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Steven Shapin

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*Changing Tastes: How Things Tasted in the  
Early Modern Period and How They Taste Now*



THE HANS RAUSING LECTURE 2011  
UPPSALA UNIVERSITY

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SALVIA SMÅSKRIFTER

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Steven Shapin  
Harvard University, Cambridge MA



UPPSALA  
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## *Changing Tastes: How Foods Tasted in the Early Modern Period and How They Taste Now*

Steven Shapin

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Food once tasted differently than it now does. Lots of people say that. They usually mean that fruits, vegetables, bread, beer, and meats are not what they once were – not as tasty, not as authentically what they are supposed to be. Either the varieties are not bred for taste, or they're produced and distributed in a way that makes them bland and insipid, or we've lost the arts of preparing them to retain or enhance their flavors. Gustatory nostalgia is very much on the late modern menu.

All that is quite possibly true, but it is not my topic here. Setting aside the likely physical differences in many foods – the varieties of apples, cabbages, fowl, and pork we have lost; the disappeared modes of cultivating and preparing them that affect their taste – nevertheless other things have changed that are present in the tasting moment. These other things are not chemical; they are cultural. And these cultural things have to do with what is in peoples' heads as they put things into their mouths. (Figure 1)

The tasting act is, indeed, both cultural and natural. The natural bit has to do with the make-up of what's on the end of your fork and what happens physiologically when food hits your tongue. We can subject the former to chemical analysis and we can learn about the latter through the findings of modern neurophysiology. And we can presume, without too much risk, that the general form of these natural things is stable over time. The cultural bit has to do with networks of expectations and understandings about how things should taste, with frameworks relating taste both to the nature of aliments and to bodily consequences, and with the



**Figure 1:** “Girl Eating an Apple” (ca. 1675) by Gottfried Schalken (1643–1706) (courtesy of Staatliches Museum Schwerin). A moment just before the girl tastes the apple. We presume that the seventeenth-century Dutch apple will have had roughly the same sorts of chemical constituents as apples now do, and we presume that the responses of receptors on her tongue will also have been much the same as they now would be when reacting to similar stimuli. But what does she think about the qualities and powers of apples? What vocabulary and concepts does she possess to orientate to taste, to make sense of taste, and to recognize the significance of taste for her constitution and for the constitution of the material world?

available vocabularies for talking about them and describing them to others. And here we presume that such things are temporally and culturally variable. Nor is it evident that what happens on the palate can be disentangled from what is going on in the culturally variable constitution of the mind. It may well be that the experience of taste is, after all, more profoundly affected by temporally varying customs and expectations than it is by the changing breeds of pigs or the lost arts of peasant or court cooking.

I start by describing some features of a taste culture that marked the early modern period. First, there is an ontological or cosmological aspect – the relations between what people believed about their food and their understanding of the basic nature of matter. Second, there is an epistemological dimension – thought about the sensory experiences of taste (and of digestion) and its status as a source of knowledge about what makes up your aliment. Third, there are features relating the ontology and epistemology of aliment to practical medical advice and to what have been called

the practices of the self. What are the edibles in the saying “You are what you eat”? Who is this “you”? How does this “you” know about these edibles and what they do in you and to you?

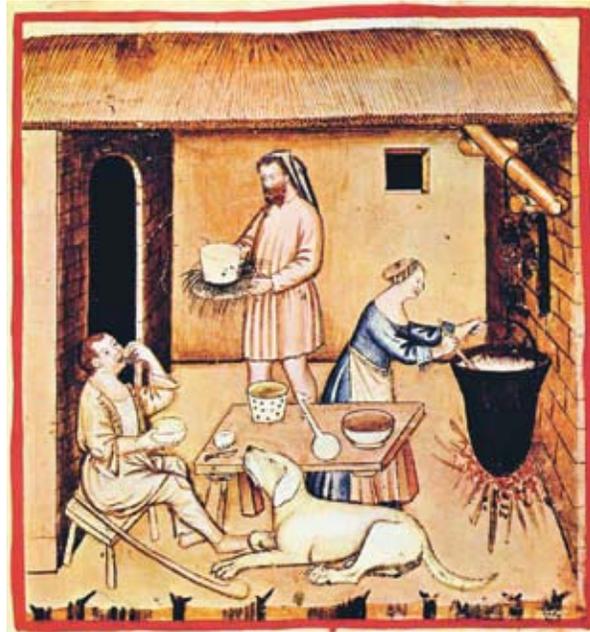
### *Talking about Qualities*

Start with a basic vocabulary used from Antiquity through the early modern period for describing the nature of aliments. Leeks are hot and dry. Black pepper is the same but more so. Melons are cold and moist. Cucumbers are similar but not quite so moist as melons. Quinces are cold and dry. Figs are hot and moist. Duck is hotter than goose. Beef is cold and dry, though roasting might make it moister and baking drier; lamb is moist but roasting makes it drier. Fish in general is colder and moister than flesh from terrestrial animals. It was often said that all wines are hot, but different sorts of wines were considered to differ markedly in their qualities and they could change fundamentally as they aged, typically becoming hotter.<sup>1</sup> Disagreement about the qualities and powers of foods occurred, but there was much that was common in Renaissance and early modern judgments of such things.

This is Galenic vocabulary, and it was a vocabulary that was used from Latin Antiquity at least through the seventeenth century to describe the edible world and to prescribe how and what people should consume. It referred to the four basic qualities of things in the world – qualities possessed in pairs by the four elements (earth, air, water, and fire), and, in the body, by the four humors (blood, phlegm, yellow and black bile). But at the same time hotness, coldness, moistness, and dryness are qualities that are apprehended by the senses – by the sense of touch but also by the sense of taste. (Figure 2 and 3) For Aristotle, the senses of

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<sup>1</sup> E.g., Tobias Venner, *Via recta ad vitam longam, or A plaine philosophical discourse of the nature, faculties, and effects, of all such things, as by way of nourishments, and dietetical observations, make for the preservation of health with their iust applications unto every age, constitution of bodie, and time of yeare..* (London, 1620), p. 31; see also Steven Shapin, “The Tastes of Wine: Notes towards a Cultural History,” *Rivista di Estetica*, forthcoming.



**Figure 2:** The *Tacuinum Sanitatis* was a medieval manual on health and well-being. It was meant for a literate lay audience and Latin versions exist from at least the fourteenth century. Illustrations of various food items were accompanied by text noting their Galenic qualities: hot, cold, moist, and dry— each describable in terms of “degrees,” where the third degree represented the most intense mode of the quality. Cheese, for example, was often said to be cold and moist in the first degree, but old cheese became warmer. (“Food: cheese,” *Tacuinum Sanitatis*, *Manoscritto Casanatense* ms 4182 [14<sup>th</sup> century]).

touch, taste, and smell were constitutively related: “What can be tasted is always something that can be touched.”<sup>2</sup> Taste, smell, and touch were understood as contact senses – in which the sensed object, or (in the case of smell) some material emanations from it, had to be in contact with the sensing organ – unlike sight and hearing. They might be necessary, even in some instances reliable, senses, but they were almost always deemed low and crude. That

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<sup>2</sup> Aristotle, *On the Soul*, 422a8; translation from *The Complete Works of Aristotle*, ed. Jonathan Barnes, 2 vols. (Princeton, NJ: Princeton University Press, 1984), Vol. I, p. 671.



**Figure 3:** Red wine, as depicted in the *Tacuinum Sanitatis*. Wines were generally understood to be warm and to warm the body; red wines tended to be warmer than white; red wines from hot countries were warmer than those from cooler countries; and all wines got warmer as they got older. A late sixteenth-century source said that “Wine after Galen is hot in the second degree, and if it be very old, it is hot in the third.” (“Food: red wine,” *Tacuinum Sanitatis*, *Manoscritto Casanatense* ms 4182 [14<sup>th</sup> century]).

evaluation was persistent. Condillac began his survey of the senses with smell, “because of all the senses it is the one which appears to contribute least to the cognitions of the human mind.” Taste was not much better, but it affects its possessors more powerfully than smell.<sup>3</sup> Kant went further: the sense of smell “is the most ungrateful and also seems to be the most dispensable.” He had a low view not just of the discriminating powers of taste and smell,

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<sup>3</sup> Étienne Bonnot de Condillac, *Condillac's Treatise on the Sensations*, trans. Geraldine Carr (Los Angeles: University of Southern California, 1930; orig. publ. 1754), pp. xxxi, 55.

but even of their capacity to give pleasure: “It does not pay to cultivate it [smell] or to refine it at all in order to enjoy; for there are more disgusting objects than pleasant ones (especially in crowded places), and even when we come across something fragrant, the pleasure coming from the sense of smell is fleeting and transient.” The sense of taste was accounted a bit more valuable: at least it promotes sociability and warns us of unwholesome food.<sup>4</sup> Modern scientists have agreed: “Taste,” says the author of a standard textbook in sensory physiology, “is the ‘poor relation’ of the family of senses.”<sup>5</sup> Vision has been pervasively used as a model for proper knowledge, gustation only in specific views of experiential, affect-laden knowing.<sup>6</sup> Michael Polanyi repeatedly referred to scientific judgment as “connoisseurship” and gestured at the parallels between the skills of the scientist and those of the wine-taster, but, the views of Thomas Kuhn apart, this sort of anti-rationalist picture of science has not proved popular.<sup>7</sup>

The vocabulary of qualities did not, of course, exhaust the language that early moderns used to describe the taste of things. Aristotle’s *On the Soul* divided the “species of flavor” into the opposing categories, sweet and bitter. The former included the

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<sup>4</sup>Immanuel Kant, *Anthropology from a Pragmatic Point of View*, ed. Robert B. Loudon (Cambridge: Cambridge University Press, 2006; orig. publ. 1798), pp. 50–51.

<sup>5</sup>Frank A. Geldard, *The Human Senses*, 2<sup>nd</sup> ed. (New York: John Wiley, 1972), p. 480.

<sup>6</sup>Frank Sibley, “Tastes, Smells, and Aesthetics,” in idem, *Approaches to Aesthetics: Collected Papers on Philosophical Aesthetics*, eds John Benson, Betty Redfern, and Jeremy Roxby Cox (Oxford: Clarendon Press, 2001), pp. 207–255, on pp. 207, 211; also Constance Classen, David Howes, and Anthony Synnott, *Aroma: The Cultural History of Smell* (London: Routledge, 1994), esp. pp. 88–90. It was always understood that gustation and olfaction are not only related but complementary senses. When I refer here to ‘taste,’ it will usually be clear from context whether the meaning is gustation or an intermingling of gustation and olfaction. Mary Carruthers, “Sweetness,” *Speculum* 81 (2006), pp. 999–1013, on pp. 1004–1005, notes the etymological link between *sapor* (flavor) and *sapientia* (knowledge): “What taste distinguishes is ‘savours,’ or ‘flavors,’ *sapores* ... As an activity of knowing, tasting is directly experiential: acting upon the heart as well as the mind, basic to eating and necessary for elemental growth ...” See also Gloria Origg, “Wine Epistemology: The Role of Reputational and Ranking Systems in the World of Wine,” in *Questions of Taste: The Philosophy of Wine*, ed. Barry C. Smith (Oxford: Oxford University Press, 2007), pp. 183–195, on pp. 184–185.

<sup>7</sup>Michael Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy* (Chicago: University of Chicago Press, 1958), pp. 17, 56–57, 62, 67, 75, 84, 92, 140–141, 201, 275, 369–370.

succulent, and the latter, the salty. Somewhere in between came the pungent, the harsh, the astringent, and the acid. “These pretty well exhaust the varieties of flavor,” Aristotle said, concluding that there was neither the need for nor the possibility of a very rich and extensive vocabulary of tastes and smells: in human beings neither sense was very discriminating, though Aristotle (and Galen too) reckoned that gustation was more sensitive than olfaction.<sup>8</sup> Even after an attempted revolution in the epistemology of the senses in the seventeenth century, John Locke, who led that revolution, wrote that

The variety of smells, which are as many almost, if not more, than species of bodies in the world, do most of them want names. Sweet and stinking commonly serve our turn for these ideas; which, in effect, is little more than to call them pleasing or displeasing; ... Nor are the different tastes, that by our palates we receive ideas of, much better provided with names. Sweet, bitter, sour, harsh, and salt are almost all the epithets we have to denominate that numberless variety of relishes, which are to be found distinct, not only in almost every sort of creatures, but in the different parts of the same plant, fruit, or animal.<sup>9</sup>

Locke was right: early modern repertoires for describing the smells and tastes of food were neither extensive nor very

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<sup>8</sup> Aristotle, *On the Soul*, 422b10, in *Complete Works of Aristotle*, Vol. I, p. 672.

<sup>9</sup> John Locke, *An Essay Concerning Human Understanding*, 27<sup>th</sup> ed. (London: T. Tegg, 1836), p. 65. This exact formulation escaped philosophy and science and was closely followed by the French gourmet Brillat-Savarin: “Now, as yet, no flavor has ever been appreciated with rigorous exactness, we have been forced to be satisfied with a limited number of expressions such as *sweet, sugary, acid, bitter*, and similar ones, which, when ultimately analyzed, are expressed by the two following *agreeable* and *disagreeable*, which suffice to make us understood, and indicate the flavor of the sapid substances referred to. Those who come after us will know more, for doubtless chemistry will reveal the causes or primitive elements of flavors”: Jean Anthelme Brillat-Savarin, *The Physiology of Taste; or, Transcendental Gastronomy*, trans. Fayette Robinson (Philadelphia: Lindsay & Blakiston, 1854; orig. publ. 1825), p. 62. For a survey of the language, or lack of language, for designating odors, see Classen, Howes, and Synnott, *Aroma*, esp. pp. 3–4.

discriminating. Little had changed from Antiquity. Apart from the Galenic terminology, common early modern vernacular terms for describing the tastes of foods and drinks were limited: sweet, bitter, sour, sharp, delicious, luscious, rough, sapid, salty, stinking, aromatic, brisk, rough, piquant, fragrant, delightful, pleasant, gross, good, and so on – but not on and on. Expertly formulated lists of fundamental tastes did not typically run to more than a dozen items. Writing in *The Anatomy of Plants* in 1675, Nehemiah Grew worked up eight “simple tastes,” each illustrated by its botanical paradigm, and he gave names to many more compound tastes. The simple were bitter (wormwood) and its contrary sweet (sugar); sour (vinegar) and its contrary salt; hot (cloves) and cold (sal prunella, probably a form of saltpetre); aromatic (which he insisted was a taste as well as an odor, the instance being euphorbium) and its contrary, the nauseous or malignant (aloes and rhubarb).<sup>10</sup> In the mid-eighteenth century, Linnaeus enumerated sweet, acid, bitter, saline, astringent, sharp, viscous, fatty, insipid, aqueous, and nauseous; Albrecht von Haller had the traditional (and still basic) sweet, bitter, sour, and salty – adding rough, urinous, spirituous, aromatic, acrid, putrid, and insipid.<sup>11</sup> Seventeenth-century compendiarists displayed an amalgam of Aristotelian and Galenic vocabularies, one parsing taste into the two categories of hot and cold. The former included “Acrimony, Bitternesse, Saltnesse, Sweetnesse, Fatnesse,” and the latter “Sowerness, Austerity, and Tartness.”<sup>12</sup> Late in the seventeenth century, the vegetarian pacifist Thomas

<sup>10</sup>Nehemiah Grew, *The Anatomy of Plants with an Idea of a Philosophical History of Plants, and Several Other Lectures, Read before the Royal Society* (London, 1682), pp. 280–282. Grew also classified tastes by “degrees,” which, together with recognized compound tastes, gave him – though he did not list them all – “1800 sensible and defineable *Variations of Taste*.” (The lecture on tastes was read to the Royal Society in March 1675.)

<sup>11</sup>E. G. Boring, *Sensation and Perception in the History of Experimental Psychology* (New York: D. Appleton-Century Co., 1942), pp. 452–455. “Umami”—generally glossed as “meaty” or “savory,” and said to be caused by glutamates – has, since 1985, been generally accepted as a fifth basic taste.

<sup>12</sup>Henry Ainsworth, *The art of logick; or, The entire body of logick in English. Unfolding to the meanest capacity the way to dispute well, and to refute all fallacies whatsoever*, 2<sup>nd</sup> ed., corrected and amended by Zachary Coke (London, 1657), p. 37.

Tryon referred glancingly to “The four grand Qualities, whence all perfect Tastes do proceed, viz. the Astringent or Saltish, the Bitter, the Sweet and the Sour.” In the middle of the sixteenth century, an English writer lamented the poverty of English taste terms that could be reliably used to describe wines: he knew that the ancients had a somewhat richer wine taste vocabulary, but despaired to know how to translate such Latin usages as *adstringens*, *austerum*, *acerbum*, *acer*, and *acidus* and how to apply them properly.<sup>13</sup> A seventeenth-century attempt to describe wine tastes named just four – “sweet, acute, austere, and milde.”<sup>14</sup> In principle all other taste terms were understood to derive from the four qualities of things, but in practice taste vocabulary was not often explicitly referred to its cosmological foundations. For present purposes, it is important to note that these qualities were themselves sensory categories. Hot, cold, moist, and dry are all qualities of things that are sensible as such – by the related contact senses of touch and taste.

### *Tasting the World*

“You are what you eat” is a common enough saying – you can find versions of it as far back as you like and in practically every culture – but Galenic vocabulary bound your nature to aliment, and to the experiences of taste and digestion, in a profound way. Just as food and drink could be described in terms of their possession of the four qualities, so too were the humors which produced human

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<sup>13</sup>William Turner, *A New Booke of the Natures and Properties of all wines that are commonly used here in England ...* (London, 1568), sig. Diiiv-Diiiii; see also Michael R. Best, “The Mystery of the Vintners,” *Agricultural History* 50 (1976), 362–376.

<sup>14</sup>Medieval Italians may have had a richer wine vocabulary, reaching to perhaps nine terms. Allen Grieco, “Le goût du vin entre doux et amer: essai sur la classification des vins au Moyen Age,” in *Le vin des historiens*, Actes du 1er symposium “Vin et Histoire,” Université du vin: Suze-la-Rousse, 1990, pp. 89–97, and “I sapori del vino: gusti e criteri di scelta fra Trecento e Cinquecento,” in *Dalla vite al vino: Fonti e problemi della vitivinicoltura italiana nel medioevo*, eds Jean-Louis Gaulin and Allen J. Grieco (Bologna: CLUEB, 1994); also Yann Grappe, “Descriptions and Representations of Taste: Historical Reflections on Wine,” *Gastronomic Sciences* (February, 2007), 33–41; Shapin, “The Tastes of Wine.”

temperaments (complexions or constitutions). The melancholic was someone in whom black bile predominated and, thus, who tended to temperamental coldness and dryness. And so on for those of bilious, phlegmatic, or sanguinary temperaments. (Figure 4)

There were two broad principles regulating medical and lay practical advice about diet. First, if you were a person in normal health, you should consume foods and drinks whose qualities were in overall harmony with your temperament, bearing in mind that this harmony might pertain to individual items, to a meal, or to diet over a period of time (adjusting for the seasons, manner and stage of life). As a thirteenth-century Italian aristocrat wrote, “Whoever wishes to respect nature, which is a healthy thing to do ... should feed each person’s nature with its like, that is, hot foods for those whose nature is hot, cold foods for those whose nature is cold, and so on.”<sup>15</sup> The usual English term expressing this matching of qualities was “agreement.” So Luigi Cornaro, the sixteenth-century Venetian author of *De vita sobria*, said that one ought to eat and drink “only such things as agree with the stomach.”<sup>16</sup> “Agreement” followed the contours of temperament: the Helmontian physician Everard Maynwaringe noted that “As there is *variety* of *dispositions* and *inclinations* of mind agreeing with, and liking one thing; but *disagreeing*, *resisting*, and *disliking* another: so is it in the *variety* of *bodies* and *food*: one *body* is of this *constitutional* propriety, temper and appetite; will sute and agree well with this *meat*, and disagree with another.”<sup>17</sup> An early seventeenth-century English physician, writing on the varieties of wine, advised that “there are divers sorts of wine, and the same not indifferently agreeable to everie age and constitution,” noting that “every man may make choyse

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<sup>15</sup> Aldobrandino of Siena, quoted in Jean-Louis Flandrin, “From Dietetics to Gastronomy: The Liberation of the Gourmet,” in *Food: A Culinary History from Antiquity to the Present*, eds Flandrin and Massimo Montanari, trans. Albert Sonnenfeld (New York: Penguin, 2000), pp. 418–432, on p. 424.

<sup>16</sup> Luigi Cornaro, *The Art of Living Long [with essays by other authors]* (Milwaukee, WI: William F. Butler, 1903; orig. publ. 1558), p. 81.

<sup>17</sup> Everard Maynwaringe, *The Method and Means of Enjoying Health, Vigour, and Long Life ...* (London, 1683), pp. 16–17.



**Figure 4:** The four basic human temperaments, as depicted in the *Physiognomische Fragmente* (1778) of Johann Caspar Lavater (1741–1801). The phlegmatic type (the cold and moist humor of phlegm dominating) is at the upper right; the choleric (hot and dry yellow bile predominant) is middle left; the sanguinary (hot and moist blood) at middle right; and the melancholic (cold and dry black bile) is lower left. (The special physiognomies of “witty” and “enterprising” persons are also shown upper left and lower right.) Humoral theory, from Galen through the early modern period, provided a framework for talking about what people and their dispositions were like, and also for understanding how foods with different qualities fared when consumed by people of different temperaments. For example, it was normally good for sanguinary types to eat a diet that was tilted towards the hot and moist, though, when ill, they should eat to counter-act the momentary imbalance of qualities. (Johann Caspar Lavater, *Essays on Physiognomy*. Abridged from Mr Holcroft's translation [London: G. G. J. & J. Robinson, 1800; orig. publ. 1778], plate IV)

of those wines that are best agreeable for him.” But in general Rhenish wines and claret suited those of a hot complexion while sherry-sack did not agree with such as these.<sup>18</sup> Robert Burton’s *Anatomy of Melancholy* joined in the common wisdom that wine was hot, and so “Wine is bad for madmen, and such as are troubled with heat in their inner parts or braines, contrary to them, but to melancholy which is cold, as most is, Wine is very good.”<sup>19</sup> The seventeenth-century English author of *Every Man His Own Doctor* set out his stall by stating that it was the object of both reason and experience to learn “that this doth agree with my Constitution, and why that doth not.”<sup>20</sup> A diet that agreed with you was in general good medicine, as it preserved you in that harmony natural to your constitution. And the same scheme allowed for the good medicine that *corrected* the humoral imbalance and extremes making for ill-health. When you were ill, when your humors were imbalanced, then you needed to consume foods whose qualities tended in the opposite direction to those disordering your frame: “Knowing my *Temperament* to be hot and Choleric, I must avoid those things in meat and drink that increase it, and use things that do allay and cool heat.”<sup>21</sup>

The arts and sciences of *cooking* were medically framed and understood, as has been pointed out by Ken Albala and others.<sup>22</sup> First, tastes that *went* together, and that were commended for their harmony and pleasantness, were commonly combinations of aliment whose qualities balanced, or “corrected for,” each others’ qualities, for example, the cold and moist melon corrected by the hot and dry proscuitto. “Hot” spices were often recommended for

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<sup>18</sup> Venner, *Via recta*, pp. 25–28.

<sup>19</sup> Robert Burton, *The Anatomy of Melancholy* (London, 1621), p. 473.

<sup>20</sup> Archer, *Every Man His Own Doctor*, pp. 3–4.

<sup>21</sup> Archer, *Every Man His Own Doctor*, p. 11.

<sup>22</sup> Ken Albala, *Eating Right in the Renaissance* (Berkeley: University of California Press, 2000), chs 3–4; Jean-Louis Flandrin, “Seasoning, Cooking, and Dietetics in the Late Middle Ages,” in *Food: A Culinary History*, eds Flandrin and Montanari, pp. 313–327.

that reason: cooking and digestion were understood to be the same sort of heat-driven process, and spices enhanced digestibility. In medieval and much early modern cuisine, spices were viewed more as medicines than as condiments, or, put another way, condiments *were* medicines. The same correction-and-balance scheme also informed intense medical concern with the order of items in a meal and the time of day, time of year, and stage of life in which foods were taken. Physicians and laypeople debated, often disagreeing, about whether a combination of foods rolling about in your stomach at any one time was bad for you – breeding ill humors and fumes – or whether, judiciously chosen, that multiplicity ensured healthful balance. In the event, when one reads Renaissance and early modern dietetic and culinary texts, it is difficult to distinguish Galenic medical concerns from what seem, to modern eyes, an emerging connoisseurship.

If your natural melancholic coldness and dryness exceeded the temperamental norm, then foods and drinks that warmed and moistened were indicated. It was a fine prudential equilibration between normal balance and pathological imbalance, and thus between taking aliment that matched or that corrected the qualities of your constitutional or momentary temperament: so the everyman who was meant to be his own doctor must observe the rules of “Sympathy” and “Antipathy,” and this might require so much experience that, as both ancients and early moderns said, it could take you until you were 30, 40, or even 50 years old before you could truly be your own physician, capable of taking your own dietary advice.<sup>23</sup>

Coming to know agreement was something you might do by hearing or reading about the qualities of aliment and by recognizing the signs of your own temperament. But there were other ways of knowing agreement. One was through *taste*. Your temperament was evident throughout the stuff of your body, and this included your

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<sup>23</sup> Archer, *Every Man His Own Doctor*, pp. 3–4, 11.

palate. The saying *Quod sapit nutrit* (if it tastes good, it's good for you) has to be understood through the ontology of humors and qualities. What pleases your tongue does so because its corporeal qualities match – agree with – those of your body.<sup>24</sup> This was an article of medical common sense, at least in those sectors of society that could exercise significant alimentary choice. Aristotle noted that “It is by taste that one distinguishes in food the pleasant from the unpleasant, so as to flee from the latter and pursue the former.”<sup>25</sup> In its enthusiasm for spices, a fourteenth-century dietary text joined taste and healthy digestion: these “are of no small value in a healthy diet because condiments make food *more delectable to the taste and therefore more digestible. For what is more delectable is better for digestion.* Condiments add nutritional value and correct for harmful properties.”<sup>26</sup> Taking up ancient counsel to be one’s own physician, Montaigne made the point personal. Skeptical about the need for external medical authority, he noted that “Whatever I accept with dislike hurts me, and nothing hurts me that I do with hunger and zest.” Everyone knew that wine was not good for sick people, and everyone also knew that sick people tended to lose their taste for wine.<sup>27</sup> The circumstance was familiar, and the Cartesian Nicolas Malebranche used just that example, writing almost a century later: “A man in fever, for example, finds that wine is bitter, and wine is also then harmful to them. The same man finds it pleasant-tasting

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<sup>24</sup>The tag is attributed to Avicenna but is probably proverbial. The link between pleasant taste and wholesomeness was widely accepted, but could be disputed by the ascetically inclined: see, for example, Cornaro, *Art of Living Long*, p. 46.

<sup>25</sup>Aristotle, *Sense and Sensibilia*, 436b15, in *Complete Works of Aristotle*, Vol. I, p. 694.

<sup>26</sup>Magninus of Milan, quoted in Flandrin, “Seasoning, Cooking, and Dietetics,” p. 320 (emphases in original).

<sup>27</sup>Michel Eyquem de Montaigne, “Of Experience,” in *The Complete Essays of Montaigne*, trans. Donald M. Frame (Stanford, CA: Stanford University Press, 1965; orig. publ. 1580, 1588), pp. 815–857, on p. 832; see also Steven Shapin, “How to Eat Like a Gentleman: Dietetics and Ethics in Early Modern England,” in *Right Living: An Anglo-American Tradition of Self-Help Medicine and Hygiene*, ed. Charles E. Rosenberg (Baltimore, MD: Johns Hopkins University Press, 2003), pp. 21–58, on pp. 41–44.

when he is in health, and wine is then good for him.”<sup>28</sup> This is the connection in which it is useful to remember that *taste* once carried the general sense of *testing* or *trying*, which it now does only in the case of cooking.<sup>29</sup>

*Quod sapit* was one basis for the now seemingly perverse medical enthusiasm for sweet things, though, like many other exotic foods and spices, sugar had long been treated as a medicine and was sold by apothecaries.<sup>30</sup> In 1620, an English physician announced that “Sugar agreeth with all ages, and all complexions.”<sup>31</sup> That sentiment *could* be opposed – John of Gaunt in *Richard II* (I iii. 236) said that “Things sweet to taste prove in digestion sour” – and, while Albala writes that expert medical sentiment on this was changing by the beginning of the seventeenth century, influential physicians insisted on the superior nutritiousness of sweet things well into the eighteenth century.<sup>32</sup> William Cullen judged that the agreeableness of taste was a wholly reliable guide to nutritiousness: “In general, the more sweet substances are all nutritious,” while “those of an acrid, bitter, nauseous nature are improper. Every body, *en gros*, will allow the truth of this.” Human bodies are “most delicate” and “the acrid, bitter, and disagreeable can never be admitted as aliments.” Cullen had evidently heard, and rejected, criticisms of Scots’ sweet tooth: sugar is wonderful; it doesn’t rot the teeth, as some allege, and “the mischiefs of what is called in Scotland eating

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<sup>28</sup> Nicolas Malebranche, *The Search After Truth*, trans. and eds Thomas M. Lennon and Paul J. Olscamp and *Elucidations of The Search After Truth*, trans. and ed. Thomas M. Lennon (Cambridge: Cambridge University Press, 1997; orig. publ. 1674–1678), p. 647.

<sup>29</sup> It still had this broader sense for Shakespeare: “I hope, for my brother’s justification, he wrote this but as an essay, or taste of my virtue”: *King Lear* I ii. 46.

<sup>30</sup> Aristotle said that sweetness indexed the capacity to nourish: “[N]ourishment is effected by the sweet”; *Sense and Sensibilia*, 442a8, in *Complete Works of Aristotle*, Vol. I, p. 701. For medieval sensibilities towards the concept of sweetness, see Carruthers, “Sweetness”; for sugar as medicine, see Sidney W. Mintz, *Sweetness and Power: The Place of Sugar in Modern History* (New York: Penguin, 1986), pp. 30, 45, 79, 87; James Shaw and Evelyn Welch, *Making and Marketing Medicine in Renaissance Florence* (Amsterdam: Rodopi, 2011), pp. 18–19, 191–197, 209–210.

<sup>31</sup> Venner, *Via recta*, pp. 104–105; also Mintz, *Sweetness and Power*, p. 104.

<sup>32</sup> Albala, *Eating Right in the Renaissance*, pp. 211–212.

of sweets, are wrongly imputed to sugar.”<sup>33</sup>

In the 1670s, Malebranche defended the reliability of the senses, including gustation, as guides to medical prudence: how things tasted could be quite a good sign of their powers and effects, a suggestion also made by Hooke and Grew. A healthy person, with senses in good order, did not need a physician, Malebranche said. He was well aware of the common objection that “if we followed our senses, [we would] often eat poison,” but he didn’t believe it: “[A]s to poisons, I do not think that our senses ever lead us to eat them; and I believe that if, by chance, our eyes excite us to taste something poisonous, we would not find it to have the kind of taste that would make us swallow it ...” The alimentary exotic also repelled: the initially disagreeable taste of unfamiliar foods would cause us to take none or very little of them, and that too was prudential. In fact, if our tastes ever lead us astray, that is because our bodies are not in their natural state, because our senses have been corrupted by a bad diet, or because foods have been prepared in an artificial way, disguising their true nature. Beware of the elaborate concoctions prepared by cooks: “[I]f cooks have found the art of making us eat old shoes in their stews, we must also make use of our reason and distrust these bogus meats that are not in the state that God created them.” It was good to eat simply: then we taste things one by one and in their natural state.<sup>34</sup> Later, David Hartley cautioned against foods having an “acid” taste, and anything initially “disagreeable” to the palate – even though, like coffee, it might be “made grateful by custom.” So your first impression of agreeable taste, not your habituated impression,

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<sup>33</sup>William Cullen, *Lectures on the Materia Medica* ... (Philadelphia: Robert Bell, 1775; orig. publ. 1772), pp. 45–47, 55, 93–94, 166 (quoting pp. 45–47, 93). This text was based on Edinburgh University lecture notes from the early 1760s.

<sup>34</sup>Malebranche, *The Search After Truth*, pp. 645–646. Malebranche was here elaborating on comments in Descartes’s *Principles*. People could, Descartes admitted, be fooled into eating something poisonous if the toxic substance was mixed with a food having an agreeable taste, but nothing could be inferred from this about the reliability of taste as a general guide to action: René Descartes, *The Principles of Philosophy*, in *The Method, Meditations, and Selections from the Principles*, trans. John Veitch, 6<sup>th</sup> ed. (Edinburgh: William Blackwood, 1879), pp. 162–163.

was the natural and reliable one.<sup>35</sup>

This broad relationship between taste, quality, and consequence was folded into the epistemic structures of eighteenth-century botany, materia medica, and physiology. The article on “Botany” in the first edition of the *Encyclopædia Britannica* codified common knowledge, glossing standard taste categories according to their bodily effects:

The sensations of smell and taste give us some intimation of the nature and qualities of plants. An agreeable taste or smell is seldom accompanied with noxious qualities; on the other hand, when these senses are disagreeably affected, the qualities are generally more or less noxious, being either purgative, emetic, or poisonous. Plants that have a sweet taste are generally nutritive; those that have a salt taste are warm and stimulant. Plants of an acrid taste are corrosive ... Bitter plants are alkaline, stomachic [that is, prompting good digestion], and sometimes of a suspicious nature. Acid plants are cooling, and allay thirst; but those of an austere taste are astringent.<sup>36</sup>

Eighteenth-century philosophers debated the relationship between judgment and taste, and they debated the emerging metaphorical extension of palate taste to aesthetic taste. In doing so, they could call on a standard of taste which was grounded in both physiology and theology and which held out the possibility of moral critique: “The taste of the palate,” wrote Thomas Reid in *Essays on the Intellectual Powers of Man*, “may be accounted most just and perfect, when we relish the things that are fit for the nourishment of the

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<sup>35</sup> David Hartley, *Observations on Man, His Frame, His Duty, and His Expectations*, 6<sup>th</sup> ed. (London: Thomas Tegg, 1834; orig. publ. 1749), p. 459. Hartley generally warned of the unwholesomeness of any aliment having a “high relish.”

<sup>36</sup> “Botany,” in *Encyclopædia Britannica: or, A dictionary of arts and sciences*, 3 vols. (Edinburgh, 1771–1773), Vol. I, p. 632.

body, and are disgusted with things of a contrary nature.” That sort of taste was “the manifest intention of Nature” and we could, thus licensed, search for the pathologies – mental derangement and bad habits – that had corrupted natural taste.<sup>37</sup> Taste was not *for* connoisseurship; it was what enabled us to observe natural law. Self-indulgent connoisseurship, indeed, was one of causes of corrupted taste.

### *The Epistemology of the Pineapple*

In the late seventeenth century, Tryon wrote that “all the various and numberless Tastes of things, both in the Animal, Vegetable, and Mineral Kingdoms do all proceed and arise from the four grand Qualities aforesaid, ... so that there are but four perfect Tastes, they being the Radix of all others ... ; and according to the Equality of those four, or the weakness or predominancy of each, such a Taste [i.e., one in which the four perfect tastes were in balance] does carry the upper dominion in all things, and accordingly is the same more or less grateful to the Pallate and Stomach, and homogeneal to the Body.” Tryon was here describing probably the most celebrated exotic new taste of the early modern – the pineapple – and giving an account of why in its nature the pineapple was so incredibly delicious, such a completely perfect food. The pineapple was “grateful,” Tryon noted, to the stomach as well as to the tongue, and this referred to a second sense of what it was for aliment to “agree.”<sup>38</sup> You could *tell* whether something “didn’t agree with you” when it didn’t go down well, when it didn’t sit well on your stomach, or when it didn’t come out the other end in due form and quantity. Occasionally, your ability to sleep well after eating a certain food

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<sup>37</sup>Thomas Reid, *The Works of Thomas Reid, D. D.*, ed. Sir William Hamilton, 7<sup>th</sup> ed., 3 vols. (Edinburgh: Maclachlan and Stewart, 1872; orig. publ. 1785), Vol. I, p. 491.

<sup>38</sup>Thomas Tryon, *Friendly Advice to the Gentlemen-Planters of the East and West Indies* (London, 1684), pp. 5–6.

was also a sign of agreement.<sup>39</sup> Well into the eighteenth century, Galen was quoted on the bodily experiences of agreement: let all people “consult their reason, and observe what agrees, and what disagrees, with them, that, like wise men, they may adhere to the use of such things as conduce to their health, and forbear every thing which, by their own experience, they find to do them hurt; and let them be assured, that by a diligent observation and practice of this rule, they may enjoy a good share of health, and seldom stand in need of physic or physicians.”<sup>40</sup> Why pay a doctor when you could tell by evident signs what agreed with you?

In practical dietetic terms, this understanding of agreement and its related ontological concept of taste meant that following your appetites might, and often should, be the right thing to do. Ascetics, and people commending deference to professional medical expertise, might differ, but the notion that “If it tastes good, it’s good for you” circulated influentially in Renaissance and early modern civil society. Harington’s English translation of the Salernitan verses announced that you needed no other dietetic rule but “appetite.”<sup>41</sup> Montaigne preferred *Quod sapit* as sounder medical advice than the iron chains of professional expertise: “Both in health and in sickness I have readily let myself follow my urgent appetites. I give great authority to my desires and inclinations. ... My appetite in many things has of its own accord suited and adapted itself rather happily to the health of my stomach.” When sharp sauces did not agree with his stomach, he went off them; when ill, his taste for wine disappeared and he did not attempt to stand against appetite until it naturally returned.<sup>42</sup> The eighteenth-

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<sup>39</sup> E.g., William Bullein, *The Government of Health* (London, 1595), p. 26.

<sup>40</sup> In one eighteenth-century version, a medical compendium closely following Galen recommended that “experience” could teach you how different foods sat on the stomach. Therefore, each person “should consult his own constitution, and eat only what perfectly agrees with him.” John Fothergill [Fothergill], *Rules for the Preservation of Health ...*, 6<sup>th</sup> ed. (London, [1770?]; orig. publ. 1762), p. 33; see also pp. 31, 49, 68, 74 (for Tiberius), 81 (Galen’s language).

<sup>41</sup> Sir John Harington, *The English Mans Doctor, or The Schoole of Salerne* (London, 1624), p. 3.

<sup>42</sup> Montaigne, “Of Experience,” pp. 815–857, on p. 832.

century Spanish Benedictine, Benito Feijóo, followed Malebranche in saying that “we had better govern ... ourselves by our own sense, in the preservation of our health, than by all the laws of physic ... A strong desire ... is a sign that the stomach has within it some ferment proper to dissolve the matter for which it so eagerly wishes.” Subject to exceptions and qualifications, and cautioning against the moral and medical vice of gluttony,

we may and ought to follow the will of our appetite in the choice of what we eat and drink. Certain it is, that nature has made a union between our palate and our stomach, consonant to the habit of our bodies, and that, what is agreeable to the one, will be amicable to the other. The Almighty has given us senses to be as watchmen for our preservation, and that of taste alone will inform us what is conformable to our present constitution or otherwise. Experience shews, that the stomach never embraces with affection what the palate receives with disgust. If, however, this maxim should seem too general to any of my readers, let them follow that of Hippocrates, which is not very different, and who says, in his aphorisms, that we ought to prefer that food and drink which is most agreeable, though of a less wholesome quality, to what would seem better, but is more displeasing to us.<sup>43</sup>

The first rule of medicine, inscribed on Apollo’s Temple at Delphi, was “Know thyself,” and in Galenic medicine you might do that effectively through the evidence abundantly and accessibly offered by how foods *tasted* and by the experiences of *digestion*. In the early modern, taste and digestion were cosmological conditions with evident epistemological implications.

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<sup>43</sup> Benito Jerónimo Feijóo y Montenegro, *Rules for Preserving Health, particularly with regard to Studious Persons*, trans. anon. from Spanish (London, [1800]), pp. 76, 78.

To summarize: in the early modern culture of taste – a culture which indeed remained substantially stable since Roman Antiquity – how things tasted had ontological bearings: the taste of things testified to how things ultimately were; taste also had epistemological implications, in that taste-based knowledge was regarded as secure; and it had practical consequences, since experiential knowledge of your body and your aliment enabled you to constitute your own expertise and to prescribe your own regimen to maintain health and, when ill, to restore you to health.

What happened when this culture of taste began to change and, finally, when it practically disappeared from official expertise about bodies and aliments? At the very end of the seventeenth century, John Locke too tried to come to terms with the taste of a pineapple, and he reckoned that then-current vocabularies for describing such a thing rendered that description impossible.<sup>44</sup> The pineapple was both a talisman of the unprecedentedly exotic and a typical sense object (Figure 5). Locke reckoned the standard language we had to convey taste to others who had not consumed such a thing was not up to task, though, to be sure, the objection should apply to much more common subjective experiences, such as the taste of a pear. We talk about how things taste, but it is mostly only talk, and what we ascribe to words should be rightly ascribed to prior sensory experiences with the objects of taste.

Simple ideas ... are only to be got by those impressions objects themselves make on our minds, by the proper inlets appointed to each sort. If they are not received this way, all the words in the world, made use of to explain or define any of their names, will never be able to produce in us the idea it stands for. ... He that thinks otherwise, let him try if any

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<sup>44</sup> Sean B. Silver, "Locke's Pineapple and the History of Taste," *The Eighteenth Century* 49 (2008), 43–65; also George S. Rousseau, "Pineapples, Pregnancy, Pica and *Peregrine Pickle*," in idem, *Enlightenment Borders: Pre- and Post-Modern Discourses: Medical, Scientific* (Manchester: Manchester University Press, 1991), pp. 176–200, esp. p. 193.



**Figure 5:** Royal gardener John Rose presenting a pineapple, supposedly the first grown in England, to King Charles II. Painting attributed to Hendrick Danckerts (1675). The pineapple, encountered in the Caribbean by Columbus, became one of the prime exemplars of the exotically delicious and luxurious. There was an English craze for growing it domestically and the description of its taste was constituted as a philosophical problem. (Ham House, Surrey, UK / The Stapleton Collection/ The Bridgeman Art Library)

words can give him the taste of a pine apple, and make him have the true idea of the relish of that celebrated delicious fruit. So far as he is told it has a resemblance with any tastes whereof he has the ideas already in his memory, imprinted there by sensible objects, not strangers to his palate, so far may he approach that resemblance in his mind. But this is not giving us that idea by a definition, but exciting in us other simple ideas by their known names; which will be still very different from the true taste of that fruit itself.<sup>45</sup>

We are here on the classic ontological and epistemological terrain of the Scientific Revolution, the distinction between primary and secondary qualities first traced in Galileo's *Assayer* and later found in writings by René Descartes, Robert Boyle, and, systematically, by Locke himself. The subjective experiences of how things look, feel, sound, smell, and taste are not to be taken as reliable indications of how they *are*. So Locke famously wrote that sensible qualities, like the yellowness of pineapple flesh, the sharpness of its skin, the sweetness of its savor, and any other of its sensible qualities are "secondary qualities." They "are in truth nothing" in the pineapple itself; the power to produce those sensations *are* in the pineapple, but they depend on the "primary qualities" of the size, shape, arrangement, and motion of its non-sensible parts. Note here that the vocabulary traditionally used to describe the pineapple as foodstuff – including its position on the map of Galenic qualities – was now, so to speak, de-ontologized, and the knowledge we may have of the pineapple as a smelled and tasted object now appeared as an epistemological *problem*. The taste of a pineapple was perhaps

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<sup>45</sup> Locke, *Essay Concerning Human Understanding*, p. 309. Note Hume's invocation of the same example: "We cannot form to ourselves a just idea of the taste of a pine-apple, without having actually tasted one": David Hume, *A Treatise of Human Nature*, ed. L. A. Selby-Brigge (Oxford: Clarendon Press, 1888), p. 5; and see also Thomas Reid, *Lectures on the Fine Arts*, ed. Peter Kivy (The Hague: M. Nijhoff, 1973), p. 35. For a study of the taste-assimilation of another exotic Caribbean edible, see Marcy Norton, "Tasting Empire: Chocolate and the European Internalization of Mesoamerican Aesthetics," *American Historical Review* 111 (2006), pp. 660–691.

the first truly modern philosophical problem.

The epistemological problem of the pineapple was a move in philosophy but it also marked a shift in the status of common experience, in medicine, and in the practices of the self. I've said something about how taste featured in medical thought and practice in the seventeenth century and before. You are what you eat: temperaments, to extent they were still invoked after Locke, could have no causal connection to the qualities of aliment. The cosmological connection had been formally severed. With some notable exceptions, *Quod sapit nutrit* became a nonsensical thing to say in official scientific and medical culture. Brillat-Savarin said it in the 1820s, but he was a gourmand, not a doctor or a philosopher.<sup>46</sup> Indigestion also lost its epistemological resonance. And, more generally, every cultural practice that depended upon taste and smell being reliable guides to what the world was ultimately like was being set free from its ontological and epistemological moorings.

### *Inferring Qualities*

If taste had now lost its status as a reliable philosophical guide – as an index to what the world was ultimately like – that did not mean it had become worthless. Nor could it, or any of the other senses, be regarded as worthless in a culture which understood the senses as God-given. The same senses that were no longer much good in telling us about the ultimate realities of the world might remain valuable in getting us around the world on a day-by-day basis. Foucault and others have written about the pre-classical world of “signatures,” a world in which there were telling and God-given *resemblances* between the appearances of things, their natures and powers.<sup>47</sup> Those resemblances operated at an alimentary level.

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<sup>46</sup> Brillat-Savarin, *Physiology of Taste*, p. 57.

<sup>47</sup> Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences* (London: Tavistock, 1970), ch. 2; Walter Pagel, *Paracelsus: An Introduction to Philosophical Medicine in the Era of the Renaissance*, 2<sup>nd</sup> rev. ed. (Basel: S. Karger, 1982), esp. pp. 148–149.

Consider how this worked for wines in sixteenth- and seventeenth-century commentary. Wines that resembled blood were ascribed some of its powers, so “tent” (or “tinto”) “is a grosse nutritive wine, and is very quickly concocted into blood, but the same is oppilative [obstructing secretion], and therefore it is very hurtfull for such as are subject to obstructions. It is fit for them that are extenuated and weake, and stand in neede of much nourishment, and the same somewhat astrictive [binding or astringent].” And Greek wine, “which is of a blackish red colour, ... breedeth very good blood, reviueth the spirits, comforteth the stomach and liver, and exceedingly cheereth and strengtheneth the heart.”<sup>48</sup> Wines which were light in color and in texture were often said to have medical consequences flowing from those sensible qualities. Canary and sweet wines are “purgative, and open Obstructions in the Lungs”; Rhenish wine, is wholesome, “diuretick, and serviceable in the Stone and Gravel”; Champagne “affords a sudden Flush of animal Spirits, and inspires Vivacity.”<sup>49</sup> Wine that is “white, subtile, and thinne, is not turbulent to the stomach, but of easie digestion, soone penetrateth the veines, provoketh urine, and is profitable in Fevers.”<sup>50</sup> You could use the tastes of wine as a guide to physiological action: a sixteenth-century Italian physician advised choosing wines that were “Pleasant in taste and of a sweete smell, of suche relish (I say) as in taste seemeth neither to be very tarte and sharpe, nor yet very doulcet & sweet. For thynges sharpe and pontique, ... do quickly cause obstructions: the one because they bynde, the other because they passe into the veines and members unconcocted ...”<sup>51</sup>

Within the Galenic framework of qualities, the moistness of

<sup>48</sup> Venner, *Via recta*, p. 29.

<sup>49</sup> Peter Shaw, *The Juice of the Grape: or, Wine Preferable to Water* (London, 1724), p. 15; see also David Hancock, *Oceans of Wine: Madeira and the Emergence of American Trade and Taste* (New Haven, CT: Yale University Press, 2009), pp. 326–331.

<sup>50</sup> Tobias Whitaker, *The Tree of Humane Life, or, the Blood of the Grape. Proving the Possibilitie of Maintaining Humane Life from Infancy to Extreame Old Age without any Sicknesse by the Use of Wine* (London, 1638), p. 26.

<sup>51</sup> Guglielmo Gratarolo, *A Direction for the Health of Magistrates and Studentes*, trans. Thomas Newton (London, 1574), sig. G ii; also Shapin, “The Tastes of Wine.”

wines might be taken for granted and most interest centered on their degree of heat. But the relative hotness of wines was traditionally part of both dietary expertise and the vernacular, able to be inferred from taste and physiological effect. In modern wine-tasting, wines are often described as “hot” when they have a high alcohol content and sometimes when they lack the acidity to balance the alcohol. Plausibly, the same subjective gustatory impressions featured in early modern treatments of vinous heat, though knowledge of the climatic conditions of the regions in which the grapes were grown might also figure. Wine in general was taken as hot, a sound inference from its physiological heating effect, and therefore not so suitable for the young, who were already hot by nature. But some wines were hotter than others. Wines were believed to get hotter as they aged – “Wine after Galen is hot in the second degree, and if it be very old, it is hot in the third,” a late sixteenth-century physician wrote – and fortified wines were considered hotter than unfortified ones. But he wanted you to know that heat was relative to the type and source of the wine: “for who doth not know that sacke is hotter than white Wine or Claret, and Malmsay or Muskadell hotter than Sacke, and Wine of Madera or Canary to be hottest of all?”<sup>52</sup> White wines were accounted less hot than red, though this was also relative to their origins. The white wines of France were said to be less hot than the reds, but even the red wines of France were less hot than, say, Spanish or Italian white wines.

Foucault said that the cosmology of resemblances and signatures disappeared by the early seventeenth century, replaced by a mechanical, quality-less cosmos, the world of representation.<sup>53</sup> But the story is not that tidy. “Newtonian” and “Cartesian” medical writers of the late seventeenth and early eighteenth centuries could stick with the old inferential patterns or they might use the newer

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<sup>52</sup>Thomas Cogan, *The Haven of Health ...* (London: Henrie Middleton, 1584), p. 203; see also Turner, *New Booke of the Natures and Properties of All Wines*, sig. Bii-Biiii.

<sup>53</sup>Foucault, *Order of Things*, pp. 17–18, 51–58.

mechanical vocabularies to justify traditional inferences from the sensory features of aliment to their qualities and powers. In the early eighteenth century, the Newtonian physician John Arbuthnot, going through a standard list of aliments and their virtues, occasionally endorsed analogical reasoning from the taste of things to reliable knowledge of their physiological powers. Apples in general were “pectoral, cooling, and lenitive” (the first term meaning good for digestive and respiratory complaints and the last meaning gently laxative or softening), and he noted that “their Qualities may be easily known by their Taste.”<sup>54</sup> Things gave sensory signals of what they were likely to *do* when eaten.

The vocabulary linking taste to powers did not disappear suddenly – nor was it likely to do when one reflects on the range of expert and lay practices in which such inferences were institutionalized. References to taste that invoked qualities and temperaments continued into the nineteenth century and beyond, especially in popular medical genres, though they began to fall away from academic writings from the late seventeenth and early eighteenth century. In the natural philosophies of Boyle, Descartes, and Newton, the causes of taste and smell were ultimately ascribed to the effect on the bodily substance of particles variously sized, shaped, configured, and moved.<sup>55</sup> None of these writers had much to say about taste and smell – beyond the point of philosophical principle. Boyle announced that the diversity of tastes and odors might intelligibly be accounted for by the usual mechanical principles – flowing from “the bigness, figure and motion of the saporifick corpuscles.” The varying specific tastes of edible vegetables arose from “a complication of Mechanical Affections, as shape, size, &c. in the particles of that matter which is said to be endowed with

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<sup>54</sup>John Arbuthnot, *An Essay Concerning the Nature of Aliments...*, 3<sup>rd</sup> ed. (London: J. Tonson, 1735; orig. publ. 1731), p. 252.

<sup>55</sup>See Anna Marie Roos, *The Salt of the Earth: Natural Philosophy, Medicine, and Chymistry in England, 1650-1750* (Leiden: Brill, 2007), esp. pp. 14–17, 94–107, for anti-Scholastic views of the chemical causes of tastes, and, therefore, the use of taste as an index of chemical structure and physiological effect.

such a specifick tast.” And the changing tastes associated with the ripening of fruits might, he speculated, be caused by the motion of “the saporifick Corpuscles” which, rubbing up against each other, were rendered “more slender or thin, and less rigid, or cutting and harsh, than they were before.”<sup>56</sup> The diverse sensations of taste, which Descartes called “after touch, the grossest of the senses,” were brought about by “the diversity of figure” in the particles impinging on the nerves of the tongue. In the 1670s, Nehemiah Grew reckoned that the tastes of different plants and plant products arose from their saline chemistry – sharp and pointy salts, for example, caused strong tastes; round ones were responsible for weak and soft tastes – and, in one of the rare allusions to taste in the *Opticks*, Isaac Newton speculated that “the sharp and pungent Taste of Acids” might flow from “the strong Attraction whereby the acid Particles rush upon and agitate the Particles of the Tongue.”<sup>57</sup> Hooke, ever the technological optimist, suggested in *Micrographia* ingenious means by which smell and taste, and not just vision, might eventually be restored to their prelapsarian powers, noting existing techniques for improving the sensitivity of wine tasting.<sup>58</sup>

It was left to the eighteenth-century iatromechanical disciples to fill in the picture with physiological details. The Newton-following Scottish diet doctor George Cheyne had little to say about taste – understandably so, since he warned against a “sweet tooth” and all forms of dietary pleasure – but he knew, with philosophical certainty, about the in-principle properties of alimentary particles

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<sup>56</sup> Robert Boyle, *Experiments and Observations about the Mechanical Production of Tasts* (London, 1675), pp. 3, 25, 31–33. Parallel mechanical accounts of smells are in the accompanying tract *Experiments and Observations about the Mechanical Production of Odours* (London, 1675). Both are bound together and separately paginated in Boyle, *Experiments, Notes, &c. about the Mechanical Origine or Production of Divers Particular Qualities* (London, 1676). See also Boyle, *The Origine of Forms and Qualities, according to the Corpuscular Hypothesis* (Oxford, 1666), pp. 10, 78, 117.

<sup>57</sup> Descartes, *Principles of Philosophy*, p. 253; Grew, *Anatomy of Plants*, pp. 286–290; Roos, *Salt of the Earth*, pp. 100–101; Isaac Newton, *Opticks*, 2<sup>nd</sup> ed. (London: W. and J. Innys, 1718), p. 361.

<sup>58</sup> Robert Hooke, “The Preface,” *Micrographia* (London: John Martyn, 1665), sig. c2.

and the effects of those properties on the body.<sup>59</sup> If Cheyne had developed a fuller theory of taste, it would possibly have resembled the view of his contemporary, David Hartley, that “strong tastes, smells, &c. are, according to the modern philosophy, marks of great powers of attraction and cohesion in the small component particles of natural bodies,” powers that made for difficulty in digestion and a resulting unwholesomeness. Hartley said that he wanted to give an account of particular tastes from doctrine of vibrations, but did not ultimately provide that account, as such a thing was “very difficult.”<sup>60</sup>

Other eighteenth-century texts put in place a chemical vocabulary, sometimes, but not necessarily, tied to Newtonian or Cartesian corpuscular theories of matter, that is to say, matter with the *qualities* and *powers* stripped out. These vocabularies typically offered an inferential pastiche, providing ways in which writers could still link the taste of aliments to their ultimate make-ups and nutritive properties. Taste might continue to be epistemologically significant, though in a much more attenuated sense than in Galenic culture. For example, Arbuthnot’s *Essay Concerning the Nature of Aliments* of 1731, which still referred intermittently to the four Galenic temperaments, judged that “Tastes are the Indexes of the different Qualities of Plants as well as of all Sorts of Aliment,” but those taste-making qualities were not the Galenic tetrad; they were instead “different Mixtures of Water, Earth, Oil and Salt, but chiefly from the Oil and Spirit mix’d with some Salt of a peculiar Nature.” Accounting for specific tastes, like the bitter and the acrid, Arbuthnot noted that these differed only in “the sharp Particles of the first, being involv’d in a greater Quantity of Oil than those of the last.” And in sweet tastes, “the acid Particles seem to be so attenuated, and dissolv’d in the Oil, as to produce only a small and grateful Titillation.” The real nature of foods *was* those different

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<sup>59</sup> George Cheyne, *Essay on Regimen* (London: Rivington, 1740), e.g., pp. 58–60, 91–92, 102, 115–116.

<sup>60</sup> Hartley, *Observations on Man*, pp. 96, 459.

chemical mixtures, known through natural philosophical expertise, even if ultimate constituents like salt, acid, and oil matched competent common taste experiences.<sup>61</sup>

A similar conceptual pastiche marks William Cullen's extensive treatment of aliment and taste, in his *Lectures on Materia Medica* of the 1760s. Like Arbuthnot, Cullen used a broadly chemical vocabulary to talk about aliment and its physiological functions, and, like him, Cullen's chemical vocabulary mapped roughly – not totally – onto the sensations of taste. The “Four Qualities” in foods were acerbity (not good for you), acidity (all right in moderation), texture (affecting the time things took to digest), and sweetness (very good indeed).<sup>62</sup> So three out of the four chemically-indexed alimentary qualities were tastable, and taste was taken to be a generally reliable guide to the properties of foods and to their physiological effects on the human frame.<sup>63</sup>

However, developments in chemistry in the late eighteenth and early nineteenth centuries for all practical purposes shattered any remaining substantial links in academic science between the experiences of taste and knowledge of the real properties and effects of foods. The physiological writings of the English chemist William Prout divided the properties of aliment – as he called them, the three “staminal principles” – into the saccharine (sweetness), the oily (a category which for him included alcohol), and the albuminous, and, while one can see in principle how at least the sweet might map onto the sensation of taste, in fact, Prout's

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<sup>61</sup> Arbuthnot, *Essay Concerning the Nature of Aliment*, pp. 55-56; see also William Forster, *A Treatise on the Various Kinds and Qualities of Foods* (Newcastle: John White, 1738), esp. pp. 17–22; Friedrich Hoffmann, *A Treatise on the Nature of Aliments, or Foods, in General* (London: L. Davis and C. Reymer, 1761).

<sup>62</sup> Cullen, *Materia Medica*, pp. 54–55.

<sup>63</sup> For a suggestive study of the changing role of the senses, including taste, in eighteenth-century chemistry, see Lissa Roberts, “The Death of the Sensuous Chemist: The ‘New’ Chemistry and the Transformation of Sensuous Technology,” *Studies in History and Philosophy of Science* 26 (1995), 503–529, esp. pp. 510–512.

work in the 1830s made absolutely *no* reference to gustation.<sup>64</sup> Nor did the slightly later, and more influential, work of the German chemist Justus von Liebig, dividing the nutritious constituents of aliment into proteins, starches, and fats. Liebig knew what these constituents were chemically, and he knew what effects they had on the human body, but the experience of taste was no part of this story.<sup>65</sup> Liebig and other organic chemists also worked intensively on the chemical bases of flavor sensations, especially in wine. Much research in this area had focused on the gross components that contributed to taste and smell (alcohol, organic acids, and sugars) and on those substances linked to wine faults.<sup>66</sup>

The complex “trace element” organic chemistry that marks the modern science of wine flavor scarcely existed in the nineteenth century. There was general recognition that the presence of free acids (tartaric, malic) was associated with good flavor, but the chemists’ search for the basis of wine flavor and odor through most of the nineteenth century targeted substances which gave wine its “winey” characteristics in general or the chemicals which gave good wine its agreeable (or “aromatic” or “old wine”) flavors, and not what distinguished one type of wine from another. A Scottish report on the findings of Liebig and Théophile-Jules Pelouze in the mid-1830s noted that chemists had “long suspected” that there was a chemical “cause of *the* agreeable odour generally known as *the* bouquet of wines,” and it celebrated Liebig and his associate for discovering, as they put it, an ether (whose analysis they gave and which they named oenanthic ether) extracted from a sample of an essential oil sent to them from a French chemist, “and which, from all its properties, appears to be *the* principle so long sought after. ...

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<sup>64</sup>William Prout, *Chemistry, Meteorology and the Function of Digestion* (London: William Pickering, 1834), pp. 470–477.

<sup>65</sup>Justus Liebig, *Familiar Letters on Chemistry*, ed. John Gardner (New York: D. Appleton, 1843), pp. 64–112.

<sup>66</sup>E.g., Justus von Liebig, *Chemistry in Its Applications to Agriculture and Physiology*, ed. Lyon Playfair, 3<sup>rd</sup> ed. (London: Taylor and Walton, 1843), pp. 311ff; Gerrit Jan Mulder, *The Chemistry of Wine*, ed. H. Bence Jones (London: John Churchill, 1857), pp. 138–187.

[I]ts odour is completely that of old wine, with the exception of its intensity.”<sup>67</sup> Chemists said that they did eventually want to discover differentiating substances, say between Loire sauvignon and cabernet sauvignon from Bordeaux, but they confessed that it would be a very long time before analytic techniques were up to that task. The chemistry was likely to be very complex and the flavor substances present in extremely small quantities.<sup>68</sup> Still, from the nineteenth century, it was thought possible in principle to *replace* the language of qualities, and even the language of descriptive predicates, with that of constituents. We would eventually be able to align the vocabulary of tastes with the specific chemical constituents that caused those tastes. There is no reason why people should not designate tastes and smells with the names assigned by chemists to the substances said to be their causes – and some oenologists, chemists, and expert wine-tasters now do just that. When you drink a glass of claret, you *may* say that it has the aroma of bell peppers, and, less likely, you may know that the substance responsible for this sensation is 2-methoxy-3-isobutylpyrazine, and experienced wine-makers and tasters often say that they taste TCA (2,4,6-trichloroanisole) in a wine that others refer to as “corked” and that still others say smells of “damp cardboard.” But the condition of knowing how to use these chemical terms is trust in expertise; it is not the sort of thing that is qualitatively apparent in the same way as the degree of heat of Madeira or the moistness of a musk-melon.<sup>69</sup> (Figure 6)

By the late nineteenth and early twentieth century, the fast-developing disciplines eventually to become known as nutrition science had effectively removed taste from the resources people possessed to know what their aliment was made of and, when

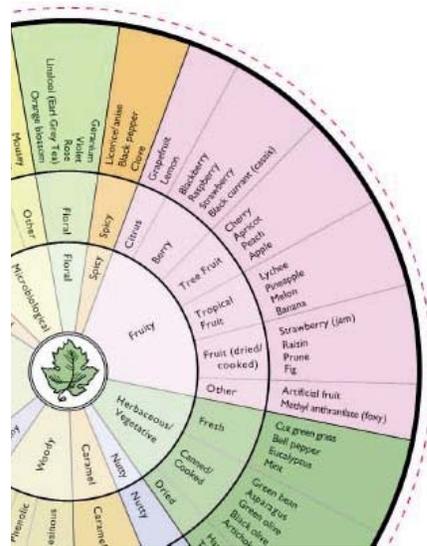
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<sup>67</sup> Anon., “Researches made on the Bouquet of Wine,” *Edinburgh New Philosophical Journal* 22 (1836–1837), 392 (emphases added).

<sup>68</sup> Mulder, *Chemistry of Wine*, esp. pp. v-vi: “One especial deficiency will remain, in the want of acquaintance with the particular components of very many kinds of wine, which in colour, smell, and taste present an almost endless variety. And I may say, that even this treatise will tell but little in comparison to what will eventually be known about wine.”

<sup>69</sup> Shapin, “The Tastes of Wine.”

ingested, what effects it would have on them. You do not know through taste the listed constituents on the government-mandated nutrition facts label, or, in those instances where you think you do, your ability to taste them is irrelevant to their identity and effects: cholesterol, saturated and trans fats, fiber, protein, vitamins, iron, and, of course, the energetic category of the calorie. You *think* you know that sweet things have sugar, that salty things have sodium chloride, and that fatty-looking things are fattening, but, as we now



**Figure 6:** Wine Aroma Wheel, Copyright 1990, 2002 Ann C. Noble, professor at University of California at Davis ([www.winearomawheel.com](http://www.winearomawheel.com)). “Initially, most people can’t recognize or describe aromas,” she says, “so the purpose of the wheel is to provide terms to describe wine aromas.” Users are meant to move from the general descriptors in the inner circle to the more specific ones on the outer ring, and they are encouraged to provide themselves with sample standards of such aromas as pineapple (one teaspoon of the juice) and asparagus (several drops of the brine from canned asparagus). It is understood in principle that reliable taste descriptors correspond to, and their sensed aromas are caused by, identifiable chemical constituents. The idea of the Aroma Wheel is to aid in producing a community of trained tasters who can together use the same predicates to designate the same wine odors.

## Nutrition Facts

Serving Size: 6 Pieces (84g)

| Amount Per Serving        |                   |
|---------------------------|-------------------|
| Calories                  | 240               |
| Calories from Fat 180     |                   |
| % Daily Value*            |                   |
| <b>Total Fat</b>          | 20 g <b>31%</b>   |
| Saturated Fat             | 8 g <b>40%</b>    |
| Trans Fat                 |                   |
| <b>Cholesterol</b>        | 55 mg <b>18%</b>  |
| <b>Sodium</b>             | 430 mg <b>18%</b> |
| <b>Potassium</b>          |                   |
| <b>Total Carbohydrate</b> | 4 g <b>1%</b>     |
| Dietary Fiber             | 1 g <b>4%</b>     |
| Sugars                    | 0 g               |
| Sugar Alcohols            |                   |
| <b>Protein</b>            | 13 g              |
| <b>Vitamin A</b>          | 0 IU 0%           |
| <b>Vitamin C</b>          | 0 mg 0%           |
| <b>Calcium</b>            | 20 mg 2%          |
| <b>Iron</b>               | 1.08 mg 6%        |

**Figure 7:** A contemporary American Nutrition Facts label. This label happens to be for Tyson's "Swedish Style Meatballs" ([www.quitehealthy.com/nutrition-facts/tyson/L293531.htm](http://www.quitehealthy.com/nutrition-facts/tyson/L293531.htm)). Such labels were mandated by the passage of the Federal Nutrition Labeling and Education Act of 1990, and they make visible the modern alliance between nutritional expertise and the state. Notice that the items reported on the label are all constituents rather than qualities (with the exception of the calorie, which is an expertise-identified power belonging to the chemical constituents); they are made known through nutritional expertise and are not discernible by lay senses; and none of them are identifiable through taste.

appreciate, both naturally occurring substances and the product of synthetic chemistry have trumped the scientific reliability of that sensory knowledge.<sup>70</sup> Foods now have constituents, rather than qualities and powers, and you know these constituents by *courtesy*, through trusting scientific experts. To the extent these constituents enter the late modern vernacular of self-making, the "you" in "you are what you eat" is a hybrid of lay and expert knowledge. (Figure 7)

### *The Connoisseur Tastes*

What about the place of connoisseurship in this story? So far, I've talked about the vocabularies and uses of taste with only glancing references to the connoisseur. That was intentional. The character of the connoisseur came fully into being in the eighteenth century,

<sup>70</sup> Zinc chloride and sodium bromide both taste salty— though not exactly like sodium chloride; certain lead salts taste sweet, as, of course, do artificial sweeteners.

together with the English importation of the French term, and, I want to argue (though I cannot establish the claim here), that the full efflorescence of the vocabulary of alimentary connoisseurship is a twentieth-century phenomenon. If that is so, there is some apparent counter-evidence to consider. Pliny the Elder mentioned a freed slave in the court of Emperor Claudius who could reliably distinguish wines of different geographical origins, detect which were flawed, and predict which would suit the Emperor's palate.<sup>71</sup> The emerging culture of refinement and sensibility in the eighteenth century edgily approved the extension of the idea of a taste for aliment to a taste for beautiful art. For some, this was metaphorical; for others, it testified to capacities genuinely shared between the two forms of taste. In 1712, Joseph Addison wrote in *The Spectator* about taste and how it might be improved:

I knew a person who possessed [gustatory taste] in so great a perfection, that, after having tasted ten different kinds of tea, he would distinguish, without seeing the colour of it, the particular sort which was offered him; and not only so, but any two sorts of them that were mixed together in an equal proportion; nay, he has carried the experiment so far, as, upon tasting the composition of three different sorts, to name the parcels from whence the three several ingredients were taken. A man of a fine taste in writing will discern after the same manner, not only the general beauties and imperfections of an author, but discover the several ways of thinking and expressing himself which diversify him from all other authors, with the several foreign infusions of thought and language, and the particular authors from whom they were borrowed.<sup>72</sup>

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<sup>71</sup> Pliny the Elder, *The Historie of the World: commonly called, The Naturall Historie of C. Plinius Secundus*, trans. Philemon Holland (London, 1634), p. 415.

<sup>72</sup> Joseph Addison, "On Taste [essay #409 in *The Spectator*]," in idem, *Essays Moral and Humorous* (Edinburgh: William and Robert Chambers, 1839), pp. 111–112, on p. 112.

Cervantes told a story – repeated in the mid-eighteenth century in David Hume’s essay “Of the Standard of Taste” – about the remarkable wine-tasting skills of some of Sancho Panza’s relatives. Sancho was inquiring about whether a wine on offer was from the place it was said to be, and it was in this connection that he boasted of his constitutional abilities as a taster. He said he came from a family of famous wine-tasters and he told this tale about several of his relatives. There was a village in La Mancha that had a hogshead of wine which was supposed to be good, but the villagers weren’t sure and wanted the opinion of Sancho’s kinsmen:

One of them [Sancho said] tastes it, considers it, and after mature reflection pronounces the wine to be good, were it not for a small taste of leather, which he perceived in it. The other, after using the same precautions, gives also his verdict in favor of the wine; but with the reserve of a taste of iron, which he could easily distinguish. You cannot imagine how much they were both ridiculed for their judgment. But who laughed in the end? On emptying the hogshead, there was found at the bottom, an old key with a leathern thong tied to it.<sup>73</sup>

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<sup>73</sup>David Hume, “Of the Standard of Taste,” in idem, *Essays and Treatises on Several Subjects*, new ed. (London: A. Millar, 1758), pp. 134–146, on pp. 138–139. The original is Miguel de Cervantes Saavedra, *Don Quixote*, Vol. V of *The Complete Works of Miguel de Cervantes*, 12 vols. (Glasgow: Gowans & Gray, 1901), p. 83: “What would you say, sir squire, to my having such a great natural instinct in judging wines that you have only to let me smell one and I can tell positively its country, its kind, its flavour and soundness, the changes it will undergo, and everything that appertains to a wine? But it is no wonder, for I have had in my family, on my father’s side, the two best wine-tasters that have been known in La Mancha for many a long year, and to prove it I’ll tell you now a thing that happened them. They gave the two of them some wine out of a cask, to try, asking their opinion as to the condition, quality, goodness or badness of the wine. One of them tried it with the tip of his tongue, the other did no more than bring it to his nose. The first said the wine had a flavour of iron, the second said it had a stronger flavour of cordovan. The owner said the cask was clean, and that nothing had been added to the wine from which it could have got a flavour of either iron or leather. Nevertheless, these two great wine-tasters held to what they had said. Time went by, the wine was sold, and when they came to clean out the cask, they found in it a small key hanging to a thong of cordovan; see now if one who comes of the same stock has not a right to give his opinion in such like cases.”

Hume was in no doubt that such abilities really existed, in wine and in other domains of literal and metaphorical taste, that there were people who had acquired them and others who had not.

The ability to *talk about* gustatory experiences was at that time becoming a tool of politeness. In the 1750s, the earl of Chesterfield instructed his son that

There is a fashionable kind of *small talk* which you should get: which, trifling as it is, is of use in mixed companies, and at table, especially in your foreign department; where it keeps off certain serious subjects, that might create disputes, or at least coldness for a time. Upon such occasions it is not amiss to know how to *parler cuisine*, and to be able to dissert upon the growth and flavour of wines. These, it is true, are very little things; but they are little things that occur very often, and therefore should be said *avec gentillesse et grace*.<sup>74</sup>

In 1825, the great connoisseur Brillat-Savarin applauded the *gourmands* who “can distinguish the flavor of the thigh on which the partridge lies down from the other” and the *gourmets* “who can tell the latitude in which any wine ripened as surely as one of Biot’s or Arago’s disciples can foretell an eclipse.”<sup>75</sup> And in 1863, an English connoisseur, who professed himself unable to make such discriminations, wrote that “The palate, like the eye, the ear, or touch, acquires by practice various degrees of sensitiveness that would be incredible, were it not a well-ascertained fact. ... It is related that of the Roman epicures in the time of Lucullus that they could decide whether an oyster was from the Lucrine Lake, or from Natolia.” In Burgundy, he said, experienced tasters could even tell the difference between the neighboring wines of Romanée,

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<sup>74</sup> Philip Dormer Stanhope Chesterfield (Earl of), *The Works of Lord Chesterfield including His Letters to His Son* (New York: Harper & Brothers, 1838), p. 480 (letter of 22 September 1752).

<sup>75</sup> Brillat-Savarin, *Physiology of Taste*, p. 71.

Richebourg, La Tâche, and Grande Rue.<sup>76</sup> The Victorian English were notably insistent on the pertinence of such discriminations. A connoisseur in one of Trollope's novels urged the importance of knowing the tastiest bit of a salmon – was it from the neck or the middle? A crude palate was the exact equivalent of an untrained eye or an immoral character: “Not to distinguish a ’51 wine from a ’58, is to look at an arm or leg on the canvas, and to care nothing whether it is in drawing, or out of drawing. Not to know Stubbs’ beefsteak from other beefsteaks, is to say that every woman is the same to you.”<sup>77</sup>

Discriminatory taste skills had long had an important place in court and polite societies and, by the eighteenth century, a reflective polite culture of connoisseurship valued gustatory discrimination – even if many writers continued to have their doubts about its legitimacy as an aesthetic capacity, on a par with a taste for poetry or painting.<sup>78</sup> “How could it have happened,” Kant asked, “that modern languages ... have designated the aesthetic faculty of judging with an expression (*gustus, sapor*) that merely refers to a certain sense organ (the inside of the mouth) and to its discrimination as well as choice of enjoyable things? ... [T]he feeling of an organ through a particular sense has been able to furnish the name for an ideal feeling; the feeling, namely, of a sensible, universally valid choice in general.”<sup>79</sup> Some approved that usage; others insisted on a firm evaluative distinction between palate judgment and painting judgment. Yet the development of alimentary connoisseurship is a

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<sup>76</sup> Thomas George Shaw, *Wine, the Vine, and the Cellar* (London: Longman Green, Longman, Roberts, and Green, 1864), p. 340.

<sup>77</sup> Anthony Trollope, *The Claverings*, 2 vols. (London: Smith, Elder, 1867), Vol. I, pp. 238–239.

<sup>78</sup> Carolyn Korsmeyer, *Making Sense of Taste: Taste, Food, and Philosophy* (Ithaca, NY: Cornell University Press, 1999); George Dickie, *The Century of Taste: The Philosophical Odyssey of Taste in the Eighteenth Century* (New York: Oxford University Press, 1996).

<sup>79</sup> Kant, *Anthropology from a Pragmatic Point of View*, pp. 139–140; see also Peter Meville, “A ‘Friendship of Taste’: The Aesthetics of Eating Well in Kant’s *Anthropology from a Pragmatic Point of View*,” in *Cultures of Taste/Theories of Appetite: Eating Romanticism*, ed. Timothy Morton (New York: Palgrave Macmillan, 2004), pp. 203–216.

noteworthy moment in the history of taste – and it now has a body of solid scholarship about it<sup>80</sup> – while some qualifications need to be made about its *reference* and its relationship to taste processes before and after the eighteenth century. Almost everything about gustatory discrimination before the eighteenth century, and much appearing in that century, concerned the capacity to discern soundness and authenticity. Especially in the case of wines, there was a series of practical concerns addressed through taste and smell: was the wine flawed? was it in good condition? was it adulterated? was it what it was said to be? There is no doubt that certain consumers were also concerned with the taste of quality, and that quality judgments about different sorts of aliment circulated in past cultures. But, once those questions were addressed, there was little or no concern with *parsing* gustatory and olfactory experiences, reflecting upon them, analyzing them, assigning descriptive predicates to component experiences, and then using those analytic descriptions to do something in the culture that was neither ontological nor medical.

The vocabularies of connoisseurship from the eighteenth century filled part of the cultural space once occupied by the sensibilities and categories of Aristotelian natural philosophy and Galenic dietetic medicine. So the decline of both Scholasticism and Galenic medicine must also have something to do with the changing languages and practices of taste. And here the history of taste intersects the history of epistemology. Sometime in the late seventeenth and eighteenth centuries, the institutionalization of the distinction between primary and secondary qualities disrupted

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<sup>80</sup> For example, Barbara Ketcham Wheaton, *Savoring the Past: The French Kitchen and Table from 1300 to 1789* (New York: Touchstone, 1983); Paul Freedman, ed., *Food: The History of Taste* (Berkeley: University of California Press, 2007), chs 7–9; Stephen Mennell, *All Manners of Food: Eating and Taste in England and France from the Middle Ages to the Present* (Oxford: Blackwell, 1985), esp. chs 6–7; Rebecca L. Spang, *The Invention of the Restaurant: Paris and Modern Gastronomic Culture* (Cambridge, Mass.: Harvard University Press, 2000); Amy B. Trubeck, *Haute Cuisine: How the French Invented the Culinary Profession* (Philadelphia: University of Pennsylvania Press, 2000); Massimo Montanari, *Food is Culture*, trans. Albert Sonnenfeld (New York: Columbia University Press, 2006); Alberto Capatti and Massimo Montanari, *Italian Cuisine: A Cultural History*, trans. Aine O’Healy (New York: Columbia University Press, 2003); Susan Pinkard, *A Revolution in Taste: The Rise of French Cuisine, 1650-1800* (Cambridge: Cambridge University Press, 2008); Jukka Gronow, “What is ‘Good Taste?’” *Social Science Information* 32 (1993), 279–301.

traditional networks connecting taste experiences, knowledge, personal identity, and practical action. Learned society came to regard taste and smell as less and less capable of serving as a probe into what the world was like and what its ingestible portions did for and to you. For guidance in such things, you had now to turn to external expertise: you could no longer taste reality or experience its constitution through digestion. Taste experiences and judgments were filed away in the drawer labeled “subjective,” carrying the epistemic health warning that there’s little to be coherently said about them or done with them.

Yet, paradoxically, through the nineteenth century and into the twentieth century, we have actually wound up saying not less and less about taste but more and more. The removal of taste experiences from the practices of producing reliable knowledge of the world and of our bodies made taste a scientific and philosophical orphan. But, at the same time, it made taste a suitable case for connoisseurship. Our modern connoisseurs display their ability to analyze, distinguish between, and assign descriptive predicates to each of the thousands of wine flavor components and to produce seemingly precise quantitative measures of *how* good “good” wines taste. The vocabulary of taste has accordingly moved from the spare to the ornate.<sup>81</sup> From the limited vocabulary of wine tastes used in the seventeenth century, we now have wines tasting like “wet stones,” “roasted lilacs,” “raw walnuts,” “savory fennel seed,” “tomato skins,” “burley tobacco,” and even “fresh road kill.” There are people who know how to make those distinctions and there are those who do not. We no longer use taste to know the qualities and powers of aliment, to sort the edible world into the bits that are good for us and those that are not. For these purposes we have the borrowed language, concepts, skills, and institutions of technical experts. What is left to lay society is the use of these distinctions to

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<sup>81</sup> For remarks on wine connoisseurship and wine talk in the late Victorian and Edwardian periods, see Steven Shapin, “Against the Pussyfoots,” *London Review of Books* 31, no. 17 (10 September 2009), pp. 32–33; idem, “The Tastes of Wine.”

sort the species of *people*. And that is much of what we mean when we now claim to “have taste.”



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*Author's biographical sketch*

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Steven Shapin studied biology and genetics at Reed College in Portland, Oregon and at the University of Wisconsin. He took a Ph.D. in the history and sociology of science at the University of Pennsylvania, and he has taught at the Science Studies Unit, Edinburgh University, and in the sociology department at the University of California, San Diego. He is now Franklin L. Ford Professor of the History of Science at Harvard University and Visiting Professor of History at Columbia University. His books include *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life* (1985), co-authored with Simon Schaffer; *A Social History of Truth: Civility and Science in Seventeenth-Century England* (1994); and *The Scientific Revolution* (1996). In 2008, he wrote about contemporary science in *The Scientific Life: A Moral History of a Late Modern Vocation*. He has written many articles, some of which have recently been collected in a book called *Never Pure* (2010). He is a Fellow of the American Academy of Arts and Sciences and his awards include the Robert K. Merton Prize (of the American Sociological Association), the Herbert Dingle Prize (of the British Society for the History of Science), the J. D. Bernal Prize (of the Society for Social Studies of Science), as well as the Erasmus Prize (with Simon Schaffer) for “exceptionally important contributions to European culture, society and social science.”



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## SALVIA SMÅSKRIFTER

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Editor: H. Otto Sibum

In 2002 the Hans Rausing Professor of History and Science Tore Frängsmyr took the initiative to inaugurate a publication series *Salvia Småskrifter* with the aim to publish lectures arranged by the Office for History of Science at Uppsala University. The coinage *Salvia* is meant in memoriam of Sweden's first scientific book printer *Lars Salvius* (1706–1773) as well as that it refers to a wild growing Swedish plant, *Salvia pratensis*.

*Salvia Småskrifter* no. 1–9 had been published under the auspices of Tore Frängsmyr. In 2007 the newly installed Hans Rausing Professor at Uppsala University, H. Otto Sibum, took over the editorship.

1. Tore Frängsmyr, *Om vetenskapshistoria*. Installationsföreläsning den 7 maj 2002. (2003)
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