a peasant labor body whose work might have been codified, defined, and elevated to professional status by trade manuals truly geared to their particular needs and educational levels.

In addition to the content changes over time, there is, again, the change in tone of agrarian writings. Earlier works such as a brilliant manuscript translation of Palladius on

husbandry, dating around 1420, convey a simplicity of style. While that owes partially to the the content itself, which actually dates from 400 A.D., the translation into middle English is clearly designed to be accessible as well. It borrows much from the style of Chaucer and reads as a delightfully simple, easy to follow guide to agriculture.

Interestingly, its introduction spares the reader the typical incitement to take up the practice of farming, stating instead: “Consideraunce is taken atte prudence/ What mon me moost enforme: and husbondrie/ No rethorick doo teche or eloquence ; as sum have doon hemself to magnifie.”²²

A mere century later, judging from the tone of agrarian manuals, rhetoric and eloquence and the magnification of the self were the *avored* means of attempting to teach and inform on husbandry. How alienating and ineffective it must have been to those who could have stood to learn and better their lot from the manuals. How it reinforced and deepened the divide between the intellectual gentleman farmer, for whom farming was a secondary activity, a hobby to his true identity or professional and social identity, and the farmer whose livelihood was earned by his agricultural labors.

In Practice: Tilling the Soil

Having examined the written theory behind farming, it remains to analyze and compare that theory with actually agrarian practice. Doing so determines the real impact agrarian manuals had. Agrarian manuals advocated the practice of husbandry, if not the

²² Barton Lodge p.1

labor of farming, and the codification and professionalization of agricultural theory, even as they failed to truly make farming itself a unified and respected profession.

Understanding the practical value of agrarian advice manuals clarifies not only whether, like other trade manuals of the time, they were really effective in creating professional standards, but subsequently just how much of the failure of agriculture to professionalize can be attributed to the manuals themselves and how much must be chalked up to economic and cultural forces which the manuals had little power to influence.

The implementation of change is difficult to measure in agriculture. How certain technologies are implemented depends very much on the specific features of the locations where potential implementation might occur. For instance, in the development of horses as plow animals. New technologies of shoes and harnesses enabled horses to be used as plow beasts early in the Medieval Era. However, though horses were more efficient behind the plow than oxen, oxen converted grass to energy much more readily. Horses, in contrast, prospered best on a diet of oats. Differences in crop rotation and climate led Northern Europe to grow more oats than Southern Europe, where grass wasn't abundant enough for horses to thrive.

There was a subsequent three hundred year lag until horses were widely adopted due to the aforementioned developing crop rotational system. And once adopted, their adoption as plow beasts was much wider spread in Northern Europe than Southern. Three hundred years following that adoption, agrarian manuals were *still* debating the relative merits of horses over oxen. Generalizing farming techniques and choices on a regional level proves difficult, and on a local level, even more so. Every development was

connected to other changes, to minute differences in the climate and landscape, and, lastly, to local culture and the pull of tradition.²³

Indeed, one of the difficulties manuals would have faced in standardizing any craft but in particular agriculture, is that different parts of England used varying technologies oftentimes out of tradition rather than out of efficacy. While major changes in crop rotation, plow type, etc., were universally implemented, minor local variations in those technologies were readily apparent even to people of the day. What bears remembering is that the modern love affair with science over tradition ignores many features of what make tradition so valuable. The traditional mode of completing an action may not be the most superficially efficient or rational. But traditions survive because for the community in which they operate, they are the best way to complete a task.

Late medieval societies were beginning to exhibit the formation of a national consciousness. The national costumes of many Western European countries, for instance, can trace their roots back to this time.²⁴ Local culture was becoming important, even extending to the village green. Differences in regional agrarian practices and habits were part of the larger picture of what distinguished one people from another.

Many writings from the day speak of the Scots and their diet of oats, for instance, as opposed to the wheat favored in the southern parts of the British Isles. Agrarian manuals had to be generally effective and somewhat universal to work as professional documents. To be accepted they had to augment without threatening or erasing regional diversities.

On a whole, however, agrarian manuals seemed to mesh well with actual practices

²³ Lynne White

²⁴ Peter Burke *The European Renaissance: Centers and Peripheries*

of the day. Advice on soil draining echoes our record of actual practice. The specifics of when to plant, and how to store seed again reflect practice. Harvest techniques, crop rotation, and manuring guidelines are all sound and reflect real practice. Fitzherbert writes, on manure “The dunge of all maner of Cattel that chew the cudde is most excellent. Doves dunge for colde ground is best of all, but must be spred very thin.”²⁵ He then expounds upon a variety of regional manuring methods. Compare that to actual practices on manuring from the *Agrarian Historian of England and Wales*: “ In addition to all [the varied regional manuring practices], the dung of cattle, sheep, pigs, horses, and pigeons was employed with the utmost diligence and economy. Pigeon dung was prized most highly....”²⁶ The real shortcomings of agrarian guidebooks are in their treatment of livestock and breeding.

In Practice: Livestock & Heredity

To conclude our survey of the theory and practice of late medieval agriculture, and the value of agrarian advice manuals, let us look at animal breeding and concepts of heredity. The attitudes in circulation regarding animal breeding were so different from our own that they merit in-depth consideration. Practices and beliefs of the time contributed to the eventual fate of farmers and farming.

Many animals were kept as livestock throughout the middle ages. The early modern period saw few radical changes resulting from New World imports, barring the introduction of the turkey, which eventually did become relatively common. Horses,

25 Fitzherbert, p. 28

26 HPR Finberg p.168

cattle, sheep, pigs, and various fowl were domesticated, as well as hounds. Many large manorial estates also kept ponds for raising fish. These stews, as they were called, supplied wealthy kitchens with an important source of protein during fast days, of which the contemporary calendar was rife, and during which no protein derived from mammals or fowl could be consumed.

Lands of the nobility also enclosed forests for hunting, from which the local peasantry was prohibited to procure animals. Thus, the nobility had access to an additional non-domesticated source of calories, which included the flesh of rabbits, hares, deer, boar, and all kinds of fowl from the common partridge or wild goose to more esoteric edibles such as heron.

Such forests also housed domesticated animals, of course. Hogs, cattle, even horses were oftentimes turned out not just in fields but in forests as well, where they fattened on acorns, undergrowth, and small shrubs.

Many theories existed at the time as to how best raise and breed these domesticated animals. Guidebooks address not only cattle, sheep, and chickens, but all manner of exotic poultry, forest management, and the creation and maintenance of stews. Of particular interest to the problem of agricultural professionalization is their content on breeding livestock.

There are three ways to approach animal breeding²⁷. There is breeding to affect a positive change within the breed. One seeks to breed those animals which possess not only desirable character traits (say, high milk production in dairy cows) but the ability to pass that trait on to future generations, known as prepotency. This is tricky for a variety

27 See Nicholas Russell, *Like Engend'ring Like: Heredity and Animal Breeding in Early Modern England*. ch. 1 "Breeding Strategies"

of reasons. It requires that those animals which do not meet the desired traits are not bred, which is tricky for those seeking simply to maintain herd size. It requires, also, that close attention is kept to degrees of interbreeding and the lack of robustness which can result from interbreeding in a closed population over time. It also necessitates a fair amount of trial and error in determining which animals are capable of breeding true to type, which requires multiple breedings.

To further confound the matter, certain character traits are impossible to determine if a parent possesses, but are vital when considering the desired offspring. A clear example would be in choosing a bull when breeding for cows with high milk production. The only solution is to breed multiple offspring as tests. This form of breeding, though the most logical to modern eyes, seldom factored into the choices made by Early Modern breeders.

The second method is to breed for the maintenance of existing breed characteristics. While this method preserves existing positive features, it can lead to problems of inbreeding down the road, and requires care. Farmers in the late Medieval period would have perhaps bred some animals with this consideration. The notion of distinct animal breeds was not cemented until the Victorian period, but the recognition of animals of certain geographic vicinities possessing certain traits was certainly acknowledged. Thus there are references to Spanish versus English cattle, etc. Popular theories of inheritance at the time held that character traits were dependent on location. Both with livestock and seeds, farmers occasionally imported new specimens from other regions. But the prevailing assumption was that, given time, the new specimens would develop the characteristics of the existing species of their new locale.

The third method of herd maintenance is to breed only the worst specimens available. Better, more robust specimens have a higher market value. The animals that the farmer could not sell, however, could be kept around to maintain his stock of animals. This was standard practice among most farmers through the beginning of the modern Era. Professional agricultural manuals distinguished how to select and breed the best stock. While their writings precede biological knowledge of the fact that genetic input derived from both parents, and that environment played no role in genetics, the authors of early agricultural pamphlets encouraged breeding for desired characteristics. One sees a duo of forces at work against the widespread adoption of their advice: poverty, and combination of ignorance and poor advice.

Economic necessity mandated that most peasant farmers continually sell their best specimens. The expensive wool sheep or prized horses kept by noblemen were one matter. One starts to see a distinction with such animals early on, in reference to breed traits and lineages. Though distinct breeds weren't named or defined as such at this time, they were referenced by point of national origin. Among the animals kept by the peasants for utilitarian purpose in the local economy, fowl, hogs, etc., less distinction was made.

Markham Gervase tellingly mentions at length where the best hunting horse for the nobleman might be procured. Following his work contains specific the very specific chapters "Of horses for Hunting" and "Of Horses for Travel." Draught horses and the like are lumped instead into "Of the breeding of all sorts of Horses." In contrast to his detailed advice on selecting a nobleman's mount, when looking for a draft or cart horse, he encourages his reader to select from available local specimens possessing the physical characteristics needed to complete the desired task. "Yet surely if you will be ruled by the

truth of experience, the best Stallion to beget horses for the Wars is the *Courser*, the *Jennet*, or the *Turks*; the best for coursing and running is the *Barbary*; the best for hunting is the *Bastard Courser* begot of the *English*; the best for the Coach is the *Flemish*, the best for travel or burden is the *English*...”²⁸

This brings home the point that poor peasants simply were not in the position to select and breed for desired traits over generations. In looking at farming methods, we saw that no one peasant owned all of the oxen necessary to plow his plot of land, and that the choice to use speedier horses or more utilitarian oxen came down to wealth as well. Walter of Henley writes that though horses are faster than oxen, the speed of the plowman limits the amount of work that can be done anyway, plus, there is the additional expense associated with shoeing and feeding the horses. Lastly, an ox at the end of its life as a plow animal has resale or caloric value which a horse does not.²⁹

Again, the paradox of the peasant's situation is clear. For the peasant to transcend his social limitations, he would have required initial wealth. Had the social attitudes on the peasantry been different following the black death, had the lawmakers openly acknowledged how indebted they were to the labor of their country brethren, and had the Statute of Laborers not kept wages artificially low, perhaps the peasantry would have been far enough removed from the edge of subsistence to be capable of bettering their lot. Ignorance, of course, stood in the way of better breeding as badly as economics did. And on this, the manuals are somewhat silent. They advocate how to chose, keep, and care for animals. Folk beliefs on breeding, though, meant that genuine advice on good breeding was rare. If the rare bits of sound information were available to peasant farmers, they no

28 Gervase Markham, *The compleat horseman* p.57

29 Walter de Henley. *Walter of Henley 's Husbandry*, pp.12-13

doubt existed among other guidance which was less productive. Preceding Fitzherbert's sound advice about breeding hen without spurs so they do not break their eggs, he states, less soundly, "If you desire to make choyce of the best Hennes for broode, you must in all poynts have them of the same colours which I have already shewed in the choyce of your Cocks, although they neede not bee eyther so hie or big of body. They must be large breasted and bigge headed, having a straight redde double comme, great white eares, and her talons even." ³⁰

Worse still, Fitzherbert's advice is contradicted by Markham, who espouses breeding the largest hens possible³¹. Palladius states that women know best in such matters and advises breeding selection on color alone. ³² and And of course, the difficult nature of breeding and the slow time frame of generations within a herd meant that it would have been more difficult to see results and to experiment as freely as with crops.

One of the most entertaining bits within many of the early agricultural manuals is the ubiquitous section on bees. How to identify a swarm of bees, avoid being stung, set up a hive, and maintain that hive was of premier importance to those still dependent on honey as their primary sweetener. Sadly, the ideas on beekeeping were ridiculous. Spells and the presence of a virgin were said to protect the beekeeper. Bees were thought to generate spontaneously from the corpses of oxen and other livestock. That agricultural writers who were so meticulous about detailing soil types would continue to pass along such incorrect data on bees is indicative of the larger issue with animals and animal breeding.

The very basics of reproductive biology were still up for debate at this time, and

30 Fitzherbert, p.148

31 Gervase Markham, *Cheape and good husbandry* p.111

32 Barton Lodge p.22

the difficulties of breeding quality livestock can be traced to economic realities and peasant ignorance, but also ignorance on the part of the manual writers. Drawing on the wisdom of the ancients and what new information was imparted by the beginning of the scientific revolution, they were little inclined to say when they were simply wholly ignorant on a subject, in particular one so complex as livestock heredity and breeding. One cannot doubt that this lack of professionalism on their part, coupled with the conservatism of peasant agrarian practice, contributed greatly to the failed professionalization of agriculture.

In Conclusion: Reviewing the Situation

England at the beginning of the Early Modern period was in a state of flux. Economic, religious, and social organizations were rapidly shifting all across Europe. A new outlook on science and the trades affected the professions and how they were practiced. These changes were felt particularly strongly in agriculture. From the devastating effects of plague depopulation on land use and labor force to the stymied forces of the Peasant's revolt following the unjust Statute of Laborers, a great impetus existed for a change in the perception of farming and the peasantry.

Agrarian manuals of the time provide a key for unlocking perceptions of field laborers. They highlight the difference between attitudes which held gentleman farming as a virtuous occupation and the peasantry as unrefined and unintelligent. This cultural conflict surrounding agriculture was never truly resolved. As other handicrafts become codified and professionalized, agricultural labor lingered on in its negative perceptions.

The reasons behind this were, as we have seen, multifaceted but can trace their roots to a few particular dilemmas. Primarily, there was the conflict between theory and practice. Old superstitions survived with surprising vigor giving the understandable conservative nature of peasant farmers. New information was risky and the degree to which it was available and intelligible was questionable. Quack theories and the works of the ancients held equal sway with more modern technological adaptations, in particular with regards to animal husbandry.

Agrarian manuals were fighting an uphill battle to see to it that agriculture professionalized. Social and economic forces, combined with the patronizing tone of the manuals themselves as well as the ambiguities of their target audience, saw to it that agriculture never did fully professionalize. Lynn White writes that "Not only histories but documents in general were produced by social groups which took the peasant and his labors largely for granted."³³ Though the agrarian manuals of the Early Modern period might have written to espouse the virtues of gentleman farming, from their overall tone and attitude towards cultural stereotypes on farming it is clear that they, too, fall into the category of such documents.

In the end, while agriculture had the opportunity to professionalize at the beginning of the Early Modern Period, it did not. The peasant and the work of farming are still taken for granted, but only with further, stronger research on the history and culture of farming both in the West and elsewhere will things change. Understanding the history of agriculture is vital, not only to understanding the roots of most individuals, whose families have historically tilled the soil, but to moving forward and affording agriculture the esteem and respect as a profession which it deserves today.

33 Lynn White p.39

Works Cited

- "Agriculture." *The Hundred Years War Homepage*. N.p., n.d. Web. 18 Mar. 2010.
<<http://www.hyw.com/books/history/Agricult.htm>>.
- Astill, Grenville G.. *MEDIEVAL FARMING & TECHNOLOGY*. New York: NY, 1980. Print.
- Balestracci, Duccio. *The Renaissance in the Fields: Family Memoirs of a Fifteenth-Century Tuscan Peasant*. University Park: Pennsylvania State University Press, 1999. Print.
- Braudel, Fernand. *The Structures of Everyday Life: Civilization and Capitalism, 15th-18th Century Volume 1*. 1st U.S. ed ed. New York: Harper & Row, 1982. Print.
- Campbell, Bruce M. S.. *Land, Labour, and Livestock: Historical Studies in European Agricultural Productivity*. New York: Manchester Univ Pr, 1991. Print.
- Columella, Lucius Junius Moderatus. *Lucius Junius Maderatus Columella on Agriculture in Three Volumes*. Cambridge: Harvard University Press, 1960. Print.
- Crescentiis, Petrus de, Petrus de Crescentiis, Pier de' Crescenzi, and Will Richter. *Ruralia commoda (Tl.4), Indices*. Germany: Universit tsverlag Winter, 2002. Print.
- Diamond, Jared. *Guns, Germs, and Steel: The Fates of Human Societies, New Edition*. New York: W. W. Norton, 2005. Print.
- Finberg, HPR. *The Agrarian History of England and Wales IV 1500-1640*. Cambridge: Cambridge, 1967. Print.
- Fitzherbert, John. *Booke of husbandrie (The English experience, its record in early printed books published in facsimile)*. Boulder, Colorado: W. J. Johnson, 1979. Print.

- Gies, Frances, and Joseph Gies. *Life in a Medieval Village*. New York: Harper Perennial, 1991. Print.
- Heresbach, Conrad. *Fovre bookes of husbandry (The English experience, its record in early printed books published in facsimile)*. New York and Washington D.C.: Da Capo Press, 1971. Print.
- Kussmaul, Ann. *Servants in Husbandry in Early Modern England (Interdisciplinary Perspectives on Modern History)*. 1 ed. New York: Cambridge University Press, 2008. Print.
- Lennard, Reginald. *A Social History of England, 1200-1500*. Cambridge: Cambridge U., 2006, 2006. Print.
- Lodge, Barton. *Palladius on Husbandrie: From the Unique MS. of About 1420 A.D. in Colchester Castle (1873)*. New York: Kessinger Publishing, 1873. Print.
- Markham, Gervase. *Cheape and good husbandry (The English experience, its record in early printed books published in facsimile)*. New York and Washington D.C.: Da Capo Press, 1969. Print.
- Markham, Gervase. *The compleat horseman*. Boston: Houghton-Mifflin, 1975. Print.
- Power, Eileen Edna. *Medieval People*. New York: General Books Llc, 2010. Print.
- Russell, Nicholas. *Like Engend'ring Like: Heredity and Animal Breeding in Early Modern England*. New York: Cambridge University Press, 2007. Print.
- Tawney, R. H.. *The Agrarian Problem in the Sixteenth Century with 6 Maps in Colour*. NY: Harper & Row, Publishers, 1967. Print.
- Stone, David. *Decision-Making in Medieval Agriculture*. New York: Oxford University Press, USA, 2005. Print.

Stuart, Kathy. *Defiled Trades and Social Outcasts: Honor and Ritual Pollution in Early Modern Germany (Cambridge Studies in Early Modern History)*. 1 ed. New York: Cambridge University Press, 2006. Print.

White, Lynn. *Medieval Technology and Social Change*. London: Oxford University Press, 1966. Print.

de., Henley. Walter. *Walter of Henley 's Husbandry together with an anonymous Husband*. London: London ; New York. Longmans, Green, 1890., 1890. Print.

Agriculture in the Middle Ages: Technology, Practice, and Representation (Middle Ages Series). Philadelphia: University of Pennsylvania Press, 1995. Print.

The Agrarian History of England and Wales: Volume 3, 1348-1500 (Agrarian History of England and Wales). New York: Cambridge University Press, 1991. Print.

The Good Wife's Guide (Le Menagier de Paris): A Medieval Household Book. Ithaca: Cornell University Press, 2009. Print.

The introduction of the heavy plow in the 6th Century revolutionized farming across the world. Previously mouldboard plow designs limited their efficacy by needing to be a tradeoff between weight and their ability to be pulled along on their runner. Heavy plows introduced wheels to replace the runners of its predecessors which enabled them to increase significantly in size and introduce metal components, whilst still being able to be pulled by draft animals. The development of the verge escapement would lead to the creation of the first mechanical clocks in around 1300 AD. By the 15th Century, they became widespread around Europe. They would dramatically change the course of war forever. 18. The Astrolabe was an early computer. Source: Elrond/Wikimedia Commons. Indeed, in our days, urban sprawl and deforestation ruin natural habitats for animals; moreover, air and land pollution makes their survival even more challenging. In these circumstances, humanity has no right to neglect the problem and refuse responsibility. In conclusion, although species become extinct regularly, this may strongly affect the balance in the environment in a negative way at some point; thus, our society should take action. Also, people often create life-threatening conditions for animals, and therefore, ought to proactively prevent their extinction. The importance of a father in child's development is undeniable as children are able to learn to better regulate their behaviour during the playful and stimulating activities a father is more likely to provide.

What Is the Role of a Father in Child Development?

Here we look at the main reasons why it is important for a father to be involved in the development of a child:

1. Protector. An Involved father provides his child a feeling of security, whether physical, emotional, mental or spiritual. When a child knows, his or her father will be there for him no matter what the situation is, it build

A regular change in the properties of paramagnetic substances from temperature bears his name. He belonged to interesting discoveries in the field of physics of the crystalline state of matter and the piezoelectric effect, the magnetic properties of substances at high temperatures. A regular change in the properties of paramagnetic substances from temperature bears his name (Curie's law). However, at the turn of the XIX and XX centuries. his scientific interests changed: together with his wife, a graduate of the University of Paris, Maria Skłodowska Curie (1867-1934), he began to clarify the nature of uranium radiation and study radioactivity. The following is a list of people who are considered a "father" or "mother" (or "founding father" or "founding mother") of a scientific field. Such people are generally regarded to have made the first significant contributions to and/or delineation of that field; they may also be seen as "a" rather than "the" father or mother of the field. Debate over who merits the title can be perennial. Founders of statistics.