

## Historical Virtues of the Walnut

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The point of origin for the Persian walnut (*Juglans regia*) lies in central Asia, where the tree grows in a wild and semi-cultivated state.<sup>1</sup> In pre-historic times, it spread to western China, the Caucasus, Persia, and Europe. Walnuts were likely an important food gathered by early humans. The last glacial epoch greatly restricted the extent of Persian walnuts in western Europe, but archaeologists have found their remains in southern France dating to 17,000 thousand years ago.<sup>2</sup> Neolithic peoples cultivated walnuts by 7,000 years ago, but they were not widely cultivated in the Mediterranean until ancient Roman and Greek times, when economic factors contributed to their dispersion throughout Europe.<sup>3</sup> Walnuts were an item of trade and amphora filled with walnut residue have been salvaged in sunken Roman ships in the Mediterranean.<sup>4</sup>

The walnut was the most important nut from a health standpoint in the ancient Mediterranean world. Its medicinal virtues were detailed in many Greek and Roman medical writings. Dioscorides, a Greek physician in the Roman army living in the first century C.E., traveled extensively and came to know many of the plants of the Mediterranean. His only surviving work, *Materia Medica*, was completed about the middle of the first century. Dioscorides esteemed walnuts for medicinal purposes. He believed that when they were eaten with rue and figs, the nuts counteracted poisons. Walnuts along with honey and rue helped with “inflammation of the breasts, abscesses and dislocations.” With onions, salt, and honey, walnuts would heal those bitten by dogs or men. When burnt, they assuaged colic. Dioscorides wrote that if walnut kernels were burned, ground with wine and oil, and applied to an infant’s head, the child’s hair would grow abundantly and bald spots would disappear. Walnuts, “if chewed and laid on as a plaster, cures gangrene, carbuncles, stye in the eye, and hair loss.” They were also mixed with garlic and applied as a poultice to remove bruises on the body. Many of these recommendations would appear in subsequent medical works for almost two thousand years.<sup>5</sup>

Galen, a Greek physician, lived in Pergamum and Rome a century after Dioscorides, and many of his writings survive. He repeated many of Dioscorides's claims for the walnuts and observed that walnuts were both very oily and astringent, but they were digestible and good for the stomach. Galen also recommended that they be combined with *garum* (a fermented fish sauce widely used as a condiment) to produce a laxative.<sup>6</sup>

Dioscorides and Galen both promoted versions of the “doctrine of signatures,” which held that plants resembling various organs and features of the body made effective remedies for those parts of the body. The Greeks called walnuts *karyon*, or “head,” probably because the shell resembles the human skull and the kernel bears a resemblance to the brain. The Romans thought walnuts looked more like testicles: They consecrated the walnut tree to Jupiter, the king of the Roman gods, and called the nuts “glands of Jupiter” (condensed to *juglans*). This gave rise to the walnut's scientific name, *Juglans regia*, literally, “royal nut of Jupiter.”<sup>7</sup> For the Romans, the walnut's appearance suggested its use as an aphrodisiac—a notion that was regularly revived over succeeding millennia.

Pliny the Elder, the first century Roman author of *Natural History*, wrote extensively of the walnut. He claimed that the Greeks had received the tree originally from Persia. Pliny and other ancient writers described the wedding custom of having the groom scatter walnuts among the young people while they sang “obscene songs.” Walnuts were used for dyeing wool, and Pliny had a special mixture, made with walnuts, that was intended to protect him “against all poisons for that day.”<sup>8</sup> He recommended walnuts as a breath freshener: When eaten after a dish containing onions, he wrote, walnuts “act as a corrective,” and thus prevent the disagreeable smell.<sup>9</sup> Pliny died when Mt. Vesuvius erupted in 79 C.E.; in the ashes of Pompeii and Herculaneum were found the remains of carbonized walnuts and several wall paintings with walnuts.<sup>10</sup>

The first-century C.E. Roman biographer Plutarch, on the other hand, reported that walnut trees were soporific, for they send “forth a heavy and drowsy spirit, which affects their heads who sleep beneath it.”<sup>11</sup> While there is no evidence that the tree produces any sort of “drowsy spirit,” scientists have determined that walnuts do contain melatonin, which regulates the sleep/wake

cycle. Some researchers believe that eating foods rich in melatonin helps allay insomnia.

The wisdom of the ancient Greeks and Romans survived the downfall of the western Roman empire.<sup>12</sup> The eleventh-century Persian physician Ibn Sīnā (Avicenna) included walnuts in his medical encyclopedia, *Canon of Medicine*. He repeated many of the statements made by Dioscorides and also offered recipes for candied walnuts to be served at banquets, and for a type of bread could be made from the nuts. Ripe walnuts, wrote Ibn Sīnā, could be preserved for long periods of time by coating them with sugar.<sup>13</sup>

Walnut trees flourished throughout Europe during the Middle Ages. The famous medical school at Salerno, Italy, included walnuts in their regimen. The purported medicinal benefits of walnuts also appeared in many European medical treatises. A twelfth-century German medical handbook, for instance, touted walnuts as a cure for a number of ailments, including sexual impotence.<sup>14</sup>

### European Herbals

The Renaissance was a period of scientific ferment in Europe, particularly in the field of medicine. Herbalists, botanists, and physicians compiled their observations and beliefs in herbals—books containing descriptions of plants and their purported medicinal virtues. Renaissance herbals, modeled after ancient Greek and Roman manuscripts like those of Dioscorides and Galen, described the curative qualities of the walnut. The early-seventeenth-century physician Daniel Sennert, for example, claimed that walnuts, ground up and combined with dates, raisins, egg yolks, and wine, could be employed as a plaster to heal carbuncles.<sup>15</sup> It may have been the carbuncle's resemblance to the walnut that inspired this treatment.

The sixteenth-century French physician Charles Estienne rejuvenated many of the ancient Roman and Greek beliefs concerning walnuts.<sup>16</sup> During the following century German physician Johannes Schröder offered this formula, somewhere between a medical prescription and a culinary recipe: perforate the walnut shells “and soak them 7 to 10 days in cold water, change the water daily, so they become sweet. Then cook until they soften. Then dry and add cinnamon, clove and some sugar or honey and cook to the right consistency.” Schröder believed that

candied walnuts aided digestion, which is why they were usually included among desserts.<sup>17</sup> The Bolognese herbalist Baldassare Pisanelli, in an early-seventeenth-century treatise on diet and health, pointed out that walnuts candied with sugar or honey were good “to use in cold weather to heat the stomach.” He also reported that they “offer much nutrition, increase the brain, and cooked with honey heal an old cough, and roasted and eaten with pepper.”<sup>18</sup>

The herbalist John Gerard proclaimed in 1597 that walnuts consumed with rue prevented “infection of the plague,” which had devastated Europe for centuries.<sup>19</sup> When the plague hit England again in the mid-seventeenth century, walnuts (combined with other ingredients) were often recommended for those wishing to avoid “this pestillance.”<sup>20</sup> Another source recommended combining rue, salt, garlic, and a walnut to prevent the plague.<sup>21</sup> Ralph Austen, one of the authors of *A Treatise on Fruit-Trees* (1653), verified this, writing that walnuts “distilled and drunk with vineger,” were thought to be a “preservative against the Pestilence.”<sup>22</sup>

The doctrine of signatures was revived and expanded in Europe during the Renaissance. It was popularized by Paracelsus, a sixteenth-century German/Swiss physician and botanist. The English naturalist William Coles began the task of systematically classifying the medicinal virtues of all plants according to the doctrine. When Coles examined the walnut he concluded that it had “the perfect Signature of the Head: The outer husk or green covering, represent the Pericranium, or outward skin of the skull.” The salt made from husks or barks, were “exceeding good” for head wounds. Coles saw the kernel as having “the very figure of the Brain,” making it “very profitable for the Brain.” All one had to do was bruise and moisten the walnut with wine and place it in the appropriate spot: “on the Crown of the Head, it comforts the brain and head mightily.”<sup>23</sup> While few other herbalists or physicians of the time believed that walnuts could cure maladies related to the head, Coles’s comments about the nuts were cited in the nineteenth and twentieth centuries—usually in a mocking way, as absurd examples of the debunked doctrine of signatures.<sup>24</sup> Recent studies, however, have suggested that consuming walnuts might well improve cognitive functioning.<sup>25</sup>

Eighteenth century physicians did determine the walnut to be helpful in treating various medical problems; in fact, many of its ancient Greek and Roman medicinal virtues were revived. The

English physician Robert James, in his *Pharmacopoeia Universalis*, noted that candied nuts were “gently emetic.” The nuts were also used to cure colic and counteract diarrhea, and to prevent “contagious Distempers,” while the tree’s leaves were recommended for treating gout, ulcers, and even cancer. Walnuts even cured hiccups, “perhaps more effectually, than any other Medicine”—or so reported Robert James.<sup>26</sup>

### Culinary Enjoyment

From the earliest volumes published, cookbooks frequently gave medical advice. Thomas Dawson, the author of a sixteenth-century English cookery book, proclaimed that walnuts could be used to prevent bad breath caused by eating onions.<sup>27</sup> In the seventeenth century, cookbook authors shifted their focus from the medicinal benefits of the walnut to its culinary applications. Walnuts were readily available, cheap, and easily preserved, and during the eighteenth and nineteenth centuries they were incorporated into a vast array of recipes from salads, sauces, and soups to pickles, preserves, and pies. Among the more common uses were in salads—in combination with apples, bananas, cherries, chicken, cream cheese, dates, or pineapple—culminating in the highly popular Waldorf Salad. Literally thousands of diverse recipes using walnuts or walnut products appeared in English and, later, American cookbooks.<sup>28</sup> Walnuts appeared in countless published recipes for breads, cakes, cookies, candies, and pastries. Formulas for unusual walnut-based alcoholic beverages, such as mead and wine, emerged in the eighteenth and nineteenth centuries.<sup>29</sup> One favorite way of preserving walnuts was to make ketchup from them. Recipes for walnut ketchup appeared in both British and American cookbooks up through the early twentieth century.<sup>30</sup> Walnut ketchup was, in turn, employed to flavor sauces for fish, meat, poultry, puddings, and savory pies.<sup>31</sup> Walnuts proved to be one of the most versatile ingredients in both the English and American larder. For the past half-millennium, cooks and chefs in the western world have used walnuts and walnut product in every imaginable type of dish.

For more than two millennia, medical practitioners have known that the walnut has health-giving qualities; using contemporary theories, they surmised why this was so. But it would take twentieth- and twenty-first-century science to assess and analyze the nutritional assets and

medicinal benefits of the walnut—and they are many, including omega-3 fatty acids, antioxidants, fiber, and numerous vitamins and minerals. Researchers have shown the diverse benefits of the walnut through many clinical studies. Because of the strong evidence of the walnut’s potential role in cardiovascular health, the U.S. Food and Drug Administration approved its first-ever qualified health claim for a whole food in March of 2004: “Supportive but not conclusive research shows that eating 1.5 ounces of walnuts per day, as part of a low saturated fat and low cholesterol diet, and not resulting in increased caloric intake, may reduce the risk of coronary heart disease.” In addition to heart health, studies have shown walnut consumption to benefit people with diabetes and cancer, promote bone health, assist with weight management, improve cognitive performance, and counteract some effects of aging.

#### Endnotes

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  3. Sytze Bottema, “The Holocene History of Walnut, Sweet Chestnut, Manna-ash and Plane Tree in the Eastern Mediterranean,” in Jean-Marc Luce, ed., *Paysage et alimentation dans le monde grec* (Toulouse: Presses universitaires du Mirail, 2000), 35-6, 38, 41; Paul G. Bahn, “The French Pyrenees: An Economic Prehistory” (Ph.D. dissertation, University of Cambridge. 1979); Frank H. Lamb, *Book of the Broadleaf Trees; the Story and the Economic, Social, and Cultural Contribution of the Temperate Broad-leaved Trees and Forests of the World* (New York: W.W. Norton & Co., 1939), 182.
  4. R. J. A. Wilson, “Archaeology in Sicily, 1982-8” (Archaeological Reports, No. 34 (1987-1988): 149; see also <http://www.archaeobotany.de/database.html>).
  5. Pedanius Dioscorides, *De materia medica* (Lyons: Balthasar Arnolet, 1552), 134, translated by Ken Albala. Similar comments on the use of walnuts can be found in John Bostock and H. T. Riley, eds. *The Natural History of Pliny* (London: George Bell and Sons, 1890), vol. 4, 515; Charles Estienne [Richard Surfleet, trans.], *Maison Rustique, or the Countrey Farme* (London: Adam Islip for John Bill, 1616), 384-7; Baldassare Pisanelli, *Trattato della natura de’ cibi* (Venice: Domenico Imberti, 1611), 22-4, translated by Ken Albala; John Gerard, *The Herball or*

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6. Mark Grant [trans. And ed.], *Galen: on Food and Diet* (New York: Routledge, 2000), 132.

7. Stephen A. Barney [trans.] et al., *The Etymologies of Isidore of Seville* (New York: Cambridge University Press, 2006), 344.

8. John Bostock and H. T. Riley, eds., *The Natural History of Pliny* (London: George Bell and Sons, 1890), vol. 4, 515. The recipe was: “Take two dry walnut kernels, as many figs, of rue twenty leaves; stamp all these together into one mass, with a grain or corn of salt. Whoever accustoms himself to eat of this confection in a morning next his heart, there shall no poison hurt him that day.” See Charles Owen, *An Essay Towards a Natural History of Serpents* (London: Printed for the author, 1742), 41.

9. John Bostock and H. T. Riley, eds., *The Natural History of Pliny* (London: George Bell and Sons, 1892), vol. 4, 514.

10. Wilhelmina Mary Feemster Jashemski and Frederick Gustav Meyer, eds., *The Natural History of Pompeii* (New York: Cambridge University Press, 2002), 117.

11. Plutarch [William Watson Goodwin, trans.], *Plutarch’s Lives* (Boston: Little, Brown, and Co., 1874), vol. 3, p. 263.

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13. Ibn Sīnā (Avicennia) *The Cannon of Medicine* Book 2, cap. 501.

14. Daniel Abrams, *Sexual Symbolism and Merkavah Speculation in Medieval Germany* (Tübingen: Mohr Siebeck, 1997), 47.

15. Daniel Sennert, *Opera*, Book III, (Lyon: Huguetan & Ravaud, 1650), 267, translated by Ken Albala.

16. Charles Estienne [Richard Surflet, trans.], *Maison Rustique, or the Countrey Farme* (London: Adam Islip for John Bill, 1616), 384-7.

17. Iohannes Schröder, *Pharmacopeia Medico-Chymica* (Lyon: Philip Borde, 1665), 519, translated by Ken Albala.

18. Baldassare Pisanelli, *Trattato della natura de’ cibi* (Venice: Domenico Imberti, 1611), 22-4, translated by Ken Albala.

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19. John Gerard, *The Herball or Generall Historie of Plantes* (London: Printed for the Author, 1597), 250-1.
20. Pierre Drouet [T. Twyne, trans.], *A New Counsell against the Pestilence* (London: By Iohn Charlewood for Andrew Maunsell, 1578).
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25. Lester Packer, *Micronutrients and Brain Health* (Boca Raton: CRC Press, 2009), 183-4.
26. Robert James, *Pharmacopoeia Universalis: Or, a New Universal English Dispensatory* (London: J. Hodges, 1747), 382.
27. Thomas Dawson, *The Good Huswives Jewell 2 Parts* (London: London: Iohn Wolfe, 1587/97), 40.
28. Richard Briggs, *The New Art of Cookery* (London: G. G. J. and J. Robinson, 1788), 486.
29. For a walnut wine and mead recipes, see Raffald, Elizabeth, *The Experienced English Housewife* (Manchester: Printed by J. Harrop, for the author, 1769), 304, 312; Richard Briggs, *The New Art of Cookery* (London: G. G. J. and J. Robinson, 1788), 617.
30. Examples of British and American walnut recipes can be found in Elizabeth Raffald, *The Experienced English Housewife*, 2nd ed. (London: printed for the author and sold by R. Baldwin, 1771), 293; [Maria Eliza Rundell], *A New System of Domestic Cookery formed upon Principles of Economy* (London: John Murray, 1816), 184; Elizabeth Raper Grant [Bartle Grant, ed.], *The Receipt Book of Elizabeth Raper written 1756-1770* (Soho: The Nonesuch Press, 1924), 67; Richard Briggs, *The English Art of Cookery*, 3rd ed. (London: G. G. and J. Robinson, 1794), 510; Frederick Accum, *Culinary Chemistry* (London: R. Ackerman, 1821), 247; Eliza Acton, *Modern Cookery for Private Families* 10th ed. (London: Longman, Brown, Green and Longmans, 1850), 134-35; Marion Cabell Tyree, ed., *Housekeeping in Old Virginia* (Richmond: J. W. Randolph & English, 1878), 236-37; Chas. A. Shinkle, *American Commercial Methods of Manufacturing Pickles, Preserves, Canned Goods, etc.* (Baltimore: The Canning Trade, 1902), 23.
31. For instance see, Raffald, Elizabeth, *The Experienced English Housewife* (Manchester: Printed by J. Harrop, for the author, 1769), 16, 17, 19, 20, 22, 61, 62, 74,75, 82, 92, 97, 102, 112, 114, 117, 121, 195, 198, 317, 343; Richard Briggs, *The New Art of Cookery* (London: G. G. J.



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