Health and the Peasant Diet in the High Middle Ages

While its name credits North African and Southern European countries of the Mediterranean rim, however, the “Mediterranean” diet could almost as easily be named for England in the High Middle Ages. Indeed, one look at the eleventh, twelfth, and thirteenth centuries suggests that the peasant diet very nearly mirrored its qualifications. Rather than by conscious choice, like many modern American scientists, or for cultural tradition, like Greeks, Moroccans, or Italians, Europeans of the High Middle Ages adopted a “Mediterranean” palate because its constituent ingredients were what Mother Nature allowed them to grow (and, in some cases, hunt and/or buy) and what God the Father, via Catholic teaching, allowed them to eat. Nevertheless, the match is a close one. While it may, given our current system, be difficult to conceive, the restrictions posed on the late medieval diet through the close connections between food production and consumption resulted in a pattern more healthful to individual and environment alike. However much our modern society—or, for that matter, medieval imagination—prioritized infinite quantity and infinite variety, it is important to realize that “more” is not, once basic needs are met, always “better.” Rather, an emphasis on plant-based variety and balance in portion and practice promotes a model more sustainable for human and nature alike.

Known for its emphasis on whole grains, legumes, and fresh produce; limited consumption of fish and dairy products, and rare consumption of saturated fats and red meat, the Mediterranean diet has been billed by recent studies as something of a panacea. In one investigation involving 7,447 high-risk individuals, Mediterranean-style eaters experienced 30% less heart disease compared with the control\(^1\). In another, 73-year-olds who most closely adhered to Mediterranean guidelines
possessed ten milliliters more brain volume after three years than those who adhered least\(^2\). (For perspective, ten milliliters are “about half the effect of aging”.) Mediterranean diet patterns have also been linked to reduced incidence of breast cancer\(^3\), bad cholesterol\(^4\), and, through the slowing or even reversal of telomere reduction, palliation of the aging process itself\(^5\). Telomeres, repeating DNA segments that “cap” eukaryotic cells, shorten after every cell division until, upon a certain shortness, the cell can no longer divide and soon—along with the human—dies\(^6\). In Crous-Bou’s study, however, every further point (on a nine-point scale) to which participants followed a Mediterranean diet resulted in telomere extension equivalent to an additional year and a half of life. Three points is associated with an additional four and a half years—the average longevity difference between a smoker and non-smoker\(^7\). All these correlations persisted even after results were controlled for differences in factors like BMI, education, reproductive history, and smoking and exercise habits, making the proposed health benefits of Mediterranean-style eating rival those of pilgrimages to a saint’s holy finger bone.

While medieval health miracles were in general attributed to causes more religious than one’s morning bowl of millet and rye, the peasant diet between the eleventh and thirteenth centuries was robust enough to support a significant population boom\(^8\). Based on cereals and legumes harvested from the fields and root and green vegetables grown in personal gardens, it included rare consumption of meat and fish products and occasional consumption of dairy. Up to eighty percent of peasant calories stemmed from grains and pulses\(^9\), either in the form of bread, ale or, especially in leaner times when every calorie was paramount, pottage\(^10\). In contrast to the white wheat bread preferred by the nobility, peasant bread was dark in color and consisted of so-called “inferior” grains like rye, millet, and spelt\(^11\). Similarly, grains like oats, barley, and wheat were popularly mixed in gruel, and legumes like beans, lentils and peas as well as chestnuts were frequent constituents in
polenta. Overall, cereals and legumes comprised a wide and varied portion of the peasant diet, more than fulfilling the USDA’s recommendations for 48 grams of “whole grain” per day.

Vegetables, too, were paramount to the high medieval peasant diet. While insufficient calorically to compensate for significant field crop failures, produce was paramount as a supply of vitamins, minerals, and pure variety of taste. Nobles relied on spices to enliven a restricted assortment of meat and grain foods. Unable to afford luxuries like cloves, ginger, and saffron, peasants obtained punches of flavor from locally grown herbs, greens, and pungent additives like garlic. Theoretically a preserve of the nobility, fruit was also prized when it could be accessed. Per a twelfth-century writer, the Vale of Gloucester overflowed with fine fruit: “You can see the public roads clothed in apple trees,” he said, “bearing fruits which far surpass others in taste and look.” While that writer provided direct observation, the oral nature of medieval popular culture necessitates that most knowledge about high medieval ingredient specifics must be inferred from indirect sources. Aristocratic cookbooks provide an unlikely wealth of information. Much as modern elites delight in the occasional oven-baked “fried chicken” or McDonald’s fries but lambast such food most of the time, medieval nobility adapted often scorned peasant recipes for their own predilection, like the Liber de coquina’s gentrified broad bean soup. Recipes similarly “rustic” build soup, pie, and fritter bases from peas, beans, greens, herbs, turnips, fennel, pumpkins, mushrooms, cabbages, lettuces, and root vegetables, suggesting that these ingredients—along, of course, with the onions and garlic emblematic of peasantry—formed the backbone of (quite significant) peasant produce consumption. While derided at the time as a mark of poverty, the preponderance of vegetables in the peasant diet mirrors the produce emphasis of Mediterranean eating and acted to support overall health through its prevention of scurvy and rickets, which I will examine further in later sections.
In addition to vegetables and grains, the peasant diet of the eleventh through twelfth centuries also contained limited animal protein. Dairy, often called “white meat,” was the foremost source. Per 1283 tax returns of the Blackbourne hundred, an administrative division in Suffolk’s northwest, the 1,393 surveyed households possessed 2,181 total cows and 7,213 ewes. Keeping in mind that these numbers likely underestimate livestock numbers, most households consumed (and, occasionally, sold) milk and cheese from their own several cows and sheep. Consequentially, diet quality would have increased during milk season, May through October, and decreased in winter when cheese leftover from summer was the only dairy available. Dairy’s status as foremost 

*companaticum*, or “that which accompanies bread,” aside, peasants consumed other sources of animal protein as well. Meat, consumed at festivals, harvests, and midwinter, marked a very special occasion. One English lord in 1314, the last year before pan-European famine, served his workers a Christmas feast that included beef, poultry, and bacon, and in many a June or July lords rewarded peasants with a celebratory sheep after they finished his haymaking. Peasants who could afford to do so hosted elaborate meat-based meals at weddings and funerals; one wealthy peasant, William Lene of Walsham-le-Willows, provided in his funeral expenses for beef, mutton, pork, goose, and poultry to be served to guests at a cost of thirty of his one hundred sheep. Even peasants typically unable to afford meat could purchase it fresh, especially highly perishable offal, when animals were slaughtered in November. Finally, fish made occasional appearances in peasant diets as well. While too expensive for peasants to eat, like nobles and well-to-do clergy, every fasting day, fish, particularly inexpensive varieties like eels, made occasional appearances in the peasant diet as well. Herring was particularly popular, a fact that fits perfectly with the Mediterranean food pattern’s recommendation of consuming oily fish once a week. Overall, good harvest years led to increased consumption of animal products, as higher grain yields, leading to more affordable bread and ale prices, led to more cash available to purchase animal protein at markets. Whether the special
occasion was a religious festival, successful harvest, or important community event, high medieval peasants consumed meat on a limited but varied basis, and household livestock produced stable, if seasonal, dairy. Combined, these sources supplement animal protein to a diet based primarily on whole grains, legumes, and vegetables, a strategy more efficient both calorically and environmentally than the meat-based one consumed by Americans today.

However close the correlation between European diets between 1000 and 1300 and the Mediterranean style espoused as “ideal” by leading scientists today, it is important to remember that the medieval nutrition, like its art history, contained as many gargoyles as Pietas. While climatic improvements and agricultural advancements increased quantity and quality of available food in the High Middle Ages, reducing hunger and malnutrition and increasing food security, the early and late medieval periods were marked by deprivation. The damage incurred by weather anomaly or stockyard pestilence, whether for a single season or for years on end, underscores the tenuousness of the apparent stability of any food system, both the medieval one and our own. While high medieval food supply and nutritive value was enough to sustain a population boom\textsuperscript{31}, the threat of famine always loomed\textsuperscript{32}, and when consistent crop failures came in the early fourteenth century, the children who survived the famine suffered lifelong immune system impairments that may have increased their susceptibility to the Black Death several decades later.\textsuperscript{33} While this period is after 1000 to 1300, the period this paper discusses, it remains useful to note how quickly a seemingly stable system can crash. Starting in 1315, changes snowballed to steep and rapid decline from a relatively substantive, relatively predictable food situation to crisis.

Even when food quantity was assured, proper nutrient consumption could be an issue. While access to markets (and the resources to purchase from them) was generally tied to higher standards of living amongst townspeople and nobility, the lower produce consumption and decreased sunlight exposure of urban and/or well-heeled groups led to high risk of scurvy and
rickets. Scurvy, a potentially lethal result of vitamin C deficiency, stems from inadequate fruits and vegetables and thus was a constant danger to urban and aristocratic households who consumed almost entirely grains and animal protein. As scurvy, while lethal, little impacts bone structure and was unknown to high medieval physicians, the disease’s exact high medieval prevalence is uncertain. While it is possible that nobles and townspeople consumed enough vitamin C to remain just above the disease’s threshold, the fact that nearly all early modern aristocrats (from the earliest period with medical information detailed enough for modern diagnosis) displayed symptoms of scurvy suggests the problem was a large one. Rickets, on the other hand, resulted from a vitamin D deficiency caused by insufficient sunlight. As children of towns and manors alike were kept inside, especially during wintertime, they often fell prey to the disease while their counterparts in the countryside, fed not only on cow or sheep’s milk (rather than breast milk, which has lower vitamin D content) but also on daily outdoor activity, did not.

While higher vegetable and sunlight consumption rendered peasants resistant to rickets and scurvy, the relative lack of animal protein in their diet made them vulnerable in the early medieval period to lysine and iron deficiencies. An essential amino acid, lysine is required by the human body but cannot be manufactured by it. Consequently, the compound must constitute 4.5% of a human’s protein intake for him or her to maintain adequate levels. The early medieval peasant diet did not meet this standard. Supplements like cheese, curds, and wine were too minute or infrequent to compensate for rye, wheat, and barley’s lack of the nutrient, for those three grains constituted the bread and therefore the diet’s basis. Iron was equally a problem. Even at the absorption rates of more than 20% that accompany severe anemia, men and women alike could not extract more than 0.25 to 0.75 grams per day from rye, wheat, and barley bread. These amounts were scarcely sufficient for men and completely inadequate for women, who need double men’s requirements during years of menstruation and triple them during pregnancy and lactation. Even if a woman had 1,925 mg of
body iron at menarche at age fourteen, monthly menstruations would render her severely anemic by age twenty-three, 20.3 if she had two pregnancies in the meantime. Any further pregnancies or abortions—not to mention, quite possibly, further periods—would have jeopardized a woman’s life. By adulthood, per an Italian monastic sample Bullough and Campbell consider representative, men around the turn of the ninth century outnumber women 112 to 100. This lopsidedness becomes only more striking when one considers that women outlive men throughout the world today (and, for that matter, throughout the past one thousand years). Even in years of plentiful harvests, when quantity was not an issue, the early medieval diet did not contain the necessary nutrients for life.

These dangers, however, declined around the year 800, two centuries before the period on which this essay focuses. A more efficient plow and the switch of the two-field system to a three-field one, in which two fields were planted while the third lay fallow, improved productivity and variety alike. While the new plow increased crop yields through its greater efficiency, the extra field improved productivity through the introduction of legumes. Along with two new cereals, oats and barley, the spring planting enabled by the third field grew peas, chickpeas, and broad beans, three plants with the ability to transfer atmospheric nitrogen into a soil form both they and other plants can use as fertilizer. This increased per-plant productivity compensated for the lower yield of legumes compared with non-nitrogen-fixing cereals, leading to no net change in overall crop yield but significant increase in production of lysine. By or before the thirteenth century, dry legumes constituted roughly 18% of dietary intake, enough to provide sufficient “complete” protein for peasants to have adequate amounts of all eight essential amino acids. Along with legumes, prevalence of cheese, eggs, eels, fish, meat, and greens also increased in this period. These developments, along with newly widespread usage of iron cooking utensils, resulted in increased iron consumption and absorption that women’s mortality rates fell to below that of men’s, the start of a pattern that persists to this day. (The one downside of this increased iron availability is that it
rendered men, who did not have the drains of menstruation, pregnancy, and lactation, more vulnerable to the fourteenth-century Black Death than they would have been to the same plague had it arrived four centuries earlier.\textsuperscript{44} Overall, while the early medieval period’s peasant diet did not offer the nutrients necessary for proper human growth, developments before the year 1000 improved iron and complete protein availability to render the plant-based peasant diet not only fully practicable but, in times of sufficient quantity, more healthful than its noble counterparts because of its superior access to Vitamins C and D through fresh produce and sunlight.

The idea that the High Middle Ages was some organic permaculture paradise, however, would be an idealization and distortion of the truth. Even the highest-minded of Whole Foodies would hesitate to laud as “all-natural fertilizer” the dumping into streets and streams of sewage. Life in the High Middle Ages posed certain occupational hazards that, whether unregistered or considered petty grievances then, would be considered extreme crises in the developed world today. Chamber pots were dumped regularly into village streets and castle moats, and toxins from chemically intensive industries such as tanning were dumped directly into rivers (citation). Everyone knew that water was drunk at one’s own risk. Its danger, however, stemmed not just from the byproducts of human digestion: lead and fluoride poisoning were both serious problems. Beyond contaminated wine, lead could leach in to food and drink through poor-quality or improperly sealed containers; if enough accumulated to produce a white line at the edge of long bones like the femur, the poisoning most likely was lethal.\textsuperscript{45} While less virulent, fluoride, present in certain English groundwater, in excessive quantities can produce brown mottling in teeth and new bone and ligaments.\textsuperscript{46} And while certain medieval herbal remedies, like the brewing of willow bark tea for headaches, have been backed by modern science, a return to the belief that one bleeds a fevered individual to restore him or her to health is beneficial for no one involved. Deservedly
touted though “nature” may be, unmediated proximity to all her bacteria and elements is not to be desired, nor should it be. The goal is to strike a balance.

Medieval individuals, like modern ones, understood this balance. Massimo Montanari reports in his book’s section “The Times of Food” that nature and seasonality occupied an “ambiguous” position in the high medieval mind. On the one hand, Hippocratic and Galenic tradition stressed connection between “the four elements and the four humors, the four temperaments and the four ages of man, the four cardinal points and the four seasons,” components apparently natural to their cores. On the other hand, not until the seventeenth century did anyone posit that “cabbage soup should taste of cabbage”: before then, the ideal food was “one in which all flavors, and therefore all benefits, were present simultaneously.” Based on the idea of humoral balance, high medieval thought recommended each trait, whether physical or seasonal, be paired with its opposite for maximum synthesis. Its ideals shared little with our common notions of seasonality. A Salerno medical school calendar advising what foods and activities best suit each recommends, for example, that chard be eaten in February even though its season is April through May. With the humoral idea in mind that “cold, damp winter requires warm, dry food,” however, certain bits of its advice make sense to modern minds. Take the December advice that “cabbage is to be avoided and salad eliminated, but…drinks should be spiced with cinnamon.” While cinnamon is not particularly “in season” in December, its addition to holiday drinks certainly enlivens midwinter dusk. (Just think what holiday cocktail partygoers would do if they realized spiced, spiked eggnog and utter absence of (edible) greenery came recommended by doctors…!) Furthermore, the Salerno calendar’s intended audience was one of relatively high standing. Individuals of lower class, while they may have made the unpardonable mistake of eating chard in the springtime, altered their diet seasonally in different ways. Eating from fields, trees, and garden per what was in season, they also punctuated (as mentioned previously) their plant-based diet with meat-based feasts to celebrate turning points in
the year. While high medieval conception of “seasonality” and “nature” differed from our modern definitions, the fact that they recognized the different duties and emotions of different seasons and altered their menus accordingly shows a recognition of nature’s wider impact on daily life.

Though high medieval haute couture may have favored onion soup with sugar and almond milk or “tart of fruit” that tasted of cod, most high medieval individuals would have eaten temporally and geographically very close to their fields. While city markets and more extensive resources allowed the nobility and townspeople some freedom from simplicity, limitations stemming from the closeness of connection between food production and consumption resulted in—at least in times of good harvests—an alimentation physiologically and environmentally sounder than America’s today. By no means does this argument seek to trivialize the trials of hunger and famine. Rather, as obesity statistics rage ever more virulently in America and the broader world, it seeks to impress that freshness has its benefits, and plenty comes with its own problems. The Land of Cockaigne, conceived as Utopia, yet lies very distant from Paradise.

Notes

6 The Editors of Encyclopædia Britannica, ”Telomere,” (Encyclopædia Britannica, Inc., 2016), n. pag.
10 Woolgar, 11.
13 Woolgar, *Food*, 37.
15 Woolgar, *Food*, 38.
22 Woolgar, *Medieval*, 211.
31 Bullough, *Female*, 320.
39 Bullough, *Female*, 319.
40 Bullough, *Female*, 318.
41 Bullough, *Female*, 319.
43 Bullough, *Female*, 325.
46 Woolgar, *Medieval*, 266.
50 Montanari, *Tastes*, 50.