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Publication Date

2015

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The Politics of the Palate: Taste and Knowledge in Early Modern England

By

India Aurora Mandelkern

A dissertation submitted in partial satisfaction of the requirements for the degree of

Doctor of Philosophy

in

History

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Thomas W. Laqueur, Chair

Professor Jonathan Sheehan

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Spring 2015

Abstract

The Politics of the Palate: Taste and Knowledge in Early Modern England

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This dissertation explores the sense of taste's significance to knowledge production in seventeenth and eighteenth century England.

Biologically and culturally intertwined with our primal desire for food, scholars historically have considered our sense of taste as a poor stepsister to our detached, rational faculty of vision. Many have dismissed it as a base and primitive modality of experience in early modern Europe, which became still less important with the intellectual ferment of the Scientific Revolution and the Enlightenment. Yet these very qualities, I argue, made taste an especially attractive object of study, informing larger discussions of knowledge, authority, and behavior at a moment when learned understandings of food and the body were undergoing revision.

The following pages sketch a historical anthropology of taste in early modern England. During the seventeenth century, it captured the attention of physicians, scholars, critics, and cooks, animating vehement debates over the constitution of 'useful' knowledge and what kinds of people should have access to it. In the eighteenth century, fashionable culinary writers and a new generation of profit-minded nerve doctors reinvented the palate as an embodied mark of refinement, animating controversies about appetite, agency, and reason. In short, my project departs from conventional understandings of taste as subjective information that can neither be measured nor judged. To argue about taste, this dissertation contends, is to argue about the deepest recesses of human nature.

The Politics of the Palate: Taste and Knowledge in Early Modern England

Chair: Thomas W. Laqueur

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Acknowledgements

It's hard to believe that this project took over four years in the making, and for most of that time I wasn't exactly sure what I was actually writing about. I am therefore especially grateful to the following institutions for giving me the benefit of the doubt and supporting my research anyway: the Institute of International Studies at UC Berkeley, which awarded me a John Simpson Memorial Research Fellowship over 2013-2014, the Culinary Historians of New York and the Julia Child Foundation for their generous 2012 Scholar's Grant, and the UCLA Center for Eighteenth Century Studies, which awarded me a fellowship to study at the Clark Library in Los Angeles during the winter of 2013. A Student Mentoring and Research Teams (SMART) grant from UC Berkeley allowed me to hire the fantastic Clifton Damiens over the summer of 2012 to assist me with my dining club database, one of the most laborious and time-consuming components of this project.

Taste is a subject in which everyone is an expert. I feel very lucky that I have gotten to talk about it with so many people, all of whom have helped make this project what it is. I want to thank Bryan Alkemeyer, Ashley Leyba, Rachel Reeves, Jarvis Lagman, Penelope Ismay, Jakub Benes, and Francesco Spagnolo for offering sparkly nuggets of motivation and critical feedback at various stages of dissertation writing.

The final chapter of this dissertation would be very different (and not in a good way) without the patience and computational expertise of Christopher Church and Keir Mierle. Chris was responsible for sparking my interest in digital history, helping me convert a few rudimentary Excel spreadsheets into a relational database that allowed me to write about my venison and turtle-loving subjects with a greater knowledge and intimacy. Keir took this database to the next level by uploading it into a web framework, teaching me some programming basics, and letting me peer into the depths of the digital rabbit hole. I am humbled by the passion and generosity of these two wonderful teachers.

Of course, I never would have made it to the finish line at all if not for the wisdom of a handful of excellent professors, who have taught me (in unique and sometimes unexpected ways) a great deal. Thomas Laqueur has been there since the very beginning, when I had little else to go on aside from a bunch of disconnected ideas about eighteenth century cookbooks. I was inspired, daunted, and challenged by him: to think more expansively, to become a better writer. He's a major reason why this dissertation ended up being so much fun to write. James Vernon was also there from the beginning; as a matter of fact, his mentorship and thoughtful feedback gave me the confidence to get this project off the ground. Towards the end, this project profited from careful readings and critical feedback by Jonathan Sheehan and Christine Hastorf. I feel very fortunate to have had the chance to work with such talented people.

Thanks to the sundry third-wave coffee shops of San Francisco, for the caffeine and the temporary office space. Thanks to Charles Mackey, with whom I have broken a whole lot of bread (and excellent cheese) over this long road. But my deepest and most heartfelt thanks go to my amazing parents. This dissertation is dedicated to them.

Introduction

In 1687, Hans Sloane, the Irish-born antiquarian and botanist, traveled to Jamaica as the personal physician to the second Duke of Abermarle, the newly appointed Governor of Jamaica. Abermarle did not take well to the harsh new climate; he died the following year. Yet Sloane traveled around the West Indies for several months longer, avidly collecting plant and insect specimens around the island. In 1707 he finally published the first volume of his findings, to which he appended a lengthy introduction describing the customs and foodways of the island.¹

Sloane's antipathy towards the Jamaican fare was no secret.² Basic staples such as beef and veal commanded exorbitant sums, as meat rotted in a matter of hours under the oppressive sun. But because the livestock fed on calabash leaves, which grew like weeds all over Jamaica, even fresh meat had a terrible flavor. "Everything," Sloane gasped, "tasted so strong of it that there is no using with pleasure any thing made therewith."³ Neither could Sloane stomach the Jamaican cassava bread, which he found so dry that it had to be dipped in sugar-water in order to make it palatable. (It did keep men healthy, Sloane observed, in spite of its insipid taste.) African slaves, cattle, and poultry all fed on Indian corn, but Sloane had trouble recognizing it as human food.

A sense of déjà vu pervades Sloane's descriptions of these alien comestibles. They were visceral reminders of famine foods. There had always been circumstances, Sloane noted, where men resorted to stalks and leaves, or even leather and clothing when nothing else was at hand. Yet none of these things became the food of mankind by choice. As Sloane wandered the towns, markets, and plantations of Jamaica, he recoiled at the sight of snakes and lizards being savored by polite and "understanding" people, "with a very good and nice Palate." Rats and raccoons, bred among the sugarcanes to sweeten their meat, were sold in local markets as delicacies.

Sloane knew that such strange tastes were not unique to the West Indies. [H]owever strange to us," he concluded, strange and un-food-like foods "are very greedily sought after by those us'd to them. The Person not us'd to eat Whales, Squirrils, or Elephants, would think them a strange Dish; yet those us'd to them, prefer them to other Victuals." He had read how the peoples of the East Indies dined on bird's nests, the Hottentots feasted on the guts of cattle and sheep, and that grasshoppers, in ancient Greece, had been "eat[en] like shrimps." Even then, the diversity of human taste preferences was a well-trodden subject. Sloane's observations were hardly original.

The stakes, however, were new. The residual effects of the Columbian Exchange had breathed new vigor into ancient discussions. If the diversity of human taste

¹ Sloane's work, *A Voyage to the Islands Madera, Barbados, Nieves, St. Christopher's and Jamaica* (London, 1707) is popularly known as the *Natural History of Jamaica*.

² Sloane's account was eventually satirized by the William King, who published a satirical send-up of Sloane's interest in Jamaican food in his third installment of *Useful Transactions in Philosophy* (London, 1709) entitled "Concerning several sorts of odd dishes used by epicures and nice eaters throughout the world."

³ Sloane tells us that the Calabash plant was even rumored to kill horses by sticking to their teeth, making it impossible to open their mouths to feed. While there are two plants colloquially known as the "calabash" in the Carribean today, Sloane was most likely referring to *lagenaria siceraria*, known as the "long melon" or "bottle gourd." The vine has a bitter taste and can cause ulcers in its eaters stomach.

preferences was environmentally informed, why did American Indians, displaced African slaves, as well as the ancient Romans *all* consider *Cossi* (cotton tree worms) “so great a dainty?” Sloane wondered. Why was it so difficult to habituate peoples to foreign flavors? Slaves imported directly from Africa, Sloane noted, were less desirable to plantation owners than the Jamaican-born Creoles because the former had grown up eating meat and fish as opposed to a cheaper diet of yams, plantains, and potatoes. Last, Sloane bristled over the hubristic certainty with which the Spanish enslaved the Aztecs, because they “eat Piojos and Gusanos [lice and larva], and intoxicated themselves with their kinds of wines ... and the smoak of tobacco.” Food choices seemed flimsy evidence of a civilization’s barbarity, much less a justification for the conquest and mass extermination of an entire people. Sloane couldn’t explain the acclimation of tastes, but he was firm that one’s preferences for certain foods did not accord one human or subhuman status. Still, questions remained. Where do tastes come from? How do we measure them? What do they mean?

Men have been writing about the sense of taste since the beginning of the written word. Diets have changed and nutritional theories have come and gone. Human convictions about taste, however, have remained quite consistent over time; they are characterized by continuity rather than change. It seems as we have always regarded taste as an instinctual survival tool. Taste allowed man to navigate the environment before the existence of true sciences of food, such as dietetics and nutrition. Taste preceded history. (There is also a biological explanation for this. Unlike smell, which is acted on by the higher brain responsible for decision-making, taste supplies data to the autonomic nervous system that governs immediate unconscious action. In other words, experiencing taste does not require consciousness. Even decerebrate animals and anencephalic humans have been shown to accept sweet tastes and reject bitter ones.⁴)

Our regard for taste as a prehistoric nutritional tool has shaped our beliefs in its primordial nature. Aristotle argued that the sense of taste existed before hearing, smell, and vision.⁵ Taking some things and avoiding others, choosing pleasure and avoiding pain, the very act of tasting, he reasoned, was fundamental for life. Taste sticks like sap to the human condition. Eve tasted, and humanity as we know it began. Even by the turn of the twentieth century, evolutionary psychologists argued for the presence of taste-like reactions in extremely primitive organisms at the very earliest stages of evolution.⁶ To account for taste, in other words, is to account for our origins.

⁴ Paul Breslin, “An Evolutionary Perspective on Food Review and Human Taste” *Current Biology* 23, no. 9 (2013): 409-418.

⁵ Only the sense of touch was more ancient; however, because taste was also a contact sense, one could make the case that taste, being a kind of touch, was just as old.

⁶ H.L. Hollingworth and A.T. Poffenberger, *The sense of taste* (New York: Moffat, Yard and Company, 1917), 129. However, it is important to draw a distinction between taste and chemosensation, the ability to glean chemical information in the environment needed to serve nutritional and other survival needs. Taste is a particularly sophisticated form of chemosensation that evolved around five hundred million years ago. Even very primitive organisms have surprisingly sensitive and highly specific mechanisms for detecting chemical information. In fact there are remarkable similarities between the chemical-sensing mechanisms in different animal phyla and even between animals and plants, suggesting that those mechanisms developed very early in evolution, possibly even before animals and plants were differentiated.

Early modern scholars shared many of these convictions; in fact, seventeenth century experimental culture breathed new life into them. While study of optics and aesthetics extolled reason and progress—this was the essence of the *Enlightenment*—it was taste’s mysterious, prehistoric nature that interested botanists, physicians, scholars, and writers, hovering on the cusp of modernity. Theories of matter and medicine were undergoing revision, throwing old assumptions about the senses into question. The influx of new foods and drugs into Britain and the consuming habits that they helped create magnified age-old discussions of need, appetite, and motivation. Evolving social norms and practices animated new discussions about food and connoisseurship. Conditions were ripe to reexamine the kinds of work that taste does.

Up to now, however, gustation has generated little historical scholarship. Part of this has to do with our inherited philosophical biases. Unlike sight, taste has no long history of privilege.⁷ Thus, scholars historically have relegated taste to the bottom of the hierarchy of senses, bound up with our brutish corporeal desires.⁸ In spite of the recent so-called “sensorial turn” in the humanities—leading scholars to examine how the five senses have influenced and oriented institutions, beliefs, and the rhythms of everyday life—the body of taste-based scholarship remains modest by comparison.⁹

The present dearth of scholarship also has to do with inherent difficulties in studying taste. The influential psychologist Linda Bartoshuk has argued that physiological explanations for taste saw little real change or progress between Latin Antiquity and the middle of the 19th century.¹⁰ Before electrophysiology and genetics, scientific studies of taste had to rely upon inherited historical accounts, personal observations, and the testimonies of contemporaries.¹¹ Even now, taste continues to present challenges to neuroscientists, far more so than smell. Because tasting is so bound up with saliva production, chewing, and swallowing, it is particularly challenging to study it in isolation.¹²

Last, we also must blame our own deep-seated psychological misconceptions. While experimental psychologists repeatedly tell us that taste preferences are products of culture, the notion persists that what makes food good or bad to us is some inherent

⁷ Martin Jay, *Downcast Eyes: The Denigration of Vision in Twentieth Century French Thought* (Berkeley: University of California Press, 1993).

⁸ For the history of taste as understood within the philosophical hierarchy of the senses, see Carolyn Korsmeyer, *Making Sense of Taste: food and philosophy* (Ithaca: Cornell University Press, 1999); Constance Classen, *The Color of Angeles: Cosmology, Gender, and the Aesthetic Imagination* (London: Routledge, 1998).

⁹ Mark Jenner “Tasting Lichfield, Touching China: Sir John Floyer’s Senses” *The Historical Journal* 53, no. 3 (2010): 647-670; Mark Jutte, *A History of the Senses: From Antiquity to Cyberspace* (Cambridge: Polity, 2005); Mark Smith, *Sensing the Past: Seeing, Hearing, Smelling, Tasting, and Touching in History* (Berkeley: University of California Press, 2007); Yannis Hamilakis, *Archeology and the Senses: Human Experience, Memory, and Affect* (New York: Cambridge University Press, 2014).

¹⁰ Linda Bartoshuk, “History of Taste Research,” in *Tasting and Smelling*, ed. Edward Carterette and Morton Friedman (New York: Academic Press, 1978), 3-17.

¹¹ Indeed, many believe that it was not until the discovery of G-protein coupled receptors (GPCRs) in the 1970s, which tell us exactly how the receptors for taste and smell detect specific molecules and signal the brain with that information, that our understanding of the senses had been truly revolutionized. Both smell and taste, as well as vision, neural communication, and other biological functions operate this way. There have been eight Nobel Prizes awarded for aspects of this work.

¹² Yuko Nakamura et al. “Localization of brain activation by umami taste in humans,” *Brain Research*, no. 1406 (2011): 18-29.

quality in the food itself. Pierre Bourdieu has called attention to this problem in his most famous sociological work *Distinction: A Social Critique on the Judgment of Taste* (1979). Hedonic preferences—in flavor and food as well as art and music—are, Bourdieu argued, *culturally* produced, even though they appear to be innate. Yet despite recurring warnings against the idea of “natural,” “original” or “Ur-tastes” for certain foods, historians have tended to regard our taste-detecting capabilities as innate, corporeal forces that lack a politics of their own.¹³

There have been exceptions, of course. Sidney Mintz’s important 1985 study of sugar illustrated how certain tastes were able to empower particular social groups at different points in modern history, while, more recently, Emma Spary has explored how certain medical models of taste perception rationalized the connoisseurship of eighteenth century *nouvelle cuisine*.¹⁴ Scholars are also beginning to explore how taste has helped structure different theories of knowledge. In a series of recent articles and lectures on food and dietetics, the prolific Steven Shapin has sketched a broad intellectual history of taste. The classical science of dietetics, he argues, relied heavily on personal bodily experiences such as taste, digestion, and defecation as meaningful ways of knowing the nature of foods and predicting their effects. Over the course of the seventeenth century, however, much less emphasis was put on such personal bodily experiences as meaningful ways to understand the powers of foods, leaving taste a “scientific and philosophical orphan.”¹⁵ This did not empty taste of meaning. To the contrary, Shapin argues that these changes bestowed the sense of taste with new cultural potency, freeing it up for other purposes. Slowly, the vocabulary for describing flavors began to expand. Food snobbery was born.

Wide in scope and ambitious in its claims, Shapin’s writings provide an important model for future scholarship. Yet his model still leaves questions unanswered. His sweeping survey of the history of ideas has downplayed the various textures of scientific and philosophical conversations. These were particularly noticeable in England, where a combination of fluid social divisions, a rapidly expanding consumer culture, and an empiricist tradition saddled discussions of taste with significant political baggage. The following chapters therefore begin to chart a new historical anthropology of taste in England. They explore how experiments, satires, and conversations about it mapped onto larger discussions of knowledge, behavior, and social relations. This did not turn the palate into a status symbol. The culture of gastronomic connoisseurship that we know today had not yet emerged. Yet by linking taste-based knowledge to social credibility, expertise, and enlightened discrimination, the foundation was laid for new significations of taste to take hold, outlining the framework in which we understand matters of food, flavor, and eating today.

This framework was built on much older foundations. Our seemingly unconscious assumptions about what taste is, how it works, and what it signifies are rooted in deeper

¹³ Stephen Mennell, *All Manners of Food: Eating and Taste in England and France from the Middle Ages to the Present* (Urbana: University of Illinois Press, 1996).

¹⁴ Emma Spary, *Eating the Enlightenment: Food and the Sciences in Paris* (Chicago: University of Press, 2012).

¹⁵ Steve Shapin “Changing Tastes: How foods tasted in the early modern period and how they came to taste later on” (working paper, Insitute of the Arts and Humanities, University of Carolina at Chapel Hill, 2010.) He develops many of these points in “You are what you eat: historical changes in ideas about food and identity,” *Historical Research* 87, no. 237 (2014): 377-392.

organizing schema that historically have defined the order of things. I thus begin my story by exploring gustation's significance to antiquity—making gestures to India and China but focusing on classical Greece—in order to articulate the heritage that shaped early modern conversations about taste. By highlighting taste's role in natural philosophy and medicine, my first chapter, “The Cosmology of Taste,” examines taste-based knowledge as a universalizing anthropological heritage that worked to mediate man's relationship to the natural world.

The second chapter, “Taste and New Learning,” examines how physicians negotiated this heritage during the period of intellectual ferment taking place in seventeenth century England. Given the growing vogue of empirical observation over the supposed surety of received wisdom, one might expect that the rise of the ‘new science’ during the 1660s and 1670s would undermine taste's longstanding roles in medicine and natural philosophy. This, however, was not the case. The scientific method actually invigorated interest in taste-based information, both as a rhetorical device levied in debates about medical credibility and in late seventeenth century botanical taxonomies. Mechanical philosophy, however, subjectivized taste-based knowledge, animating fervid debates over what qualifies as knowledge and who should have access to it.

The first two chapters regard taste in a disembodied state, separate from earthly matters of hunger and desire. The third chapter takes a different approach. In “The Passions of the Palate,” I examine how contemporary understandings of the connection between taste and desire intersected with England's expanding consumer culture during the eighteenth century. Because the act of tasting had such an intimate relationship to the primal need for food, scholars frequently questioned the moral and aesthetic authenticity of taste experiences; this, I argue, did not change during the eighteenth century. To the contrary, moral and medical debates about the value of cuisine and connoisseurship rehashed old concerns about reason and the appetite yet also laid the foundation for gustatory sensitivity to become an arbiter of status, hardening social distinctions among men.

The fourth chapter “Commensality and Taste,” illustrates how food and eating were integrated in changing norms of table-based sociability. Using a case study—an elite eighteenth century dining club—I show how eating together was fashioned into a polite science. This club did not foster a modern culture of gastronomic connoisseurship that we would recognize today; in fact, solitary indulgence was considered a threat to commensality. Yet the provision and communal consumption of certain foods linked agricultural and commercial progress with paternal obligation through shared experiences of taste, a practice, I argue, that became critical to demarcating different social groups.

I conclude this dissertation by suggesting that the concept of distinctive “taste worlds” currently used in experimental psychology can also be a useful framework to discuss the transformations in the meanings we ascribe to gustatory knowledge. Tastes no longer mean the same things to us that they once did. The conquest of nature by successive cultures of scientific experts—physicists, chemists, and sensory scientists—has diminished much of taste's organizational and therapeutic agency. Still, some of its latent organizational powers have managed to survive, straddling nature and culture, occasionally offering us fleeting glimpses into our deep and unremembered histories.

Chapter One

The Cosmology of Taste

Today we know, more or less, how taste “works.”¹⁶ The simple act of putting food in our mouths and beginning to chew signals three different sets of glands to release enzyme-rich saliva, which lubricate the mouth and activate the “tastants”—that is, the chemicals that stimulate our taste receptors—contained within the masticated food. Each individual tastant is then carried into one of thousands of tiny papillary openings that coat the entire tongue, soft palate, and epiglottis. Each opening contains anywhere from one to hundreds of goblet-shaped taste “buds.”

The average human has about 10,000 taste buds where the tastant encounters clusters of microscopic receptor cells lying arrayed over the buds’ surface. There is a relatively small number of taste-receptor types, just one for sweetness, one for the savory sense, some tens for the bitter sense, and one each for saltiness and sourness.¹⁷ We appreciate only five tastes: sweet, sour, salty, savory, bitter, and their respective concentrations can vary over the tongue’s surface. Sweetness, for example, is sensed more intensely at the tongue’s tip, while bitterness is felt more strongly in the back of the mouth.¹⁸ Once the tastant finds its matching receptor cell, a series of chemical reactions convey messages through the seventh, ninth, and tenth cranial nerves straight to the brainstem, the site of autonomic function. From there the messages are relayed to the cerebral cortex, which imparts sensations of taste.

Of course, these five taste sensations do not come close to describing the complex sensory impressions experienced after putting a forkful of food in our mouths. This is the work of *flavor*, a unique composite quality determined by several different sensory modalities. The most important of these is retronasal olfaction. In contrast to orthonasal olfaction—sniffing—retronasal olfaction works by exhaling after chewing, which pushes air into our nasopharynx and allows it to absorb odor molecules volatilized from warmed, masticated food.¹⁹ Taste information is also conveyed to the cognitive cortex where it plays a role in flavor identification.

¹⁶ For the biological explanations for taste discussed in this chapter, I have relied on *Basic Neurochemistry: Molecular, Cellular and Medical Aspects*, edited by G.J. Siegal, B.W. Agranoff, and R.W. Albers (Philadelphia: Lippincott-Raven, 1999) and Gordon Shepherd, *Neurogastronomy: How the Brain Creates Flavor and Why it Matters* (New York: Columbia University Press, 2012).

¹⁷ The five tastes are designed to help us select nutritious foods (sweet, savory), help maintain our electrolyte balance (sour, salty), and defend us from toxic substances (bitter). We have multiple bitter receptors because there are many different classes of compounds that are potentially toxic and are chemically very different; detection of these require structurally different bitter receptors, although our perception of them is the same. The receptors for saltiness and sourness are simple ion channels, not GPCRs. (The elaborate GPCR mechanism is capable of recognizing large complicated organic molecules and is not required.) Saltiness signals the presence of sodium and potassium ions, and sourness signals acidity, the presence of hydrogen ions in excess.

¹⁸ H.S. Jung, K. Akita, J.Y. Kim, “Spacing patterns on tongue surface-gustatory papilla” *International Journal Development Biology* 48, no. 2-3 (2004): 157-61.

¹⁹ While animals seem to have evolved to have richer orthonasal smells, the human retronasal passage is much shorter and wider than that of other mammals, suggesting that humans have evolved to have richer flavor experiences; Gordon Shepherd, “The Human Sense of Smell: Are We Better than we Think?” *PLoS Biology* 2 no. 5, (2004): 572-575.

In addition to taste and smell, flavor perception is also informed by the somatosensory receptors in our mouths that detect variations in temperature and texture. Heating, for example, diffuses aromatic molecules; thus the temperature at which a food is served can change its flavor profile considerably. Thermal sensations can also be simulated by certain chemical irritations. It is the respective concentrations of capsaicin and menthol in chilies and spearmint that make us think of them as ‘hot’ and ‘cool,’ not their actual temperatures. The brain then integrates all of this sensory information, along with additional sensory and emotional cues, into a unique flavor sensation.

These scientific understandings of gustation and flavor are relatively recent. The actual taste “bud” was not discovered until 1867.²⁰ As for the complex and deceptive nature of flavor—that is, that what we *perceive* as taste actually has to do more with smell—this would not be fully appreciated until the 1980s.²¹ This tardiness isn’t a sign of apathy on our part. Rather, it is confirmation that flavor is extraordinarily difficult to grasp intuitively. Retronasal olfaction, so crucial to flavor discrimination, is confined to the odor receptors within the nasopharynx. Due to its proximity to the back of mouth, we are primed to mistake these olfactory sensations for tastes. Small wonder, then, that the first two thousand years of recorded sensory research attributed the complexities of flavor, and all the phenomenological baggage that went along with it, to the sense of taste alone. Appetite, craving, satiation, disgust—all of the diverse emotions we associate with eating—were encapsulated in the concept of taste. This misconception still persists in colloquial speech.

Even if we *could* separate retronasal aromas from fixed, non-volatile tastes, we would still have a hard time categorizing different flavors. Unlike the various molecules responsible for producing tastes and aromas, flavor perceptions are created in the brain. They are heavily informed by context, expectation and memory, which are reinforced by sensory information. There is no inherent flavor in any food we consume; we cannot quantify or measure it.

Yet disputes about taste were anything but silent before the ages of neuroscience and experimental psychology. Scholars had been debating the mechanics and significance of gustation long before the Peripatetic philosopher Theophrastus began to report on and critique his predecessors’ theories on the subject around 300 BC.²² This chapter strips away our modern views about how the chemical senses operate in order to explore the latent cultural meanings we historically have attributed to flavor perception. I unpack

²⁰ The discovery of the taste bud has been attributed to two German scientists, Georg Meissner and Rudolf Wagner.

²¹ Smell’s role in food appreciation has been at least alluded to for far longer; Brillat-Savarin describes the smells swept into the nasal chamber via the mouth in *Physiologie du gout* (Paris, 1826). Yet retronasal olfaction’s importance to flavor was first identified in Paul Rozin’s research; see “‘Taste-smell confusions’ and the duality of the olfactory sense” (1982), cited in Gordon Shepherd, *Neurogastronomy*, 15-17.

²² Theophrastus’s *De Sensibus* remains the most important source of knowledge about the psychology of sense perception before Plato. Here I use the translation from George Stratton, *Theophrastus and the Greek physiological psychology before Aristotle* (London: MacMillan, 1917) and the analysis in John Beare; *Greek Theories of Elementary Cognition from Alcmaeon to Aristotle* (Oxford: Clarendon Press, 1906) ii, 2-8. Beare’s exploration of consciousness and basic perception reflects the empirical psychology associated with William Wundt (1832-1920). While the book only went into two editions, it is still considered an important foundation of today’s scholarship about the senses.

these meanings in the following pages by following the science of taste perception back to its origins.

Before flavor became a science, we had a cosmology of taste. The ancient Indian, Chinese, and Greek civilizations considered the palate to be one of the oldest and most intimate ways that men came into contact with nature. Through their writings about the sense of taste, we can not only glimpse the scaffolding used to organize human relationships to the environment, but we also gain insight into the intellectual framework inherited by early modern scholars. For the ancient Greeks, who shall occupy the majority of my discussion, taste was significant in two key respects. First, taste's intimate relationship to nutrition made it crucial to distinguishing different forms of life in the natural world. Second, because tasting was the final frontier before the stuff of the outside world was permanently integrated into the body, changing it for the better or the worse, taste became a cornerstone of ancient medicine, informing diagnostics, therapeutics, and a variety of physical practices. Absent modern understandings of biology and chemistry, the various gustatory sensations imparted by plants, animals, and minerals were regarded as immediate and highly reliable ways to predict how these substances would act upon the body. I then argue that this cosmology of taste was an important intellectual inheritance that persisted well into the seventeenth century and beyond, for far longer than we tend to give it credit.

I. The Ancient Philosophy of Taste Perception

The ancient Greeks had no way of understanding how flavors were truly generated. Their knowledge of the nervous system was relatively basic; taste transduction remained a matter of unresolved debate. This wasn't for lack of effort. Greek philosophers were highly interested in the mechanisms of sensory operations, as they invited reflection on the universe's craftsmanship as well as man's designated place within it. According to Theophrastus, who compiled his predecessors' theories on the subject, men had been trying to explain the phenomenon of taste since the 6th century BC, when Alcmaeon of Croton proposed that the tongue, being naturally warm and soft, dissolved flavors with its heat and absorbent texture, much like a sponge. Indeed, most of the pre-Socratic philosophers accounted for taste perception in relatively comparable terms. Whether the sensations were caused by similar elements attracting or the repulsion between opposite ones, tastes were perceived through the porous nature of the tongue, which absorbed the tangible flavors of food and drinks like a sponge. The other key ingredient was water, which although lacking taste and smell on its own, allowed flavors to be dissolved.²³

The best-known version of this theory comes from Democritus of Abdera (450-370 BC), who taught that all sensations could be reduced to physical interactions among infinite numbers of indivisible and indestructible atoms randomly changing speed, orbit, and direction in a void. According to Theophrastus's later account, Democritus believed that atoms of different shapes and sizes imparted different tastes. Acidity was sharp and angular, sweetness was smooth and spherical, and sourness was borne from large atoms with many angles. Every flavor was a different combination of two or more of these atoms. In *De rerum natura* (c. 54 BC) his famous poetic exposition of Democritean

²³ Beare, *Greek Theories of Elementary Cognition from Alcmaeon to Aristotle*, 142-143.

physics, the Epicurean poet Lucretius described how these variously shaped atoms then seeped into the networks of pores upon the sponge-like, “loose-textured” tongue. Some of these atoms merely tickled it. Others assaulted the sense with sensations of sharpness and bitterness. All sensations, in other words, could be explained by the physicality of atoms. “[T]ouch,” Lucretius wrote, “is the body’s only sense.”²⁴ At the same time, however, emphasis on form and motion also relativized the perception of sensory information. While the motion and shape of the atoms were inalienable from their physical existence, everything else — colors, smells, sounds, tastes — were “secondary” qualities: matters of subjective opinion.²⁵ And as no two tongues shared the same physical structure, two men could have wildly different impressions of the same food.

Aristotle was the first to challenge these “sponge” theories. The son of a court physician, Aristotle was an astute observer of nature who based his biological and anthropological theories on careful collection and dissection of specimens.²⁶ In *De Anima* and *De Sensu*, written in the 4th century BC, he outlined a theory of taste that responded to Democritus’s atomism. As taste and touch were contact senses, it was logical to suppose that taste sensations were impressed on the tongue by the shape and motion of sapid particles. But Aristotle rejected Democritus’s conflation of physical and sensory information. Instead, he argued that sense perception allowed men to apprehend certain types of information as pure formal qualities without physical matter attached; in other words, we can perceive tastes as “accidental” qualities separate from the intrinsic identities of the objects that they describe.²⁷ Taste was not a mechanical but a chemical union between the qualities of dryness and moisture, activated by the unique conditions of the mouth. In the same way that soaking an onion in water caused the liquid to adopt some of the sensory properties of the onion, Aristotle argued that the moisture of saliva allowed a gustatory quality to be transferred from the food object to the tongue, converting a dry “potential” into a perceptible taste. But the conditions must be precise. Too little moisture, and no taste would be experienced. Too much, and you wouldn’t be able to get the taste of the last thing you ate out of your mouth.

This theory of matter proved very influential. It guided much of Western thought into the seventeenth century.²⁸ But Aristotle’s interest in taste went beyond physics. More important to understanding taste’s cultural significance during antiquity was Aristotle’s philosophy of mind. Taste perception was essential to understanding the anatomy of the soul. Aristotle believed that there were three parts of the human soul that resided inside each other sort of like a set of Russian nesting Matryoshka dolls: the nutrient (or

²⁴ Lucretius, *De rerum natura* 2.398.

²⁵ Democritus’s writings on taste have been lost; we know them only through Theophrastus’s *De Sensibus* and later commentators. Of all the philosophers discussed in *De Sensibus*, Theophrastus was most skeptical about Democritus’s theories; how could taste be subjective, Theophrastus asked, if Democritus distinguished different tastes by their physical figures? The debate was not easily resolved. Even by the seventeenth century, the Pierre Gassendi would struggle to explain how sapid particles are perceived not as motions but as tastes.

²⁶ Vivian Nutton, *Ancient Medicine* (London: Routledge, 2004), 118-119, Edelstein, “The Distinctive Hellenism of Greek Medicine,” *Bulletin of the History of Medicine* 40 (1966): 197-255.

²⁷ Each of the sensory organs, such as the tongue or the nasal passages, constituted matter that must be arranged into a form (such as taste or smell) to exist. Aristotle believed that tastes accomplished this less effectively than colors and sounds, which allowed us to apprehend more form and less matter.

²⁸ Eduard Jan Dijksterhuis, *Mechanization of the World Picture: Pythagorus to Newton* (Oxford: Clarendon Press, 1961).

generative), the sentient (or motor), and the intellectual soul. The nutrient soul was the most basic. It could exist without the other two, but it alone was the sole criterion for life. Plants possessed this type of soul. They had been endowed with the faculty of self-nutrition and fed through the pores of their roots; hence they had no need for additional faculties to help them determine what to consume.

The second soul—the “sentient soul”—bestowed perception, thus distinguishing animals from plants. Yet the exact perceptive qualities contained in this soul could vary. Some animals, especially those endowed with locomotion, possessed all five senses, while immobile creatures, such as mollusks, possessed only the sense of touch.²⁹ Like Democritus, but for different reasons, Aristotle believed that touch was where existence began; perception was impossible without it. But both touch and taste, Aristotle argued, were variations of the same thing. Taste was a special *form* of touch specific to the tongue. Both senses could be reduced to the act of taking some things and avoiding others, an elemental form of choosing pleasure and avoiding pain. In its rudimentary form, taste guided organisms towards what was tangibly nutritious and away from what was noxious. Lacking memory or surrogate cues to help one determine what to eat, all beings would perish without a faculty of taste.³⁰

The sense of taste by itself was not a type of knowledge. It had nothing to do with the third “rational” soul that could think and reason, faculties that were exclusive to humans. For Aristotle, taste was more akin to a common denominator: the oldest and most primal tool of survival that was shared by animals and men. Taste allowed sentient beings to fulfill the nutrient soul’s most basic requirements for life. Intelligence did not make this trait obsolete, for man’s senses of taste and touch were superior to those of animals.³¹

So important was taste to survival, Aristotle reasoned, that it had been endowed with a kindred sense — smell — to assist it. Of all five senses, taste and odor were the only two that enjoyed a mysterious intimacy in nature.³² Why did a prolonged lapse of time or extreme weather conditions affect an object’s smell *and* its taste? Why did a tasteless substance also lack an odor? After all, taste and smell did not always convey the same information; the dried carob pod smelled deceptively foul, Aristotle’s student Theophrastus pointed out in his essay on odors, while its taste was defiantly sweet.³³ To answer these questions, Aristotle theorized that there were two separate ‘classes’ of smells. The first class was derived from a substance’s taste yet came into being under different environmental conditions. Odor, he posited, was an “accident” or quality of taste actualized by “washing” or diffusing the dry potential within the *air*’s moisture.³⁴ The smells of food thus depended on the prior existence of a taste. A food could have taste but no odor, but there was no such thing as an odiferous food without a taste.

²⁹ Aristotle, *De Anima*, 3.11-12.

³⁰ *De Anima* 2.10; Aristotle, *De Sensu* 1.1

³¹ *De Anima* 2.9, *De Sensu* 1.4.

³² Because smells must be inhaled into our nasal passages, Aristotle believed that the faculty of smell lied in between the two contact senses (taste and touch) and the distance senses (vision and hearing) that required a medium to be experienced; William Cain, “History of Research on Smell,” in *Handbook of Perception vol. 6A: Tasting and Smelling*, edited by Edward Carterette and Morton P. Friedman (New York: Academic Press, 1978), 197-229.

³³ Theophrastus, *De Odoribus*, 2.333.

³⁴ Aristotle, *De Sensu* 2.5.

All alone, odors played no role in human nourishment. How could they perform this all-important function, Aristotle asked, if odors were perceived in the head and not the heart, the vital organ in which touch and taste were grounded? The faculty of smell must therefore exist to *help* the sense of taste perform its nutritive functions; it provided a preview of a given food before an individual decided to take the risk of consuming it. Food smells, in this way, were not objectively pleasant or unpleasant. When an animal was hungry, the aromas of food became pleasurable insofar as they conveyed a food's nutritive properties to that animal, guiding it to the right food while also arousing its desire to eat. Once the animal had eaten to satiety, such smells were no longer positively perceived. In most cases, therefore, odor perception mattered only as a perceptual expansion pack to the all-important faculty of taste.

Of course, not all odors smelled like food. Aristotle and Theophrastus believed that the fragrances of flowers and perfumes belonged to an entirely separate class of odors that only humans could notice and appreciate.³⁵ Unlike the enticing aromas of meat and cheese, these odors did not draw one to food, nor did they enhance a meal's flavor. Albeit pleasant, the fragrant herbs inhaled in nature shared an unpleasant, rather bitter taste when eaten raw. Adding perfume to one's meal, Theophrastus wryly noted, often destroyed the food's taste. (Only wine, he reasoned, was powerful enough to withstand it.)³⁶

This second class of perfume-like odors had little to do with survival. Yet the demarcation between the two allows us to reflect on the relative aesthetic understandings of taste and smell during Antiquity. The sense of taste, Aristotle and Theophrastus made clear, could not be separated from its nutritive function. A man could not appreciate fine food in the same way that he could appreciate a beautiful sculpture or a particularly cathartic piece of music. Taste alone left no room for inspiration beyond the satiation of man's own appetite. But before the 17th century, when the sense of taste came to stand for the disembodied faculty of aesthetic judgment, it was *odor* that transported men to the ethereal world of enlightened aesthetic contemplation.³⁷ Sight might have been the most developed sense. Even the term "imagination," Aristotle reasoned at the end of *De Anima*, had been named for its relationship to light. But so too did the aromatic bouquets of flowers and wines elevate man above his primal will to survive, providing him with a fleeting whiff of the heavens.

Could taste-based perceptions, also products of the sentient soul, ever qualify as real knowledge? Plato had said no; knowledge, in his mind, was a matter of understanding abstract forms, which he sharply distinguished from sensory perceptions. But Aristotle was an empiricist. Not only did forms reside in tangible phenomena rather than outside of them, but also, through the synthetic faculties of the *sensus communis*, sensory information could be compiled and stored, laying the foundation for experience and reason.³⁸ Taste-based information, for Aristotle, thus could qualify as knowledge.

³⁵ Aristotle attributed human sensitivity to perfumes to the extraordinary size and the coldness of human brains; Beare, *Greek Theories of Elementary Cognition from Alcmaeon to Aristotle*, 157.

³⁶ Theophrastus, *De Odoribus* 3.10-11.

³⁷ Recent neuroscientific research supports this claim. The amygdala, considered so crucial to human emotions, is also responsible for processing odor discrimination among animals; see T.W. Buchanan, "A specific role for the human amygdala in olfactory memory" *Learning and Memory* 10, no. 5 (2003): 319.

³⁸ Beare, *Greek Theories of Elementary Cognition from Alcmaeon to Aristotle*, 215.

Theophrastus also emphasized the empiricist side of his mentor's philosophy. In addition to writing treatises on odors and sensory perception, Theophrastus also pursued his scientific interest in the senses in *Historia Plantarum* (c. 300 BC), which is regarded today as the West's first botanical treatise. Here, Theophrastus delineated eight specific vegetal tastes that corresponded to the "special character" or unique temperament and composition of plants and trees.³⁹ His faith in the senses as reliable sources of knowledge was not airtight; the relationship between taste and substance, he confessed, "is not however exact nor obvious."⁴⁰ Nevertheless, Theophrastus made the identification of tastes a cornerstone of botanical classification, laying the groundwork for later systems of knowledge, such as pharmacology and alchemy, to be constructed around the gustatory sense.

II. Taste-Based Medicine

Not only did taste organize and classify different forms of life, but because of its close association with nutrition and the risks undertaken in eating, taste also underpinned different types of medical systems practiced throughout the ancient world. "One ought to be acquainted with the powers of juices, what action each of them has upon man, and their kinship towards one another."⁴¹ Thus concluded the anonymous author of the fifth-century BC treatise, *On Ancient Medicine*. A foundation of the Hippocratic corpus, the text is known today for its scathing attack on the use of dogmatic and abstract theories and speculations as explanations for disease: the divine forces of Love and Strife, for example, or the omnipresence of earth, air, water, and fire, the four cosmic elements that made up all matter.⁴² When it came to making medicines, *On Ancient Medicine* asserts, physicians were studying all the wrong things. It was not a plant or herb's cosmological status that mattered, but rather its taste—its bitterness, acidity, or saltiness—that predicted its effect on the body. Discriminating among the different flavors of food, the author argues, was where medicine all began.

Early humans had been endowed with a sense of taste for the same purpose that animals had: to help them distinguish nourishment from poison. Over time, however, man began to notice a pattern. Brute animals could subsist happily on diets of raw, pungent, and unblended foods while man himself fell sick from the same diet. Before long he had learned to associate illness and disease with the especially salient flavors in his diet, every one of which was "either bitter, or intensely so, or saltish and acid, or something else intense and strong."⁴³ The first cures for the sick were nothing more than special foods, cooked in a manner designed to mitigate these unhealthy sensations. Gruel was made from mixing small amounts of pungent food with water, followed by boiling and blending to diminish its intensity. Medicinal drinks were better still, as the nourishing

³⁹ See John Hope, *From Lectures on the Materia Medica: containing the natural history of drugs, their virtues and doses* (London: Kincaid and Bell, 1770) 33.

⁴⁰ Theophrastus, *Enquiry into Plants and minor works on odours and weather signs*, trans. Sir Arthur Hort (London: Heinemann, 1961), 85-89.

⁴¹ Hippocrates, *On Ancient Medicine* 24.1.

⁴² Establishing the authorship of these ancient texts is exceedingly difficult. The Hippocratic corpus is made up of sixty or so works that have been circulating together under the name of Hippocrates since the third century AD.

⁴³ Hippocrates, *On Ancient Medicine*, 14.5.

flavors had been further isolated from their natural coarseness. Thanks to their ability to temper strong flavors, our ancestors slowly began to extend their lives.

On Ancient Medicine is often invoked in theories about the origins of medicine, and this probably is not far-fetched.⁴⁴ Cooking was a medical act, a technology for transforming the flavors of substances, rendering them more digestible, nutritious, and potentially healing to man. Medicine has substantially less to do with taste today; its utility has been eclipsed, we like to believe, by advances in chemistry, biology, and genetics. But our faith in the curative properties of certain tastes, I would like to suggest, is an old and enduring anthropological heritage. After all, our unknown author did not deny the possibility that odor, appearance, or a myriad of other factors could *also* signal a substance's nutritional value, perhaps even more accurately than its taste could. But gustatory sensations, for unexplained reasons, were etched most deeply in ancient man's memory. Before he learned of the four humors coursing through his body, the metabolic powers of his *pepsis*, or the complex pharmacological language of simples, compounds, laxatives, and purgatives, the palate was the sacred template for self-preservation, the key to nutrition, the seed from which the culture of experiment had sprung.

Once early humans had learned how to civilize unhealthful tastes through cooking, they next began to classify the different tastes they found in nature. This impulse was not limited to the dusty islands of the Aegean Sea, but was shared by several early medical traditions. The *Charaka Samhita*, for example, one of the foundational texts of Ayurvedic philosophy compiled around roughly the first century AD, describes an intimate gathering of 10 *rishis*, or princely sages, in the mythical Chaitraratha woods.⁴⁵ Albeit old and wise, inquisitive in spirit, and conversant in virtually every learned subject, the sages eventually converged upon a question on which they could not agree: How many tastes existed in the universe?

Many numbers were proposed over the course of the ensuing discussion, all of which were accompanied by convincing explanations. One *rishi* suggested that tastes could be reduced to two types: those that heal the body and those that harm. Another countered that there were not two tastes but five, as each one corresponded to the five elements—fire, water, earth, wind, and ether—that comprised all matter. And still another rejected the exercise altogether. Did not every individual detect different flavors in the same food? Did not the same food affect every human body slightly differently? How, then, could all the tastes found in nature be reduced to one finite number? At last the *rishis* alighted on the divinely given answer. All gustatory perceptions could be reduced to a mixture of six basic tastes: sweet, sour, pungent, bitter, salty, and astringent. The ideal nutritious meal would include all of them in some combination.

Six was not an arbitrary number in the Ayurvedic tradition. It was linked to a larger philosophy of health and the cosmic order; there were also six seasons and six stages of disease. Administered in groupings, the six tastes could summon the three *doshas*, or humors, and “check” the three causes of disease.⁴⁶ The power of each taste

⁴⁴ Mark Schiefsky, *Hippocrates on Ancient Medicine* (Boston: Brill, 2005)

⁴⁵ *Caraka Samhita* 1.26. The origin of the *Caraka Samhita* is unclear. Some say that this Sanskrit metered text was compiled around 760 BC in Northwestern India, while others date it to the second to third centuries of the Common Era. Its teachings had probably been circulated orally for far longer.

⁴⁶ Since disease was actually caused by one *dosha* excessively dominating the other ones, the tastes, in different pairings, regulated the state of health. Astringent, sweet, and bitter checked bile. Astringent, pungent, and bitter checked pflgm.

extended well beyond the fleeting sensation in the mouth, for it also measured the *virya*, or specific energy, of a food. Even the processes of digestion could be separated into three “phases” named for their different tastes, followed by *vipaka*, a special post-digestive state determined by the flavors of the ingested food.⁴⁷ Little wonder that the Sanskrit word for taste — *rasa* — signified much more than a gustatory sensation. *Rasa* was also a juice, an essence, and a life force.⁴⁸

Classifying tastes informed the scientific basis for medical practice in China as well as on the Indian subcontinent. The *Huangdi Neijing*, transcribed around roughly the same time as the *Charaka Samhita*, shared a strikingly similar outlook.⁴⁹ This dialogue identified only five tastes: sweet, bitter, sour, salty, and pungent. But their cosmological synchronicities are even more pronounced. Each of the five tastes corresponded to the *wu xing*, or five “phases”—wood, fire, earth, metal, and water—that organized the five sacred grains, the five fruits, the five meats, and the five vegetables specifically designed to nourish the five organ networks governing the human body. Each taste had a color as well as a season. Sweetness was valued for strengthening the blood, while spiciness helped the body expel pathogens and improve circulation. Just as in Ayurveda, it was medically desirable to balance every taste in each dish.⁵⁰

As historians have often pointed out, ancient Greek medicine evolved somewhat differently than its Eastern counterparts.⁵¹ Lacking a definitive canon and exalted foundational texts, medical knowledge became more open and accessible, while theoretical debates were both heated and frequent. Taste certainly mattered to Greek medicine, but in slightly different ways. The Ayurvedic science of life had been devised by Brahma, the creator of the universe, and thus was perfect and permanent. But by subjecting the palate to the processes of trial and error, our anonymous Hippocratic author had argued, early humans had *discovered* medicine. Taste was an agent of empirical exploration harnessed to the advancement of mankind. The sensations in the mouth were more immediate and reliable predictors of a substance’s effect on the human body than the heavens’ omnipresent and invisible forces.

Like their counterparts in the East, Greek medical writers also attempted to classify tastes; by the fourth century BC, they had agreed more or less on seven: sweet, succulent, pungent, astringent, sour, acid, and bitter. (In some cases, the saline was separated from the bitter, making eight tastes, yet the general logic still applied.)⁵² But

⁴⁷ Ninivaggi, *Ayurveda: A Comprehensive Guide to Traditional Indian Medicine for the West* (Westport: Praeger, 2008), 98-100.

⁴⁸ Sebastian Pole, *Ayurvedic medicine: The Principles of Traditional Practice* (London, Elsevier, 2006), 60-67.

⁴⁹ *The Yellow Emperor’s Classic of Medicine*, trans. Maoshing Ni (Boston: Shambhala Publications, 1995). Dating this text is also difficult. Speculation ranges from the Warring States period in the fourth century BC to the early Han period in the third century AD.

⁵⁰ Marc Micozzi, *Celestial Healing: Energy, Mind and Spirit in Traditional Medicines of China, and East and Southeast Asia* (London: Singing Dragon, 2011), 16.

⁵¹ Roy Porter, *The Greatest Benefit to Mankind: A Medical History of Humanity* (London: Norton, 1997), 6-9, 53-54.

⁵² Aristotle delineated the seven tastes in *De Sensu*, 1.1, yet there were exceptions. Menestor of Sybarus believed that the number of tastes was unlimited, and Plato believed that there were only four. Theophrastus himself was ambiguous. Sometimes he implied that bitter and sweet were the two “primary” tastes, of which all others were just derivatives. In general, he proposed eight tastes: sweet, oily, bitter, harsh, pungent, sour, astringent, saline, although one could conflate saline and bitter, making seven. The

the significance of this number—as well as the specific powers of each taste—was always more ambiguous in the West. Did all tastes lie in a circle or on a spectrum between sweetness on one end and bitterness on the other? Must a food be “seasoned” with sweetness in order for us to find the food palatable?⁵³ Which tastes were more nourishing than others? Nor did the number of tastes reflect the cosmos quite as neatly as it did in the East, as there were four elements, four humors, and four seasons, but seven tastes.

Ancient writings provide important glimpses into taste’s role within early medical cosmologies, yet they leave other questions unanswered. We know that Alexander the Great came into contact with Ayurvedic physicians when he invaded India in the fourth century BC.⁵⁴ We know that the opening of the Silk Road in the second century BC fuelled the exchange of ideas, experts, foods, and drugs.⁵⁵ Yet, since these early medical systems likely circulated by word of mouth for centuries—perhaps millennia—before they were written down, it is nearly impossible to determine their origin. Such a search may well be fruitless; in fact, it is more plausible that taste-based medicine was not “invented” or “borrowed” at all, but instead grew out of broader, organic concerns about our relationship with the natural world. Grinding roots and herbs into bitter healing salves, or roasting game to sweeten its meat, are some of the most basic ways that humans manipulate the world around them. It makes sense that tastes appear so frequently in ancient myths of our origins, while textures and smells do not.⁵⁶

Yet taste’s associations with empiricism in ancient Greece did not remain stable over time. As early as the 4th century BC, medical writers had come to suspect taste-based medicine as false wisdom lazily passed down from one generation to another. “Those who have undertaken to treat in general either of sweet, or fat, or salt things, or about the power of any other such thing, are mistaken,” the Hippocratic author of *On Regimen* warned, as “the same power does not belong to all sweet things, not to all fat things, nor to all particulars of any other class. For many sweet things are laxative, many binding, many drying, many moistening.”⁵⁷ To truly understand the powers of foods, it was necessary to examine each one holistically, on a case-by-case basis. The fourth century Athenian physician Diocles concurred. “From substances similar in these respects,” he observed, “many dissimilar effects result.”⁵⁸ Indeed, as soon as tastes began

vinous taste, which some proposed as separate, was in Theophrastus’s opinion only a combination of sweet, astringent, and harsh.

⁵³ Aristotle and Theophrastus believed that tastes lied on a spectrum between sweetness on one end and bitterness on the other, yet they were not created equal. Theophrastus suggested that all the other tastes were somehow derivatives of bitterness and sweetness. Aristotle argued that all organisms were nourished only by sweetness, the active ingredient in honey, wine, and milk.

⁵⁴ Ninivaggi, *Ayurveda: A Comprehensive Guide to Traditional Indian Medicine for the West*, 20.

⁵⁵ The migrations of Chinese tribes into northeast India could also play a role. By 400 AD, Chinese scholars had translated Ayurvedic texts, and had probably been exposed to them far earlier.

⁵⁶ Taste features in many myths in many different cultures. According to Burmese legend, men once lived on a Cockayne-like “flavoured earth” where rice grew husked and cooking occurred spontaneously. Man’s depravity, and his eventual knowledge of good and evil, caused this to be replaced by a series of increasingly less delicious plants that lacked self-populating powers, forcing man to labor for his food; see James George Scott, *The Burman: His Life and Notions* (London: Macmillan and Co, 1896), 90-94.

⁵⁷ Hippocrates, *On Regimen* 2.39.

⁵⁸ See Philip Van der Eijk’s discussion in *Medicine and Philosophy in Classical Antiquity: Doctors and Philosophers on Nature, Soul, Health, and Disease* (Cambridge: Cambridge University Press, 2005).

to be incorporated into a medical canon, and as soon as this knowledge began to be written down for posterity, taste began to lose some of its power as immediate, direct, and truly authentic wisdom.

III. Taste-Based Clinical Practices

The Greeks recognized that taste-based medicine was far older than their own civilization; its great lineage reached back to the origins of human culture. But they also refined it, attempted to systematize it, and dared to question it too. In some cases, taste showcased the wisdom of direct unmediated experience, while in others it could be pedantic and intellectually un-rigorous. But in spite of its shortcomings, the faculty of taste soon became embedded in Western clinical practices, where it would remain until the eighteenth century.

The first of these practices was the diagnosis of disease. As the human body was a microcosm of the cosmos, it was only a matter of time until the empirical wisdom that man had gleaned from nature would be turned in on the organs and fluids coursing through his own body. By the fifth century BC, physicians had begun to understand human physiology in terms of four principal bodily fluids, or humors, which were concocted out of digested food. Not only did the humors actually nourish the body, but, conceived analogously to the four elements, they were also responsible for man's physiological and psychological health.⁵⁹ These humors did not possess a single identity; Hippocratic authors were fascinated by their ability to transform from one type to another. Such changes were best detected by the substance's taste.⁶⁰ Indeed, as humoral theory became increasingly institutionalized in late Antiquity, physicians began to focus even more attention on each humor's particular flavor. According to an anonymous text dating around the third century AD, yellow bile tasted bitter, blood was naturally sweet, and phlegm was generally insipid (although it could sometimes taste salty, sharp or even sweet).⁶¹ The famous Galen of Pergamum (130 – 199 AD) insisted that the best way to differentiate black bile, the fourth humor, from other black substances was to taste the characteristic sourness and sharpness of an afflicted man's vomit (although he warned that its smell was so putrid that "no fly or other creature would wish to have a taste of it").⁶² Lacking modern diagnostic equipment, Galen believed that these peculiar flavors hinted at internal processes unobservable by the naked eye.

There were many other bodily fluids equally worthy of taste-based analysis. Urine has been important to healing for thousands of years. The *Charaka Samhita* discusses the tastes of eight different kinds of medicinal animal urine, some suitable for ingestion, others for topical application. While Hippocrates and Galen were also aware of the practice, it was not until centuries later that Avicenna (980-1037 AD) turned urine into a systematic diagnostic and prognostic tool. As the constitution and balance of internal fluids were largely responsible for disease, urine analysis provided relatively fast and

⁵⁹ The theory of the four humors, and their analogous relationship to the elements, the temperaments, and the seasons, was first outlined in the *Nature of Man*, although near contemporaries did not necessarily attribute it to Hippocrates.

⁶⁰ Hippocrates, *On Ancient Medicine*.

⁶¹ "On the Humors," in *Galen on Food and Diet* edited. Mark Grant (London, Routledge, 2000), 16.

⁶² "On Black Bile," *Galen on Food and Diet*, 21.

harmless access to the disease properties stored in the body.⁶³ There were seven features to observe in one's urine, Avicenna argued, but taste was not one of them. He rejected it on the grounds of being "objectionable."⁶⁴ This, however, does not mean that it wasn't important, or even that taste wasn't considered reliable. Not only did Avicenna admit that others *did* rely on taste-based analyses, but also, as historian Michael Holberg has pointed out, the physicians were loath to discuss publically their forays into urine tasting because of social taboos.⁶⁵ Tasting breast milk, on the other hand, was completely free of prejudice. The taste should be "sweetish," Avicenna said, "without any bitterness, saltiness, or acidity."⁶⁶

Of course, if the physician could not stomach the thought of tasting his patient's bodily fluids, he could always make diagnoses and prognoses by observing and documenting changes in the patient's faculty of taste. The palate read information differently when the humors were disturbed. Of course, the patient's sense of taste was also a tricky form of clinical observation, as self-reports provided the physician only indirect information about what was actually going on in the patient's body.⁶⁷ Nor were the causes of taste aberrations thoroughly understood; even Galen, in spite of his extensive dissections, was unable to explain *how* humoral imbalances altered taste perceptions. But Hippocratic writers frequently noticed that some sick patients developed particular salty and bitter tastes in their mouth, while others lost their senses of taste and smell altogether.⁶⁸ In fact, well into the early modern period, diagnoses frequently correlated certain diseases with peculiar gustatory sensations. The predilections for chalk, dirt, and sand typical of what we now attribute to pica were widely discussed by physicians in the sixteenth century.⁶⁹ As late as the eighteenth century, Herman Boerhaave listed a slew of illnesses diagnosable by taste aberrations. Jaundice made everything taste bitter. Sufferers from dropsy (edema) complained of "intolerable nauseous sweetness" in their mouths. Chlorotic girls (girls afflicted with "green sickness," today understood as anemia) enjoyed foods found by others to be "unseasonably acrid and sower." And sensing saltiness in the mouth was a sign of recovery from the plague.⁷⁰

In addition to diagnostics, taste also became a cornerstone of various medical therapies and treatments. The tastes of different saps and herbs turned up frequently in Dioscorides' *Materia Medica*, even if they were used descriptively more than as

⁶³ Michael Holberg, "The Decline of Uroscopy in Early Modern Learned Medicine (1500-1650)" *Early Science and Medicine* 12, no. 3 (2007): 313-36.

⁶⁴ Avicenna, *The Canon of Medicine*, trans. O. Cameron Gruner (New York: AMS Press, 1973), 325.

⁶⁵ Holberg, "The Decline of Uroscopy," 324. The first physician to publically discuss the taste of urine were Thomas Willis, who linked urine's taste to diabetes, and Lorenzo Bellini, who used color and taste to speculate on the its concentration of solids. See *The Evolution of Urine Analysis: a Historical Sketch of the Clinical Examination of Urine* (Los Angeles: The American Medical Association, 1941).

⁶⁶ Avicenna, *Canon of Medicine*, 369.

⁶⁷ Incidentally, physical exams remained rare, and self-report important to doctor-patient relations through the eighteenth century. Roy Porter, "The rise of physical examination," in *Medicine and the Five Senses*, ed. W.F. Bynum and Roy Porter (Cambridge: New York, 1993), 179-197.

⁶⁸ This comes up in *Epidemics*, *On Regimen in Acute Diseases*, and in *Aphorisms*.

⁶⁹ Pica is an eating disorder characterized by an appetite for substances that are largely non-nutritive, such as paper, clay, metal, chalk, and sand.

⁷⁰ Herman Boerhaave, *Dr. Boerhaave's Academical Lectures on the theory of physic, vol. 4* (London, 1742-1746), 12-33, originally published as *Institutiones Medicae* (Leiden, 1708).

organizing principles. But remarkably, as physicians began to study the workings of drugs more carefully, their tastes—as opposed to other sensory information—seemed to matter more rather than less. Galen discussed each flavor at length in his compendious *On Simple Medicines*, deeming them important tools with which to assess a drug’s properties.⁷¹ The senses could not explain everything — there are indeed instances where Galen distrusted them—but no one could argue that taste, while imperfect, was unimportant.⁷² In one form or another, Galen’s ideas continued to structure Western pharmacology for centuries, although their specifics were continually being revised. By the 15th century, as historian Philip Teigen has noted, the “Galenic” pharmacopeias in England used only three of the original seven tastes: the sweet, the sour, and the bitter.⁷³ While grounded in theoretical premises, these organoleptic qualities hinted at the configuration of elements within that drug, which were now measured in numeric degrees of intensity.

Pharmacology was but one dimension of taste-based therapy. Physicians also paid close attention to the nutritional benefits of *enjoying* the food one ate. Except for the realms of holistic medicine and some of the less conventional forms of cognitive behavioral psychology, this is an alien concept to us. Nowadays, our aesthetic assessments of food primarily reflect our social identity, which we tend to regard as unrelated to health. We attribute the capacity to detect subtle aromas in fine wines and coffees to an ineffable cocktail of education, class, and experience.⁷⁴ Hippocrates, however, believed that good physicians should also be good cooks, and this mantra was passed down in medical literature for centuries. “Good” was used in both senses of the term. Not only must a cook be able to accurately match the right flavor to the right constitution, but also, as sensual enjoyment mattered to good health, the food he prepared must also be delicious. Galen, who styled himself as Hippocrates’ successor, also insisted on the therapeutic benefit of prandial delight, maintaining that whatever tasted good to an individual was easier for him to digest than less pleasurable albeit equally nourishing dishes, a position with which Avicenna, compiling Galen’s work over five centuries later, enthusiastically agreed.⁷⁵ As a food’s taste seemed to correlate directly with its relative

⁷¹ Sensory evidence plays a large role in Galen’s theories; see Book Four of *De Simplicis*, which is further cited in one of Galen’s later work, “On the Powers of Foods,” Book One, and “The Thinning Diet” in *Galen: Selected Works*, trans. P.N. Singer (Oxford: Oxford University Press, 1997), 305.

⁷² Galen’s contributions to pharmacology are only beginning to be seriously studied. See *Galen on Pharmacology: Philosophy, History, and Medicine: Proceedings of the 5th International Galen Colloquium*, ed. Armelle Debru (Leiden: Brill, 2005).

⁷³ Philip Teigen, “Taste and Quality in Fifteenth and Sixteenth Century Galenic Pharmacology,” *Pharmacy in history* 29, no. 2 (1987): 60-68. By the fifteenth century, Teigen argues that bitter, sour, sweet correlated with hot, dry, and moist qualities, respectively. Astringency and sourness had been conflated.

⁷⁴ While the basis for expertise is not fully understood, a common characteristic of so-called “experts” is that they can successfully combine perceptual and conceptual (or semantic) knowledge, including a discriminating vocabulary and the right expectations. Richard Stevenson, *The Psychology of Flavour* (Oxford: Oxford University Press, 2009), 150-154. Also see Antoine Hennion and Genevieve Teil, “Discovering Quality or Performing Taste? A Sociology of the Amateur” in *Qualities of Food: Alternative Theoretical and Empirical Approaches*, ed. M. Harvey, A McMeekin, A. Warde (Manchester: Manchester University Press, 2004), 19-37.

⁷⁵ Galen, “On the Powers of Foods: Book Two,” in *Galen on Food and Diet*, ed. Mark Grant (London: Routledge, 2000), 131. This was especially important in the cases of illnesses. See Avicenna on “Palatability” in *The Canon of Medicine*, 399.

nutritional capacity, his oft repeated dictum *quod sapit nutrit*—“if it tastes good, it’s good for you”—became an enduring dietetic truism in the West.⁷⁶

History had shown, wrote the first century physician Celsus, that the greatest philosophers had also proven to be the greatest medical innovators.⁷⁷ Classicists have unfailingly reminded us of the degree to which philosophy and medicine were closely intertwined, as both meditated on the same template.⁷⁸ Taste-based knowledge, as I have tried to show, derived meaning from its ability to organically connect these two realms. The tastes of things mediated man’s relationship to nature. Through the sensations perceived in the acts of chewing and swallowing, man became conscious of the greater forces that of the greater forces that conspired to sustain life and commune with mortality. Dig a little deeper into these manifold perceptions, wise men seemed to promise, and the primordial essence of all substances could be potentially unmasked.

But if taste-based knowledge could organize our relationship to nature and ourselves, it was less effective when it came to mediating our relationship to others. Greek physicians were hardly oblivious to the stark social differences among men. Devoting one’s energies to eating correctly, Ludwig Edelstein has argued, was a privilege virtually unavailable to the poor.⁷⁹ Surely not everyone possessed the resources to account for taste in every meal. But at the same time, no ancient medical writer ever mentioned a palate that was more discerning, more refined, or more cultivated than another. This did not mean that food preferences could not be powerful symbols of identity. Only the top rungs of the nobility had the resources to dine on ostrich heads and top-shelf *garum* extolled at the luxurious tables of Apicius and Heliogabulus. Yet while these foods worked as symbols of power and influence, consuming them did not call attention to any innate gustatory predisposition to appreciate such things. Similarly, in *On the Powers of Foods*, Galen pointed out that manual laborers were surprisingly able to stomach their coarse unhealthy food, but this was not because their lowly status innately rendered them suitable for such a diet. Instead, he explained that laborers avoided illness because they got a lot of sleep.⁸⁰

This mindset would begin to change over the 17th century. While the sense of taste remained important to natural philosophical and medical knowledge, centuries of political turbulence had begun to undermine the strongholds of intellectual authority, leaving this epistemological framework vulnerable to new agendas. The meanings inherited from Antiquity did not disappear, of course; in fact, they were frequently mobilized for political purposes. But underneath the rhetoric, these longstanding

⁷⁶ Ken Albala, *Eating Right in the Renaissance* (Berkeley: University of California Press, 2002), 82. By the end of the sixteenth century, Albala observed that many pleasant tasting foods came to be condemned too because all substances were seen as correctives.

⁷⁷ See the preface to book one of *De Medicina*.

⁷⁸ Many books relating ancient philosophy to ancient medicine have been published. See Ludwig Edelstein, “The Relation of Ancient Philosophy to Medicine” *Bulletin of the History of Medicine* 26 (1952): 299-316, Philip Van Eijk, *Medicine and Philosophy in Classical Antiquity: Doctors and Philosophers on Nature, Soul, Health, and Disease* (Cambridge: Cambridge University Press, 2005). Temkin pointed out that Aristotle himself declared that natural philosophers eventually went into medicine, whilst physicians based medicine on natural principles, *Galenism*, 65.

⁷⁹ Ludwig Edelstein, “The Dietetics of Antiquity” in *Ancient Medicine*, 305

⁸⁰ This would change if the laborers were kept awake for prolonged periods, and what passed for nourishment out of necessity would become unsuitable for their constitutions. Galen, “On the Powers of Food: Book One” in *Galen on Food and Diet*, 81.

meanings started to evolve. What once articulated man's connection to the environment now also began to testify to other attributes, such as professional expertise, social credibility, man's fundamental difference from other human beings.

Chapter Two

Taste and New Learning

In the previous chapter, I broadly sketched the significance of taste in the ancient historical documents. While it was never associated with knowledge and the intellect in the same way as the faculties of sight and hearing, taste was crucial to mediating man's relationship to nature and to his own body. The various flavors of plants and herbs invited reflection on the divine craftsmanship of the universe, while the characteristic tastes of blood, urine, semen and black bile, reflected man's place within it. For as long as there existed no other means to predict an ingested substance's effect on the body, taste was the only game in town.

The cosmic underpinnings of taste-based knowledge proved resilient for centuries, and only during the 1660s did they begin to crumble. Nowhere was this felt more acutely than in English scientific culture. The political and economic turmoil of the Civil War had shaken the traditional strongholds of scientific authority. Paracelsian chemistry and Baconian empiricism offered new approaches to the study of nature while encouraging men to be skeptical of received wisdom. Yet, despite these antipathies towards ancient learning, these processes did not make taste-based information irrelevant to understanding the natural world. In many ways, turmoil in the medical marketplace caused ambitious medical practitioners actually to *elevate* the scientific status of taste-based information. In the pamphlet literature exchanged among warring groups of physicians, empirics, and apothecaries, flavor discrimination was touted as a lost art. In fact, many natural philosophers publically praised the investigations of taste qualities that their ancient forbears had begun; they too believed that carefully classifying the tastes of the natural world into improved pharmacopeias could potentially unmask occult properties embedded by God in all living things.

But far more was at stake than the methods applied to the study of the natural world. Many Continental natural philosophers had begun to reject Aristotle and Galen's long-held monopoly on Western science and medicine in favor of hitherto neglected atomistic or mechanical worldviews inherited from Leucippus and Democritus. The spread of such worldviews altered taste's significance to experimental culture, although the consequences were not the same everywhere. In Italy, for example, mechanical exploration of taste perception animated competition *within* the academy, but did not disrupt the overall stability of scientific culture. But in England, by contrast, decades of political instability had already weakened the boundaries of intellectual and social authority. These conditions allowed a new generation of men—the kind who met in coffeehouses and the vicinities of Gresham College—to use taste as a vehicle to reevaluate questions about what counted as “useful” learning and what kind of men should have access to it. As both an experimental method and an object of study in its own right, taste-based knowledge raised anxieties over these questions.

I. Authenticity and Credibility

For nearly two thousand years, spanning from the East to the West, a good knowledge of the normal and pathological tastes of foods and drugs had been a

cornerstone of clinical practice. The medical marketplace that evolved in early modern England did little to change that. The ability to theorize about tastes was critical to the university-educated physician's practice. His admission to the medical elite, the College of Physicians, required an intimate textual knowledge of the diseases and pathologies described by the ancients as well as of the properties of the drugs needed to cure them.⁸¹ Taste also mattered to the apothecary's profession, whose business lied in collecting the correct plants and herbs to use as simples or in the manufacture of new drugs. Taste even mattered to the common housewife. While her expertise was gleaned from received wisdom and personal experience rather than professional training, the tastes and smells of local herbs and saps were some of the best tools at hand for concocting her own home remedies.⁸²

But by the middle decades of the seventeenth century, the diagnostic powers of taste-based information began to face new challenges. The first was the expansion of the drug trade, forcing the medical practitioners to somehow make sense of the panoply of new substances imported from abroad. In less than one hundred years, more than twenty times as many plants were introduced into Europe as had been in the preceding two thousand years. The organoleptic properties of sarsaparilla, guaiac, sassafras, and various balsams from the New World required identification in order to be incorporated into existing pharmacopeias. While the herbal—a collection of botanical descriptions used primarily for their medical properties—could trace its roots back to antiquity, the invention of the printing press allowed the genre to flourish over the second half of the sixteenth century.⁸³ By 1600, dozens of new drugs had been classified in herbals, while physic gardens sprouted up in cities and towns.⁸⁴

Describing tastes had always been important to botanical classification.⁸⁵ But as printed herbals became increasingly available, the subjectivity of gustatory descriptions became all the more glaring. When writers were not ruthlessly plagiarizing from one another, they were often confusing their readers with contradictory plant descriptions. How could one writer label coriander “hot and dry” when Dioscorides considered it to be cooling?⁸⁶ How could it be innocuously compared to parsley in one text, but “stink so basely” in another, so much it “can hardly be endured?”⁸⁷ Writing herbals was hardly a

⁸¹ The College of Physicians was an exclusive incorporated body of learned medical practitioners who were admitted by examination. Having obtained a royal charter in 1518, this body was given statutory powers to regulate and prosecute unlicensed medical practitioners in from giving medical advice and prescribing remedies. Although it still exists today, the College's power was seriously curtailed in 1704, when a parliamentary decision gave apothecaries the right to practice medicine.

⁸² Andrew Wear, *Knowledge and Practice in English Medicine 1550-1800* (Cambridge: Cambridge University Press, 2000), 90-91.

⁸³ Agnes Arber, *Herbals: Their Origin and Evolution: A Chapter in the History of Botany 1470-1670* (Cambridge: Cambridge University Press, 1938).

⁸⁴ J. Worth Estes, “The European Reception of the first drugs from the New World,” *Pharmacy in History* 37, no. 1 (1995): 3-23; A.G. Morton, *History of Botanical Science* (London: Academic Press, 1981), 118.

⁸⁵ Theophrastus's *De Causis Plantarum* is known as the West's first botanical treatise and is a canonical botanical text among scholars. I have consulted Theophrastus's *Enquiry into Plants and minor works on odours and weather signs*, trans. Sir Arthur Hort (London: Heinemann, 1961).

⁸⁶ Thomas Cogan, *The haven of health* (London, 1636), 47.

⁸⁷ For example, compare the definition given in Elisha Coles's *An English dictionary explaining the difficult terms used in divinity, husbandry, physick* (London, 1677) to Nehemiah Grew, *The anatomy of plants* (London, 1682), 293.

professional enterprise; no real requirements had to be met before a gentleman could call himself an herbalist. John Gerard, author of *Herball, or Generall Historie of Plants* (1597), the most widely circulated botanical book in the English language during the seventeenth century, was a member of the Barber Surgeon's Company, setting him apart from the establishment. Nicholas Culpeper, author of the well-regarded *The English Physician* (1653) was an iconoclast whose radical views made him controversial among both physicians and apothecaries. By the middle of the seventeenth century, educated practitioners complained that herbals had spawned irrational superstitions and unprecedented numbers of quacks. Robert Hooke complained that herbals delivered "so little ... of the virtues of a Plant, and less of truth."⁸⁸ The wealth of subjective gustatory descriptions found in printed herbals illuminated very real inconsistencies in the medical literature.

Challenges to taste-based medicine extended well beyond the herbal's scope. The English Civil War (1642-51) had catalyzed the spread of new medical theories that soon mapped onto larger power struggles within the establishment. Postwar reformers decried everything from the physician's elitist protestations to outdated Greco-Roman authorities to the heathen brutality of conventional treatments such as cupping and bloodletting.⁸⁹ They resented the informal yet powerful controls on access to pharmaceutical knowledge. In 1649 Culpeper tried to undercut the establishment by translating and publishing the *Pharmacopiea Londonesis*, an authoritative source of guidance on London apothecaries (hitherto available only in Latin) in English for the layman's benefit.⁹⁰ In 1660, the College of Physicians, which had reigned as England's undisputed medical elite since 1518, was forced to live uneasily alongside the newly chartered Royal Society, which had become an outlet for renegade experimental philosophies and therapies imported from the Continent. By 1664, one physician likened extant constellation of alchemical and medical philosophies in England to warring squadrons of cooks: "the rosters of Geber, the tosters of Lully, the fricasseers of Paracelsus, and the olla podrida men of Helmont, men that all know how to rost apples, stew prunes, tost cheese, and some who can, it is believed for need, toss a pancake."⁹¹ His beloved College of Physicians never truly recovered its uncontested authority.

The Royal Society was not the only thorn in the College's side. After the Restoration of the monarchy in 1660, the College also began to endure ever more strident

⁸⁸ Robert Hooke, *Micrographia, or some physiological descriptions of minute bodies made by magnifying glasses* (London, 1665), 155.

⁸⁹ Loosening of censorship combined with reformist zeal had made English intellectuals far more receptive to ideas imported from the Continent, particularly from Leiden and Padua. See Harold Cook, *The decline of the old medical regime in Stuart London* (Ithaca: Cornell University Press, 1986), 108-110. These trends are also discussed extensively in Charles Webster, *The Great Instauration: science, medicine, and reform 1626-1660* (London: Duckworth, 1975); Allan Debus, *The English Paracelsians* (London: Oldbourne, 1965); Wear, *Knowledge and Practice in English Medicine, 1550-1680*, 354-55.

⁹⁰ Nicholas Culpeper, *A physycall directory, or, A translation of the London dispensatory, made by the College of Physicians in London* (London, 1649). Not only did Culpeper add an expanded list of drugs and their therapeutic properties (often based on astrological information) to his translation of the 1618 original, but his work also had a reformist subtext. Culpeper compared the College of Physicians to papists on the grounds of their resistance to vernacular medical texts.

⁹¹ 'C.T.', *Some papers writ in the year 1664* (London, 1670), 32.

challenges to its authority by the rapidly growing Society of Apothecaries.⁹² One of the central issues in this struggle for autonomy was the apothecaries' right to make and prescribe medicines of their own.⁹³ (Formerly they had only been allowed to manufacture and dispense medicines that physicians had prescribed.) This threatened to erode the College's monopoly on the practice of medicine and inspired vehement pamphlet wars that continued for decades. Conservative members of the College of Physicians came up with various arguments for why the apothecaries should not be allowed to make their own medicines or dispense their own medical advice, most of which had to do with the apothecaries' lack of academic wisdom. Who was to say that the apothecary's pharmaceutical knowledge was accurate? Too often, the physicians claimed, his expertise was gleaned by faulty second or third-hand translations of ancient texts, or worse, entrusted by superstitious herb women. Members of the College were also suspicious of the apothecaries' stake in the expanding international drug trade, granting them access to mysterious new medicines that had not been satisfactorily evaluated.⁹⁴ How could one trust whether a drug acted in the way that an apothecary said it did? How did one know that the apothecary was motivated by public welfare and not by private profit?

In this volatile political climate, taste-based knowledge became an important subject of reformist critique. The status quo had long evaluated a drug's therapeutic suitability for a patient based on how its unique taste, smell, and visual appearance measured up to the patient's humoral complexion. Yet under closer analysis, the reformers warned, the causal relationship between favorable taste impressions and good health seemed to break down. "It argues great Incogitancy," one of these reformers argued, a die-hard follower of the Flemish iatrochemist Jan Baptiste van Helmont, "to Judge of the Inward Energie of an Elaborate Pharmacon by the Taste, or outward apposition before the Ingredients be rightly understood; and the exquisite Manufacture discovered."⁹⁵ After all, some poisonous foods tasted good, or even innocuously bland, while bitter or seemingly nauseating tastes could be surprisingly nutritious. For the renegade Helmontians and their upstart Society of Chemical Physicians, reliance on taste underscored the Galenists' intellectual laziness at the expense of newer and potentially more accurate descriptors.⁹⁶

⁹² The Society of Apothecaries had been officially severed from the medieval Grocers' Company and given a monopoly to dispense drugs in 1617. However, the Society was limited to selling medicines specifically prescribed by physicians, which were also supposed to be listed in an official pharmacopeia published by physicians. Physicians also had the right to inspect the drugs in apothecaries' shops. The Rose Case of 1704 saw a dramatic turn in the Society's fortunes, as it allowed apothecaries' to dispense medical advice, and in 1815, they were given the power to license and regulate medical practitioners throughout England and Wales.

⁹³ This struggle is discussed most comprehensively by Harold Cook in *The decline of the old medical regime in Stuart London*. Essentially, the Society of Apothecaries wanted recognition as legitimate practitioners in instances when physicians were not available in London. This debate was eventually resolved in the apothecaries' favor in the Rose Case of 1704.

⁹⁴ 'C.T.', *Some papers writ in the year 1664* (London, 1670).

⁹⁵ George Thomson, *Orthomethodos Iatrochumiche; or, the direct method of curing chymically* (London, 1675), 55-56.

⁹⁶ Van Helmont claimed that the Galenists had "by saviours or tastes, promised an entrance into knowledge of the simples." Helmontians, on the other hand, believed that tastes were products of different *ferments* produced by sharpness, sourness, and alkali salts in the body, and not the intrinsic qualities within substances. Taste and smell could not by themselves account for power of substances, Andrew Wear, *Knowledge and Practice in English Medicine*, 368-369.

Still, not even the Helmontians could completely discard taste from their medical philosophy. Van Helmont himself acknowledged that many remedies do “by odor and savor help our infirmities,” even though he never devised a definitive program for classifying them.⁹⁷ Indeed, given its association with centuries of received wisdom, one might think that this turbulent period would precipitate taste-based medicine’s decline. This did not happen. In fact, in these heated debates, taste became a powerful rhetorical weapon that allowed each of these warring groups to claim that theirs was the true and authentic medical philosophy.

In 1665, an anonymous gentleman by the name of “T.M” penned a forty-page pamphlet proposing to reform the medical profession by institutionalizing increasing specialization and transparency in the process of medicine-making. In an ideal world, T.M. argued, physicians would frequently visit apothecaries’ shops to personally inspect individual simples in their natural states, before they were made into medicines.⁹⁸ Not only would this allow the physician to devise new ways to improve the “efficacy and operation” of medicines already in use, but it also afforded him the chance to analyze “their taste and scent, which ought to be one great part of a physicians care, and is now too much neglected.” The sensual experience of tasting one’s own medicines allowed physicians to both “preserve in memory what is proper and useful” and to make medicines “more gustful and palatable,” which, T.M. believed, was also essential to preserving the lining of the stomach so often harmed in the treatment of chronic illnesses.⁹⁹ “Nothing,” T.M. continued, “can be more his interest than this.”

T.M. was not alone. Robert Pitt, a fellow and ardent supporter the College of Physicians, believed that exploitation of this one sense enabled men to quickly and precisely identify the medicinal properties of diverse herbs and even discern how these properties could be employed in combination with one another. Such skills could not be learned from books.¹⁰⁰ Others took Pitt’s claim even further. The physician’s principle task, Sir John Floyer believed, should be to “chuse and apply tastes,” which he interpreted as divinely endowed essences that, when properly combined, could give rise to any type of medical remedy. He saw his encyclopedic 1687 treatise on all the tastes found in nature, *Pharmaka-basanos, or the touchstone of medicines*, as part of a crusade to “vindicate the Art of curing diseases from the common scandal of being conjectural.”¹⁰¹

Why did a discerning palate suddenly become such a powerful measure of credibility at the precise moment that the efficacy of older forms of inherited wisdom began to face ever-mounting skepticism? At this time of crisis in the medical marketplace, taste-based therapies benefitted from associations with primordial wisdom

⁹⁷ *ibid.*, 371.

⁹⁸ According to Cook, T.M. was probably Christopher Merrett (1614-1695) who was a Fellow of both the College and the Royal Society.

⁹⁹ T. M., “*A letter concerning the present state of physick and the regulation of the practice of it in this kingdom* (London, 1665), 43-44, 55-56.

¹⁰⁰ Robert Pitt, *The antidote, or, the preservation of life and health and the restorative of physick to its sincerity and perfection* (London, 1704), 4.

¹⁰¹ Sir John Floyer, *Pharmako-basanos: the touchstone of medicine* (London, 1687), 1-13.

that promised to return medicine to a prelapsarian golden age.¹⁰² Indeed, T.M. did not exalt the new science at Antiquity's expense; *all* physicians, he insisted, should read Hippocrates, Galen, "and the Old Masters of this science."¹⁰³ But by *excessively* relying on texts and neglecting the immediacy of their natural environment, the modern physician had lost his way. Galen had traveled the world looking for the right plant specimen needed to match a certain sensory property. He would not dare prescribe a drug that he had not "first tasted and smelt."¹⁰⁴

While T.M. praised antiquity as the golden age of taste-based clinical practices, his contemporary John Floyer looked back even further. Even the "ignorant Indians," for whom progress and history were unknown, more skillfully rendered their flora and fauna into effective medicines than the average English apothecary could. Yet while the pre-Socratics had also paid close attention to the diverse tastes and smells found in nature, Floyer blamed Aristotle for taste-based medicine's decline. Reducing a diverse sensory vocabulary into the constricting categories of hot, cold, moist, and dry, he argued, obscured the natural relationship between medicine and gustation.¹⁰⁵ For all of these writers, taste sat at the very nexus of human culture, at the point when the brute struggle for survival metamorphosed into the art of physic. Gustatory knowledge presupposed not only an intimate connection with the natural world, but it also allowed the physician to showcase his most desirable professional qualities, such as scrupulousness, refinement, and attention to detail.

Some of this rhetoric had been heard before. Physicians had always debated the various therapeutic applications of different tastes, and whether they constituted causes or cures of disease. But never before had knowledge of tastes been accorded such high moral stakes, highlighting one group's credibility and expertise and another group's pedantry and negligence. For many of the parties involved, even those who were otherwise opposed to one another, paying close attention to the distinct tastes of different medicines and drugs broadcast one's mastery of the divinely bestowed "original" pharmacopeias present in nature. As Floyer wrote, "The true physician knoweth [taste's] virtue, the manner of its preparation, the suitableness of it to the humour to be corrected, and to the constitution of the patient: of all which the quack is ignorant."¹⁰⁶ In the same vein, Robert Pitt, an ally of the College, justified his indictments against the unlicensed apothecaries on the grounds that the apothecary's alarming inattention to the senses led to faulty therapies, thus harming patients more than they helped. The apothecaries retaliated by arguing that their years of apprentice work spent collecting simples in the fields provided them with a far more sophisticated understanding of the pharmacological potential of different tastes than the pedantic physician hunched over his dated Latin

¹⁰² Mark Jenner has also addressed the rhetorical use of taste and medicine in "Tasting Lichfield, Touching China: Sir John Floyer's Senses" *The Historical Journal* 53:3 (2010), 647-670, which discusses Floyer's evocation of the "pristine sensitivity of ancient palates."

¹⁰³ T. M., *A letter concerning the present state of physick and the regulation of the practice of it in this kingdom*, 21.

¹⁰⁴ *Ibid.*, 24.

¹⁰⁵ Floyer might be confusing Aristotle with his fifth century Sicilian predecessor Empedocles. Curiously, Hippocrates' *On Ancient Medicine* makes the exact same point about taste's relationship to the medical golden age that Floyer does, save for the target of the critique.

¹⁰⁶ Sir John Floyer, *Pharmako-basanos: the touchstone of medicine* (London, 1687), 16.

texts.¹⁰⁷ Still others placed the blame on van Helmont's followers, who were inclined to destroy the virtues of a simple by excessively tinkering with its invisible chemical properties. Physician and apothecary, empiric and druggist — all struggled to claim taste as a sign of their intellectual descent from the Hippocratic tradition, a conviction that was not invented by the social and intellectual conditions of seventeenth century England inasmuch as it was inherited from various traditions, customs, and shapeless intuitions that had been accumulating well before antiquity.

II. Taste as a New Science

Taste's therapeutic significance did not decline in importance, nor did it preclude attempts to update and rationalize the methods by which tastes were applied to physic. As a system of empirical investigation, taste also had to meet the experimental rigors of the new science. The ancients, for all their wisdom, had fallen short in this regard. While devising a reliable system by which gustatory sensations could be analyzed and measured was a challenging if not insurmountable task, beginning in the 1670s, several ambitious physicians attempted to design new taxonomies of all the tastes that existed in the natural world. This, they hoped, would constitute a pharmaceutical key to all mythologies, forever severing physic from folklore and superstition.

The first of these gustatory researchers was the non-conformist physician and botanist Nehemiah Grew (1641-1712). Born in Coventry and educated in Cambridge and Leiden, Grew was elected to the Royal Society in 1671 on the basis of his botanical investigations. Historians generally know Grew for his comprehensive book of botanical and zoological lectures and papers, *The Anatomy of Plants* (1682).¹⁰⁸ His interest in plant morphology naturally drew him to his subject's "sensible qualities" of color, smell, and taste, which he believed were insufficiently understood.

In a 1672 lecture read before the Royal Society, Grew lauded the work of his botanical predecessors, both ancient and modern. He cautioned that abandoning the old Galenic vocabulary — "hot, cold, moist, dry, thin, gross" — would be "rashness."¹⁰⁹ But, at the same time, he warned that the ancients had assigned medicinal virtues with "much uncertainty, and too promiscuously."¹¹⁰ If one were to carefully examine an old herbal, Grew griped, "you shall find almost every Herb, to be good for every Disease." When one *did* wish to learn about the unique medicinal virtues associated with a plant, the old herbals, more often than not, would not mention them. Rehabilitating botanical

¹⁰⁷ Even Christopher Merrett, member of the College and the Royal Society, admitted that apothecaries are better acquainted with *materia medica* than most physicians.

¹⁰⁸ Michael Hunter, "Early Problems in Professionalizing Scientific Research: Nehemiah Grew (1641-1712) and the Royal Society, with an Unpublished Letter to Henry Oldenburg," *Notes and Records of the Royal Society* 36, (1981-2): 189-209, Agnes Arber, "Nehemiah Grew and Marcello Malpighi: An Essay in Comparison," *Isis* 34 (1942-3): 7-16, Brian Garrett, "Vitalism and Teleology in the Natural Philosophy of Nehemiah Grew" *British Journal for the History of Science* 36, no. 1 (2003): 63-81.

¹⁰⁹ Nehemiah Grew, "An Idea of a Philosophical History of Plants, Read before the Royal Society January 8 and January 15, 1672" *The anatomy of plants, with an idea of the philosophical history of plants, and several other lectures* (London, 1682), 13.

¹¹⁰ *Ibid.*, 29.

knowledge, Grew concluded, therefore demanded a multi-pronged analysis of each vegetable's sensible qualities, of which taste inspired the most rigorous analysis.¹¹¹

Grew proposed four modifications to the existing gustatory taxonomies. First, he pledged to increase the number of basic tastes in medical use. For how could the existing vocabulary describe the peculiar taste of the "white roots of Yarrow," which Grew deemed "hardly any other way perceptible, than by causing a gentle *glowing* and *continued Warmth* upon the Tongue"? Second, he recommended expanding the number of "degrees," which charted the intensity of each flavor, from four (the longstanding Galenic standard) to ten. Third, he advocated the creation of a new system by which physicians could synthesize the enlarged category of flavor properties along with the greater number of degrees. Last, he argued that botanical studies could not reductively classify each plant according to only one flavor. If one separated the roots from the leaves, or compared a seedling to a mature plant, their respective tastes would differ considerably. Charting a truly accurate compendium of tastes required an empirically sound analysis of vegetable life.

Three years later, Grew delivered another lecture to the Royal Society. This time he focused exclusively on the experience and classification of taste, a subject that hitherto had been treated with "so much scantiness and defect."¹¹² After all, Grew theorized, if different substances could impress such radically different sensations in the mouth alone, surely they must also elicit equally diverse physical and mental reactions. Executing this new system required three new measurements. First, instead of nine simple savours, as the influential physician Thomas Willis (1621-1675) had earlier proposed, Grew delineated at least sixteen simple tastes that could maintain their unique qualities when they were mixed with other tastes and odors.¹¹³ Each of these tastes had a natural partner; sweetness paired with bitterness, and sourness paired with saltiness. "Compound" tastes, which Grew compared to words made out of letters, consisted of two or more simple tastes. *Acris* was a combination of "pungent and hot, as horseradish." *Notrofus* was made from "pungent and cold."¹¹⁴ The number of such combinations could be limitless, Grew claimed, although the English language had words to describe only a handful.

In some respects, Grew's work was not that remarkable. The number of tastes had never been constant in the West, and continues to be debated to this day.¹¹⁵ More important were his attempts to minimize gustatory subjectivity by analyzing sensations quantitatively, clocking both the duration of the taste and its intensity over time. Grew believed that the *trajectory* of a substance's intensity in the mouth had an analogous

¹¹¹ Grew also includes a few words about "consistency," or touch, but he did not consider this a sensible quality.

¹¹² Nehemiah Grew, "On the Diversities and Causes of Tastes, Read before the Royal Society March 25 1675," *The anatomy of plants, with an idea of the philosophical history of plants, and several other lectures* (London, 1682) 165.

¹¹³ Willis's ninth flavor was "insipid, or without taste," however, one could make a case that he believed there were eight tastes; *Two Discourses on the Soul of Brutes* (London, 1672), 63. He also lists sweet, bitter, salt, acid or tart, astringent or biting, sour, and oily.

¹¹⁴ Grew, *The Anatomy of Plants*, 281. Grew analogizes them to words composed out of letters.

¹¹⁵ During the Renaissance, physicians generally followed the model of Aristotle, Galen, and Avicenna, all of whom believed there were seven primary or "simple" tastes. The sixteenth century French physician Jean Fernel had been the first to add "fatty," although this addition was rejected by the establishment. By 1672, Thomas Willis had expanded the number to nine. Even today, researchers do not agree on the number of tastes and some have proposed "fat" as a sixth taste.

relationship to the course of disease, from the prodrome to fever to the breaking. The “heat of Galangale” (an Indonesian root in the same family as ginger) did not reach its height of intensity until after half a minute, Grew observed, while the “heat of Blackbore” took a whopping four minutes to peak after contact with the tongue. Much like a long-lasting gum, the bitterness of a wild cucumber lasted for a full fifteen minutes. Finally, after identifying five “seats” of taste—the lips, tongue, palate, throat, and gullet—Grew separated tastes that remained “fixed” in one part of the body from those that provoked sensations elsewhere. (He was uncertain whether some of these sensations—supposedly felt from the tongue all the way down to the stomach—actually counted as tastes at all.) Still, by applying the scientific method to the study of gustatory perception—incorporating elements of time, motion, and feeling—Grew’s so-called “Scientifick Definition” claimed to correct the irregularities of herbal literature. Even if his new system was not much more streamlined than the Galenic one he was trying to replace, the project reconciled the Royal Society’s devotion to progress with the ancient, if not prehistoric belief that tastes constituted windows into an underlying natural order of things, the excavation and understanding of which could serve the progress of mankind.

Grew’s work was well received.¹¹⁶ Along with Robert Hooke, he was appointed joint secretary of the Royal Society in 1677. Three years later, he became an honorary member of the College of Physicians, although his non-conformism prohibited him from officially joining. Yet in many ways, Grew’s work remained unfinished, as he never determined the unique medicinal virtues of different taste combinations. He observed that plants had more bitter and sour tastes than sweet and salty ones, yet he could not explain why this was. He noticed that “soft and sweetish” substances often made good anti-scorbutics and that bitter things like fenugreek seeds worked well as cleansers. But for the most part he was baffled by the relationship between a substance’s taste, scent, and color on the one hand, and its curative properties on the other. How did cooking change a substance’s taste? How did taste and smell conspire to affect herbal therapies? While he claimed it “probable” that more specific medical virtues could be determined by tastes alone, Grew left most of the work to posterity.¹¹⁷

This project was taken up several years later by Sir John Floyer (1649-1734). The son of a barrister, Floyer studied at Oxford during the 1660s, when the ideas of Galen and Hippocrates were experiencing a revival.¹¹⁸ In subsequent years, Floyer also read Nehemiah Grew’s work as well as some of the latest anatomical studies on the tongue.¹¹⁹ All of these influences culminated in his ambitious work *Pharmako-basanos, or the touch-stone of medicines* (1687), which lauded Grew’s ingenuity while also attempting to

¹¹⁶ His reputation outlasted him. In 1728, Chambers’ *Cylopedia* deemed him the reigning authority on gustation in England. Even nearly a century later, Charles Alston’s *Lectures on the Materia Medica* (London, 1770), 33 claimed “the learned Dr. Nehemiah Grew has treated this subject incomparably better than any author either before or since him.”

¹¹⁷ Grew concludes his treatise by claiming that “the specifick virtue of medicines, which some physicians positively deny, and most dispute; from some of the forementioned differences of taste ... may seem, at least, to be probable;” Grew, *Anatomy of Plants*, 292.

¹¹⁸ Robert G. Frank, “Medicine” in *Seventeenth-century Oxford*, ed. Nicholas Tyacke (Oxford: Clarendon Press, 1997), 505-558.

¹¹⁹ Mark Jenner, “Tasting Lichfield, Touching China: John Floyer’s Senses,” 661. Floyer also incorporated Malpighi’s mechanist explanations of taste as a physical body. No plant, he explained, could be described in terms of one simple taste alone. Instead, each one produces different ‘modes’ that depend on the motion and texture of bodies making up a substance.

expand on his work. Rather than limiting himself to vegetal tastes, Floyer also devoted chapters to the tastes of minerals and animals. Instead of sixteen simple tastes, Floyer believed that there were only four: “watery, earthy, oily, and acid,” and he reduced the number of “degrees” from ten to three. But Floyer’s system of classification was actually far more complex than Grew’s. Two or more simple tastes could produce a compound taste. “Diverse tastes” consisted of one simple taste paired with one compound taste. And countless other “classes” of tastes resulted from the pairing two compound tastes together. Sweetness, Floyer wrote in a separate article, came in eleven different varieties ranging from “Sweet-aromaticks,” which included carrots and parsnips, to “sweet-subacids” made up of strawberries and grapes.¹²⁰

Floyer also integrated odors into his study far more effectively than Grew had. Today we know that the distinctive flavors of food are in large part created by thousands of different volatile chemical compounds that fly off of foods into the olfactory receptors. But in the seventeenth century, the smells of food were believed to play a much smaller role in imparting flavors. There were several reasons for this. First, while physicians *did* attribute various therapeutic actions to odors, odors were accorded less space in pharmacopeias because they did not physically nourish the body.¹²¹ Second, while physicians acknowledged that the two senses — smell and taste — were connected, and some even ventured that a food’s odor could influence flavor preferences, this did not mean that odors influenced the perception of taste once the food was in the mouth. Tastes were believed to display their nature more clearly than odors, which worked predominantly as lures or enticements. And last, as Theophrastus had pointed out as early as 300 BC, odors were a lot more difficult to classify. Unable to come up with a straightforward system of classification, many resorted to the simple distinction between “good” and “bad” odors.

Grew had included an appendix on odors to his lectures on tastes, noting that “many things already explained . . . may easily be transferred to those of their Odours.” But on the whole, Grew’s remarks on smell are disorganized and incomplete, although he expressed hope that they one day would be improved by others. Floyer integrated odors into his study far more comprehensively. Not only did he believe that specific qualities, such as acidity, could be accessed by the nose as well as by the palate, but he also posited that there existed an entire class of medicines created by combining certain tastes and smells. “Aromaticks,” for example, which increased blood circulation and the heartbeat, paired an acrid taste combined with a fragrant smell. “Cress tastes” paired bitter *or* acrid tastes with “a quick Pungent *Smell*, which flies from the Tongue into the Nose, as *Mustard-Seed*.”¹²² Even texture, Floyer believed, could help determine a plant’s therapeutic potential.

¹²⁰ John Floyer, “Observations on the Class of Sweet Tastes, made by comparing the tastes of sweet plants with Monsieur L’Emery’s chymical analysis of them, in his treatise of drugs,” *Philosophical Transactions of the Royal Society* 23: 1160–72.

¹²¹ Richard Palmer “In Bad Odour: Smell and Significance in Medicine from Antiquity to the Seventeenth Century” in *Medicine and the Five Senses*, ed. Roy Porter and Walter Bynum (Cambridge: Cambridge University Press, 1993), 61-68; Alain Corbin, *The Foul and the Fragrant: Odor and the French Social Imagination* (New York: Berg, 1986).

¹²² Floyer, *Pharmako-basanos*, 6.

Still, like many of his ancient predecessors, Floyer believed that taste, even more than smell, was the most comprehensive and reliable guide to a plant's nutritional and pharmacological properties. He believed that tastes displayed their nature more clearly than odors, which worked predominantly as lures to guide us to nourishing food. So highly did he esteem the human palate that, although he read about and admired the latest innovations in dissection and microscopy, Floyer personally did not think much of the microscope. While conceding that chemistry might help men identify the different salts and acids that composed different flavors, Floyer nevertheless insisted that the unassisted human palate could detect "all the Chymical Principles in Plants" with more accuracy and efficiency than any artificial machine.¹²³ Just look at the state of English cuisine, Floyer pointed out, and taste's pedagogical functions could be easily understood. How else would cooks know that it was healthy to mix acids like vinegar with "hot meats" and herbs, or that one should eat cool fruits after meat?¹²⁴ These states, Floyer proclaimed, "are best discovered by our Tastes and Senses," even if his perpetual stomachaches drew his attention to the occupational hazards of sensory research.¹²⁵

III: Swallowing the Pill of Atomism

In the hands of men such as Grew and Floyer, one of Antiquity's most enduring philosophical and medical ambitions metamorphosed into a new science. Yet Aristotle, Theophrastus, and Galen would not be the only ancient authorities credited. Over one thousand miles away from London, a circle of professors had begun to examine the sense of taste in an entirely different capacity. These men were less focused on the therapeutic properties of particular flavors. What interested them was the innate physical composition of flavor itself. What does a taste look like? What is it made of? How do we perceive it?

These questions had been around since Antiquity. But they had never been satisfactorily answered. Vesalius had discussed the cranial nerves and also described nine different muscles of the tongue in his encyclopedic *On the Fabric of the Human Body* (1543) but he limited his discussion of taste to one short paragraph, confessing that he understood far less about the tongue than the rest of the body.¹²⁶ Jean Fernel had discussed how sensory impressions were preserved, assessed, and remembered by an internal sense, but his discussion of taste in his *Physiologia* (1567) depended heavily on Aristotelian theories.¹²⁷ During the middle decades of the seventeenth century, a handful of physicians began to revisit the physiology of taste perception through a radically different framework. First theorized in northern Greece in the fifth century BC by

¹²³ Floyer, "Observations on the Class of Sweet Tastes," 1160-1167.

¹²⁴ Floyer, *Pharmako-basanos*, 17.

¹²⁵ Floyer, *Pharmako-basanos*, 30.

¹²⁶ Vesalius claimed that the tongue muscles "are so interconnected and their fibers come together in such a variety of ways, that the task of determining the exact number and form of the muscles and of distinguishing the movements of the tongue is rightly regarded as arduous indeed. I am afraid that the construction of the tongue has thus far not been adequately determined by anyone nor will rapidly be so determined." Vesalius was even less inclined to describing how smell worked; "if I did that," he wrote, "my treatise, already longer than I expected, would stretch out to infinity. Vesalius, *On the Fabric of the human body: a translation of De Humani corporis fabrica libri septum*, vol. 6 (San Francisco: Norman Publications, 1998).

¹²⁷ *The Physiologia of Jean Fernel*, trans. John M. Forrester (Philadelphia: American Philosophical Society, 2001).

Leucippus and Democritus, atomism was adopted by the Epicureans during the third century BC. It had survived challenges from the Peripatetics as well as the Stoics only to be suppressed by the early Christians in the fifth century AD, who were suspicious of its political, social, and intellectual implications. For centuries, the atomistic theory of matter had hibernated in far-flung enclaves all over Europe.¹²⁸

What was atomism, and how did it alter established of taste-based knowledge? Unlike the Aristotelians, who described the existence of all things in terms of ten different categories or modes of being, atomists reduced all sensory phenomena to physical collisions among an infinite number of indestructible particles or corpuscles. (Because of its atheistic connotations, many philosophers avoided explicit mention of *atoms*, but the general idea was basically the same.) Explaining phenomena in these terms elevated the qualities of shape, weight, and motion into the building blocks of matter; they hence became known as “primary qualities.” Everything we perceive could be explained in these terms. Thus, all other kinds of sensory phenomena—colors, smells, tastes, sounds, sensations of heat and cold—were defined as “secondary” qualities, as they were believed to have no innate *being* beyond their capacity to evoke sensations in the sensing organism that beheld them.¹²⁹

The distinction between primary and secondary qualities altered the status of taste-based information in two ways. First, explaining all phenomena in terms of minute physical collisions presupposed that all of the resulting sensory information was more or less equal. Taste described a substance’s nature no better and no worse than its color, its sound, or its smell, for all of these sensations could really be reduced to physical contact between bodies in motion. Second, and more importantly, the reduction of gustatory perceptions to physical collisions among atoms implied that sensory phenomena were only *approximations* of reality that were mediated by the fallible human senses.¹³⁰ Even Locke, who staunchly believed empirical observation to be a critical foundation for knowledge, conceded that while these approximations could create simple ideas in the mind, these ideas could never duplicate what the object actually was. Not only was it impossible to truly grasp reality through a substance’s taste, smell, and color, but it also was extremely difficult to gauge whether what one man perceived was more accurate, or even the same, as anyone else’s.

The concept of primary and secondary qualities initially encountered resistance when it was revived in Galileo’s *Assayer* during the 1620s. It challenged the long-held Aristotelian distinction between the “essential” and “accidental” qualities of an object, of which taste was only one type. But once the concept of atoms and corpuscles could be convincingly veiled in Christian terms, it became a cornerstone of a new worldview that described animal and human bodies as machines. The physiology of gustation was a useful way to illustrate this mindset. Unlike colors, sounds, and smells, taste required direct physical contact between the object of perception and the sensing body to be experienced; it therefore involved the primary qualities of shape, weight, and motion in a

¹²⁸ Stephen Greenblatt, *The Swerve: How the World Became Modern* (London: Norton, 2012).

¹²⁹ Grew affirmed that color, smell and taste was “not ascribable either to the Organical, or Containing Parts, but only to Those, Contained in them, as from divers reasons hereafter may appear.” Grew, *Anatomy of Plants*, 4. For the more recent critical analysis of relationship between empiricism and gustatory taste, see Sean Silver, “Locke’s Pineapple and the History of Taste,” *The Eighteenth Century* (2008) 49, no. 1: 43-65.

¹³⁰ This first appeared in the *Assayer* (1623) and soon caught on in England.

tangible, accessible way.¹³¹ It was far easier to imagine taste as caused by actual particles, which can mechanically interact with the surfaces of the mouth. In his *Treatise on Man* (1649, 1664), René Descartes attributed taste sensations to small movements occurring in the peripheral endings of the nerves.¹³² Upon entering the mouth, the saliva separated food into individual salt particles small enough for them to enter into the pores of the tongue's membrane. As these particles came in different shapes and sizes, each one stimulated the nerves differently. Acidic particles imparted a sharp taste by slicing the tongue's pores, while those that merely tickled them induced a more pleasurable taste. Particles of fresh water simply glided over the tongue's surface, imparting little taste at all. And some particles were so large and coarse that saliva could not break them down; these particles also imparted no sensation and thus lacked nutritional value.

Descartes's theory of taste was very influential. In 1671, his intellectual admirer Jacques Rohault published a treatise that attempted to verify these theories using simple observations gleaned from winemaking processes.¹³³ This atomistic account of taste, of course, could never be verified using the unassisted senses alone. For this very reason, many of Descartes's admirers across the Continent considered his theories to lack anatomical precision.¹³⁴ Microscopy, however, had the potential to unlock the secrets of the mechanical universe. Such devices had existed in rudimentary form since the 16th century, but growing interest in the elemental composition of bodies, coupled with technological advances, helped transform microscopy into a bedrock of experimental philosophy. Microscopy opened up, in Robert Hooke's words, "a new visible world ... to the understanding," stimulating learned interest in everything from the composition of colors, to the sting of nettles, to the strange slimy texture of seaweed.¹³⁵ The physical nature of tastes was no exception. Over the next forty years, physicians across the Continent would subject hundreds of tongues, palates, and edible substances to microscopic investigation.¹³⁶ But for the most part, experimental philosophers did not alter so much as they simply upheld with greater anatomical specificity what many of

¹³¹ Changes among minute elemental structures invisible to the naked eye also seemed a logical way to explain the processes of ripening and rotting that one could observe in nature on a daily basis.

¹³² René Descartes, *Treatise on Man*, trans. Thomas Steele Hall (Cambridge: Harvard University Press, 1972).

¹³³ Jacques Rohault, *Traité de Physique* (Paris, 1671). This work was translated by Samuel Clarke into Latin and English in 1702 and 1723 respectively. I have used the English translation, *Rohault's system of natural philosophy, illustrated with Dr. Samuel Clarke's notes taken mostly out of Sr. Isaac Newton's philosophy* (London, 1729). Rohault attempted to explain the thermal effects on flavor; heat increased a body's motion, thus exacerbating the taste. Rohault also likened the sour atom to the "shape of needles" and the bitter taste to small, broken, and blunted particles, likened to "crusts of bread, and roast meat laid to close to fire."

¹³⁴ The apparent lack of careful observation probably had to do with the fact that the *Treatise on Man* was supposed to be published in the 1630s, before the microscope had become so essential to anatomical research, but Descartes had delayed publication after hearing of Galileo's imprisonment. It was eventually published posthumously in 1662. Descartes actually believed that the microscope was a useful instrument. See Edward Ruestow, *The Microscope in the Dutch Republic: The Shaping of Discovery* (Cambridge: Cambridge University Press, 1996), 37.

¹³⁵ Robert Hooke, *Micrographia*, iii.

¹³⁶ Domenico Bertoloni Meli, *Mechanism, experiment, disease: Marcello Malpighi and seventeenth century anatomy* (Baltimore: Johns Hopkins University Press, 2011), 40-42; Brian Ford, "The Royal Society and the Microscope," *Notes and Records of the Royal Society of London* 55, no. 1 (2001): 29-49.

them had already suspected: that the corporeal body operated in strictly mechanical terms.

Early in 1664, a thirty-six year old Bolognese physician named Marcello Malpighi boiled several cow and sheep tongues enough to easily peel off the external cornified layer of the membrane. Upon placing the inner mucosal layer under a two-lens microscope, he discovered thousands of what he called “little papillae” scattered all over the surface among what he described as “cartilaginous horns.”¹³⁷ Even more curiously, he also noticed tiny holes within each papilla that seemed to be supplied by nerves.¹³⁸

Malpighi did not immediately know how to interpret his observations. Later that July, he described his findings in a letter to Giovanni Borelli, his friend and older colleague at the University of Messina to the south. Borelli was deeply committed to the principles of mechanical philosophy; some years earlier he had introduced Malpighi to the atomist Pierre Gassendi’s work.¹³⁹ Unpacking the physiology of taste perception offered another opportunity to display the mechanistic nature of sensory perception. Borelli replied to Malpighi with great enthusiasm and encouraging critical feedback. He even attempted to verify Malpighi’s findings by doing experiments of his own and sending the results to his colleague.¹⁴⁰ Over the course of several months, primarily through his correspondence with Borelli, Malpighi gradually worked out a new theory of taste based on his observations as well as his contemporaries’ latest research. He did a literature review (finding, to his relief, that no similar finding had ever been published before).¹⁴¹ He learned that the Danish bishop Nicholas Steno and the Englishman Thomas Wharton had also seen the small salivary glands near the base of tongue.¹⁴² He learned that a few of his colleagues, for want of room at the hospital, had been forced to perform human tongue dissections in the local cemetery.¹⁴³ He kept up with the experiments conducted by his colleague Carlo Fracassati, who also corresponded regularly with Borelli. Finally, he learned that Borelli’s young protégé Lorenzo Bellini, supposedly inspired by his research, was also studying the sense of taste. Malpighi undoubtedly felt pressure to make his mark upon the field as swiftly as possible.

¹³⁷ These were the fungiform and filiform papillae, respectively. He initially missed the dermal papillae of tongue.

¹³⁸ Malpighi, *De Lingua* (Bologna, 1665). For a more complete discussion of Malpighi’s tongue experiments and their medical repercussions, see Meli, *Mechanism, Experiment, Disease*, 88-101.

¹³⁹ Meli, *Mechanism, Experiment, Disease*, 40.

¹⁴⁰ Borelli’s experiments mostly concerned the function of the “little horns” Malpighi described. Were they salivary ducts that secreted saliva upon being pricked, or papillae that allowed sapid substances to seep in? By removing the horns on beef and horse tongues, moistening them with a sapid fluid, and tasting them, Borelli argued that they were organs of taste and not salivary vessels. This is related in a letter addressed to Malpighi on August 2, 1664; reprinted in Howard Alderman, *The Correspondence of Marcello Malpighi*, ed. Howard Alderman, vol. 1, 1658-1669 (Cornell: Cornell University Press, 1975), 196-7. Also see Howard Alderman, *Marcello Malpighi and the evolution of embryology*, vol. 1 (Ithaca: Cornell University Press, 1966), 242.

¹⁴¹ Malpighi was particularly concerned about a 1609 treatise written by Giulio Casseri. By July 1664, Borelli triumphantly assured that Casseri had only discussed the tough, callous part of the tongue’s outer membrane, “the function of which he says he is omitting for the sake of brevity . . . [f]or the rest he is full of peripatetic disputes about the temperament of the parts and the like.” This is related in Howard Alderman, *Marcello Malpighi and the evolution of embryology*, 241.

¹⁴² Thomas Wharton identified the submandibular glands.

¹⁴³ “Letter from Borelli, Pisa, 19, Dec. 1664,” *The Correspondence of Marcello Malpighi*, 242-243.

He eventually published his discoveries in a twenty-eight-page epistle entitled *De Lingua*, which was released in 1665 alongside his separate studies of the skin and brain and Fracasatti's independent findings on the tongue.¹⁴⁴ He dedicated the work to Borelli. The most controversial finding was Malpighi's identification of the *organ of taste*, which had recently been a matter of some debate. Unlike Thomas Wharton, who thought that the tonsils were the real tasting organs, and Descartes, who had believed that the tasting nerves were buried in the marrow of the tongue, Malpighi localized the sense of taste to three different groups of nervous papillae of different sizes and shapes.¹⁴⁵ These small holes, Malpighi believed, were the apertures through which individual salt particles traveled via microscopic canals from what he called the nervous membrane into the brain.¹⁴⁶

Malpighi's triumph was soon tempered by his rival's achievement. He did not anticipate that Bellini would come to virtually the same conclusions, which he published just months after Malpighi's work. Bellini's *Gustus Organum* (1665), actually differed considerably from Malpighi's work. Bellini was less interested in the tongue than in the faculty of taste more generally, taking him into different intellectual territory than Malpighi's succinct anatomical study. Nor did Bellini try to take credit for Malpighi's ideas; in fact, he stressed that his research was *inspired* by his colleague's ingenious discovery of the fungiform papillae.¹⁴⁷ Like Malpighi, Bellini also argued that taste sensations were produced by diversely shaped salts extracted from food through mastication, although Bellini placed less importance on the motion of the salts than Malpighi did, and more on the salts' physical structure. Substances lacking these vital salts, he argued, could have no taste, even in optimal conditions. But despite these differences, Bellini also concluded that the papillae constitute the organ of taste. This whole time, Borelli had been giving the same advice to both of his colleagues.

Seventeenth century Continental intellectuals were motivated to study the physiology of taste as a means to an end. Descartes was not particularly interested in taste as medicine; rather, his account of taste perception was one prong of a larger project designed to portray the human body as a machine operated by the soul. For the scholars at the Accademia de Cimento, anatomical exploration of taste was also spurred by their *a priori* faith in a universe that operated according to mechanical principles. The therapeutic significance of taste was secondary; in fact, Borelli and Malpighi had doubted whether any reliable understanding of a substance could be gleaned based on its particular flavor.¹⁴⁸ Nor did the sense of taste occupy the intellectual ambitions of these

¹⁴⁴ The complete work was titled *Tetras anatomicarum epistolarum* (Bologna, 1665) that began with Malpighi's piece on the tongue. It was followed by his accounts of the skin, which he believed operated similarly to taste. Fracasatti's article, "Exercitatio epistolica de lingua," was also dedicated to Borelli. Malpighi explained sensations upon the skin in a similar way to taste. But Borelli had actually hoped that all Malpighi, Bellini, and Fraccasati would all publish together.

¹⁴⁵ Alderman, *Marcello Malpighi and the evolution of embryology*, 258.

¹⁴⁶ Malpighi theorized that this process happened either by gravity or air pressure.

¹⁴⁷ Bellini claimed that his mentor Borelli had given him a copy of Malpighi's piece on the tongue, describing it as "given us something new and very beautiful, for see what that most accurate observer has discovered in the cooked tongue, something never noticed before." Lorenzo Bellini, *Gustus Organum, premissis ad faciliorem intelligentiam quiusdam de saporibus* (Bologna, 1665).

¹⁴⁸ This manifested itself during the 1661 fever epidemic in Pisa, where Borelli and Malpighi attempted to determine whether secondary qualities could indicate essential properties of a substance. For example, they

men for that long. Shortly after publishing their contributions, Malpighi, Bellini, and Fracassati began to turn their attentions elsewhere. In 1668, Borelli was exiled to Rome for his suspected political leanings, where he lived out the rest of his years in relative poverty. Bellini had a more illustrious career studying fevers. And Malpighi, who had already investigated optics, touch, and the brain, became even more famous for his work on plant anatomy and embryology.¹⁴⁹

IV. Engine of Popular Science

Mechanistic accounts of taste did not remain confined to the Continent. The creation of scientific institutions such as the Accademia de Cimento (1657), the Académie des Sciences in Paris (1666), and the Royal Society in England (1660) spawned new networks of intellectual correspondence, circulating new experiments, discoveries, and texts. Malpighi and Borelli had eagerly awaited and discussed the latest dissections of the brain performed by Thomas Willis, who had discovered the “strict . . . affinity . . . between the smell and the taste” via the fifth pair of cranial nerves.¹⁵⁰ English circles also sought out the Italians’ work. In 1667, the Royal Society’s secretary, Henry Oldenburg, wrote to Malpighi. He described the institution’s activities, highlighting its supreme goal of creating a universal natural history, and invited Malpighi to contribute to it. Malpighi replied warmly and sent him some of his latest research. He was elected a Fellow in 1669.¹⁵¹

But there were also real differences in the composition of these learned circles. Borelli’s colleagues circulated their work only among a small handful of academics. Once they were imported to England, Continental studies faced a very different scientific culture. Here, the men interested in the new sciences were not necessarily tenured academics; many were amateur gentlemen-*virtuosi* thirsty for new knowledge of all kinds.¹⁵² Learning increasingly took place both within and outside the academy, in coffeehouses and in private homes. This was not initially as socially contentious as it might seem. As Steven Shapin has shown, the credibility of the ‘new science’ in England was maintained by the genteel status and moral character of the men who happened to

had questioned why olive brine had very different chemical properties than fish guts, even though the two (apparently) tasted quite similar. See Meli, *Mechanism, experiment, disease*, 64-65.

¹⁴⁹ Agnes Arber, “Marcello Malpighi and Nehemiah Grew: an essay in comparison,” 7-16; O.M. Lilien, “Marcello Malpighi (1628–1694) and Lorenzo Bellini (1643–1704),” *Investigative urology* 8 no. 6 (1971): 698–9.

¹⁵⁰ *The Remaining Medical Works of that famous and renowned physician Dr. Thomas Willis* (London, 1681), 76. The fifth nerve was actually the trigeminal nerve, which mediates facial sensation and motor function. However, the Italians did not think much of Willis’s approach. “He has gone mad over the inner faculties of the soul, imagination, fantasy, and so forth, and you are aware how much can be known about these things,” Borelli once wrote to Malpighi; Alderman, *Marcello Malpighi and the Evolution of Embryology*, 246.

¹⁵¹ See the letters exchanged between Henry Oldenburg and Marcello Malpighi reprinted in Alderman, *The Correspondence of Marcello Malpighi*, 354-356, 373-376.

¹⁵² Walter Houghton, “The English Virtuoso in the Seventeenth Century: Part One,” *Journal in the History of Ideas* 3, no. 1 (1942): 51-73; Houghton, “The English Virtuoso in the Seventeenth Century: Part Two,” *Journal in the History of Ideas* 3, no. 2 (1942): 190-219; Brian Cowan, *The Social Life of Coffee: The Emergence of the British Coffeehouse* (New Haven: Yale University Press, 2005).

pursue it.¹⁵³ However, maintaining the credibility of gustatory knowledge was less straightforward than Shapin has suggested for other branches of natural philosophy.

Gustatory knowledge became controversial for several reasons, the first of which had to do with the genre in which new scientific works about taste were published. Bellini's *Gustus Organum* (1666) had addressed itself to an audience of learned physicians. It extensively described and dismantled rival theories of taste dating from Antiquity through the 16th century, weighing in at almost 250 pages. Understanding Bellini's argument depended on one's familiarity with an impressive litany of obscure medical scholarship, not to mention one's fluency in Latin. (A later translator commented that, even among Latin readers, many found Bellini's writing notoriously abstruse.¹⁵⁴) English intellectuals, by contrast, explained the mechanics of gustation in more accessible terms. Based on the premise that taste depends on the "bigness, figure and motion of saporifick corpuscles," Robert Boyle's short treatise *On the Mechanical Production of Tastes and Odors* (1675) was virtually a personal record of twelve different experiments he had designed and performed to alter taste sensations by heating, distilling, and dissolving substances using various tinctures.¹⁵⁵ Each experiment, treated simply and concisely, conveyed mechanical philosophical principles in layman's terms. By transforming sweet tastes into salty tastes, by imitating familiar tastes using artificial chemical compounds, and by inventing new tastes "as ... some new or unknown spice," Boyle reasoned that chemical alterations caused corpuscles to change their structures, producing changes in taste. The process of sweetening and souring observable in nature could be attributed to the corpuscles becoming more slender, pliable, rough, or conjoining with other corpuscles, consequently altering the sensation impressed on the tongue. In other words, manipulating taste allowed Boyle to channel the tenets of mechanical philosophy into a do-it-yourself manual.¹⁵⁶

Most seventeenth century English works about taste came in even shorter publications. Circulating these articles was enabled by the appearance of the journal *Philosophical Transactions*, a new private venture founded by the Royal Society's secretary, Henry Oldenburg, in 1665.¹⁵⁷ Proclaiming to account for the "Undertakings, Studies, and Labours of the Ingenious in the World," the journal was an insider's guide to experimental culture's latest achievements. Bellini's *Gustus Organum* was summarized and reviewed (in vernacular English) in one of the first issues; its lengthy entry (occupying five times as much space as the other reviewed books) testified to its

¹⁵³ Steven Shapin, *The Social History of Truth: Civility and Science in Seventeenth Century England*, (Chicago: University of Chicago Press, 1994).

¹⁵⁴ On Bellini's abstruseness, see the preface to Lorenzo Bellini, *A Mechanical Account of Fevers* (London, 1720), vii.

¹⁵⁵ Robert Boyle, *Experiments and observations of the mechanical production of tastes* (Oxford, 1675). Boyle was likely inspired by previous experiments by Jacques Rohault outlined in *Traité de Physique* (Paris, 1672). Rohault recorded straining wine in a pewter pot through sand to "extract" the taste of wine in order to show that the form of all bodies that have taste consists in the disposition and figure of their particles. By Clarke's second edition of Rohault's work, published in 1729, the two studies were associated with one another.

¹⁵⁶ Boyle had always been interested in gustatory information; in *On the Origin of Forms and Qualities* (1666) he had pointed out that taste and smell were particularly apt markers of fermentation and rotting, although he offered no explanation as to why this was so.

¹⁵⁷ *Philosophical Transactions* was not officially connected to the Royal Society; it actually remained a private venture until 1743.

influence in English circles.¹⁵⁸ *Philosophical Transactions* also catered to a growing audience of diverse *virtuosi* who did not necessarily have the language skills, the resources, or the attention span to digest an entire Latin treatise.¹⁵⁹ Oldenburg described the publication to a Belgian scientist in 1669 as “for ... Englishmen as are drawn to curious things, yet perhaps do not know Latin.”¹⁶⁰ Booksellers distributed it in London, Oxford and Cambridge, but copies soon found their way into provincial towns as well as the great centers of learning abroad.

Not only did *Philosophical Transactions* make natural philosophy accessible to a new audience, but it also helped create a new kind of author by providing an outlet for foreign scientists, non-fellows, and amateurs to publish shorter, exploratory observations insufficient to merit an entire treatise. Perhaps no one fit this new category of contributor better than Antoni van Leeuwenhoek, a Delft-born cloth merchant, wine-gauger, and lens-maker.¹⁶¹ He began writing letters to the Royal Society in 1674 and was elected a Fellow in 1680.¹⁶² Today, specialists know Leeuwenhoek as the father of microbiology; his observations of bacteria and protozoa under the single-lens microscope have been well documented. Less often do scholars acknowledge that the self-taught *virtuoso* also shared a keen interest in the organ of taste. Out of dozens of his letters printed in *Philosophical Transactions* over a span of three decades, many explored the faculty of taste as both a method of empirical investigation and an object of study in its own right. Through this prolific output, information about the physiology of tasting reached a wider audience.

Much like Boyle had done, Leeuwenhoek also attempted to prove that a formless, incorporeal sensation such as taste could be explained in mechanical terms. He procured animal tongues from local butchers and sliced them up to examine the size of their papillae. He dissected the palates of oxen to understand the secretions of saliva. Inspecting individual grains of sugar and salt under his microscope revealed a hallucinatory new world created of “an unconceivable Number” of particles in continuous motion, “so numerous ... that no grass in the field cou’d seem thicker to the naked eye.” Leeuwenhoek’s papers, which were translated into English from colloquial Dutch, described his observations with infectious enthusiasm. So captivating and so lifelike were these various salts and sugar crystals, Leeuwenhoek wrote, that “many

¹⁵⁸ “An Account of some books lately published,” *Philosophical Transactions*, 1 (1665-1666): 364-367.

¹⁵⁹ In fact, rural *virtuosi* usually addressed their works to the publisher of *Philosophical Transactions* rather than the Royal Society; David Kronick, “Notes on the Printing History of the Early ‘Philosophical Transactions’” *Libraries and Culture* 25, no. 2 (1990): 243-268. .

¹⁶⁰ Quoted in Michael Hunter, *Science and Society in Restoration England* (Cambridge: Cambridge University Press, 1981), 53. Some letters submitted in Latin ended up being published in Latin too. But attempts to translate the entire journal were generally limited. See Kronick, “Notes on the printing history of the early ‘Philosophical Transactions’,” 253-254.

¹⁶¹ Leeuwenhoek was elected wine-gauger (*wijnroeier*) of Delft in 1679, making him responsible for measuring and assessing the contents of all wine barrels that came to the city in order to ensure quality and to calculate the appropriate tax. This involved tasting the contents to make sure the wine was not adulterated.

¹⁶² “Microscopical observations upon the tongue, in a letter to the Royal Society from Mr. Antony van Leeuwenhoek, F.R.S.,” *Philosophical Transactions*, 26 (1708-9): 111-123; “Other microscopical observations, made by the same, about the texture of the blood, the sap of some plants, the figure of sugar and salt, and the probably cause of the differences of their tastes,” *Philosophical Transactions* 10 (1675): 380-385.

spectators would swear they were little living animals.” Sometimes he compared them to little eels, at other times he likened them to weaving shuttles.¹⁶³ He even commissioned a local painter to record what he saw under his microscope and oftentimes sent the illustrations along with his letters. Indeed, Leeuwenhoek’s interest in taste went beyond the mechanical framework he had drawn upon to explain its nature and characteristics. Somehow, by some grace of God, these particles had been “endued with a power ... to produce... taste.”¹⁶⁴

At the same time, everyone agreed that it was impossible to truly understand a sensation quite like taste by simply reading about it in the book, no matter how clearly or enthusiastically that text was written. Real knowledge must be worked for. The Italians had known this. Standing before a mirror, Lorenzo Bellini had applied everything from lemon juice to *sal ammoiacum* to different parts of his mouth in order to assess where the organ of taste was most powerful.¹⁶⁵ But in English scientific culture, self-experiment reached new heights.¹⁶⁶ Only by daring to taste it himself did Thomas Willis learn that that urine of diabetics tasted sweet. Thanks only to his own palate he discovered that sweetness could have a sticky, cloying sensation in his mouth.¹⁶⁷ Leeuwenhoek purposefully burned his tongue with coffee to measure how it affected his sense of taste.¹⁶⁸ “See whether you can by words give anyone who has never tasted pineapple an idea of the taste of that fruit,” Locke dared in *An Essay Concerning Human Understanding*.¹⁶⁹ It was a lot harder than it looked.

Moreover, the undefined boundaries between tasting and eating ensured that dispassionate investigation conducted under the auspices of “useful learning” could effortlessly slip into more indulgent, corporeal pleasures. In one 1685 letter, Leeuwenhoek described his experimental tasting of eleven fine Continental wines to determine how taste particles were altered as the wines soured. The “pleasant relish of wine” he concluded, resulted from a particular blend of sweet and acid components: “one sort tempering the other ... so as to make a Harmony upon the Tongue and Palat,” thus explaining why a sauce made of sweet butter and acid vinegar was so delectable.¹⁷⁰ Likewise, Leeuwenhoek’s dissatisfaction with the water used in tea-drinking rituals

¹⁶³ Leeuwenhoek, “Other microscopical observations, made by the same, about the texture of the blood, the sap of some plants, the figure of sugar and salt, and the probably cause of the differences of their tastes,” 382.

¹⁶⁴ Antoni van Leeuwenhoek, “Microscopical Observations upon the Tongue, in a Letter to the Royal Society from Mr. Antony van Leeuwenhoek, F.R.S.” *Philosophical Transactions*, 26 (1708-9): 114-115.

¹⁶⁵ Using this technique, Bellini found that the organ of taste was especially powerful at the tip of the tongue, while the cheeks had some capacity to taste as well. Herman Boerhaave later lauded this experiment and repeated it himself in Leiden; Herman Boerhaave, *Dr. Boerhaave’s Academical Lectures on the theory of physic*, vol. 4, (London, 1742-1746), 12-33.

¹⁶⁶ Simon Schaffer, “Self Evidence” *Critical Inquiry* 18 (1992): 327-362.

¹⁶⁷ In *Two Discourses on the Soul of Brutes*, (London, 1683): 62, Willis noticed that the clammy, viscous nature of sweet foods appeared to block the tongue’s tiny pores, muting other sensations until the pores could be ‘cleaned out’ by an astringent palate cleanser.

¹⁶⁸ Antoni van Leeuwenhoek, “A Letter from Antony van Leeuwenhoek, F.R.S. Containing His Observations upon the Tongues of Feverish Persons,” *Philosophical Transactions* 26 (1708-09): 210-214.

¹⁶⁹ John Locke, *An essay concerning human understanding* (London, 1690): 39.

¹⁷⁰ Antoni van Leeuwenhoek, “Concerning the causes of different tastes of waters” *Philosophical Transactions* 22, (1701): 899-903; Antoni van Leeuwenhoek, “An Extract of a Letter from Mr. Antony Leeuwenhoek F. of the R.S. to a S. of the R. Society, Dated from Delf, January 5th, 1685” *Philosophical Transactions*, 15 (1685): 963-979.

inspired subsequent experiments with tea. Slippage between scientific tasting and pleasurable eating was also evident in the Royal Society's fascination with an early pressure cooker—the “Digester”—invented by F.R.S. Denis Papin, Robert Boyle's former assistant. While advertised to housewives and tradesmen to render stringy and low quality meat more palatable to those who could afford no better, correspondence among Fellows reveals that during the 1680s, the device was used in several private demonstrations of chocolate making, beer-brewing, and even a multi-course “philosophical supper” during the 1680s.¹⁷¹

Given their associations with the modern, the lowborn, the pedantic, self-important coffeehouse banter, it is little wonder that conservative critics often ridiculed empirical studies of taste. These concerns were addressed most eloquently by the Christ Church Tory wit, William King (1650-1729).¹⁷² Scholars today remember King as a minor figure in Swift's circle of Scriblerians, best known for his venomous attacks on the Augustan scions of “Modern” learning: Hans Sloane, Richard Bentley, John Woodward, Martin Lister. In 1709 King came out with a satirical journal entitled *Useful Transactions in Philosophy*, a thinly veiled send-up of *Philosophical Transactions*, which ran for nine months. King's *modus operandi* was a “satirical index” in which he lifted real passages from *Philosophical Transactions* and inserted them into his farce in order to unmask the amateurish frivolity that he saw so characteristic of the new science.

In the second issue, King lampooned one of Leeuwenhoek's letters that had been published two years earlier, known as “Microscopical Observations of the Tongue.” In this letter, Leeuwenhoek had proclaimed to make his mind a blank slate in hopes of gleaning new information through empirical induction. Much like the original, King narrated a scatterbrained physician's dissection of animal tongues performed in hopes of locating the true organ of taste. In the satire, however, the experiment is foiled by his friend — “the ingenious Mr. Trencher” — who sacrifices scientific inquiry to a more visceral compulsion: his appetite.¹⁷³ “[Mr Trencher] ordered me to boil the first [tongue]” King's hapless protagonist explained,

“... and place near to it an adjacent Udder upon a bed of Spinage, mollified with a sufficient quantity of fresh Butter. The Ox's Tongue he thought proper to roast, saying the particles would appear better after a torrefying evaporation. But, he said, Venison Sauce would not be improper to explicate the several discoveries he resolved to make. He told me that the Hog's and Sheep's Tongues might be got

¹⁷¹ John Evelyn discusses this supper in a diary entry dated April 12th, 1682; see *The Diary of John Evelyn*, ed. William Bray, vol. 2, (London: J.M. Dent, 1907): 170. Also see Denis Papin, *A New Digester for Softening Bones* (London, 1681) as well as the second volume, *A continuation of the new digester of bones its improvements, and new uses it hath been applied to, both for sea and land* (London, 1687).

¹⁷² While King pops up frequently in scholarly discussions of Augustan satire, the only full length study of King himself is David Engel's unpublished Ph.D. dissertation “The ingenious Dr. King the life and works of Dr. William King (1663-1712), with particular reference to the tradition of Menippean satire,” (PhD diss., University of Edinburgh, 1989).

¹⁷³ King titled his satire “Additions to Mr. Van Leeuwenhoeck's Microscopical Observations upon the Tongue: Shewing the several Particles proper for Prattling, Tatling, Pleading, Haraguing, Lyring, Flattering, Scolding, etc.,” *Useful Transactions in Philosophy, and other sorts of learning*, vol. 3 (London, 1709): 15-32.

dried in most pavid allies. I invited him to come the next day about noon, and that all things should be ready, and my microscopes in order.”¹⁷⁴

The next day, the two men solemnly reconvene to perform the experiments, and the tongues, seasoned to perfection, were with expert precision “plac’d upon the Table as prescrib’d.” But the experiment’s purpose was quickly called into question. “So intent was Mr. Trencher upon his eating,” the physician lamented, “I was afraid I would scarce have materials enough wherewith to perform my microscopical observations.” Before long, Mr. Trencher had consumed the entire experiment, leaving the virtuoso figuratively and literally tasteless.

For an Oxford-educated gentleman such as King, Leeuwenhoek’s lack of academic training would have undermined his credibility as a man of learning. King would have found Leeuwenhoek’s colloquial language and disordered findings highly amateur. King knew that these kinds of men came part and parcel with the spread of microscopy, the recent mania for collecting, the arid coffeehouse conversation he so despised. Yet his satire addresses much more than this point alone; indeed, closer reading illuminates the entwined intellectual and moral objections to the study of gustation.

First, by inserting Mr. Trencher into the satire, King skillfully compares the relationship between taste and appetite to the pursuit of useless and useful knowledge. Despite the philosopher’s dispassionate efforts to understand the faculty of taste, only Trencher’s gargantuan appetite actually puts the animal tongues to good use. Moreover, King arouses his readers’ appetites by describing gastronomically titillating descriptions of tongues: in mustard sauce, basted in butter, “mollified, dulcified or smoothed with Sugar” to make “more Luscious to the Palate.” Yet taste, King seems to imply, serves no purpose at all if one lacks the means to satisfy his appetite. As the pleasures of taste were solely contingent on its physical connection to food, serious exploration became Shadwellian farce.¹⁷⁵

After analyzing the relationship between taste and appetite through the lens of usefulness and uselessness, King turns to the form versus function of food. Even though Leeuwenhoek’s experiments are not *about* eating, the scientific precision of Leeuwenhoek’s experiments still fetishizes the consumption of food. The physician carefully selects, slices, stylizes, and observes several different tongues with the microscope, but sublimates their functional status as life-sustaining food to his heady intellectual interest in the disembodied sense of taste. Meanwhile Mr. Trencher, who sees no use in severing taste from appetite, cannot distinguish the tongue as an object of dispassionate study from its functional status as a comestible. “I will cut myself another piece,” Trencher mock-solemnly tells his friend, “and demonstrate to you how I relish or taste it.” For Trencher, no abstract notion of “taste” exists; it is experienced only through his subjective appetite and the pleasure that eating imparts to him. Taken together, King suggests that these studies of taste are hardly useful or philosophical in the slightest. At their best, they are excuses to fetishize food in pursuit of useless knowledge. In the

¹⁷⁴ Several different definitions of “trencher” exist in the OED, ranging from a platter to a serving utensil. A “trencherman” was a common term for a prolific eater during the early modern period.

¹⁷⁵ For more on the philosophical and medical arguments embedded in Augustan age Tory satires, see Roy Porter, *Flesh in the Age of Reason* (New York: Norton and Company, 2003): 148-166.

wrong hands, they are instances of self-indulgent *gourmandizing* that, in the guise of a journal such as *Philosophical Transactions*, masquerade as scholarship.

Separating tasting from the mechanical processes of appetite, deglutition, and digestion was equivalent to a form without a function, King argued, and thus a complete waste of time. Nevertheless, this satire does not criticize Leeuwenhoek's physiological conclusions as much as the methods used to reach them. The real object of King's ire is popular science, for which gustatory research had become an important vehicle. After all, the sense of taste was well suited to "DIY" experimentation. Experienced test subjects were widely available. Unlike the hidden processes of digestion, testing taste-related hypotheses was cheap, fast, and easy to verify. The microscope came in handy, but it was not required. Taken together, these factors threatened to undermine the boundaries separating true learning from dilettantish whimsy.

Even more ominously, taste-based judgments were impervious to comparative analysis. The more that physicians looked to taste in order to predict the effects of new and exotic drugs flooding into Europe, the more indeterminate it seemed to become. This problem did not escape the satirist's pen. In 1709, for example, the Tory grub-street journalist Ned Ward described a so-called "Vertuoso's Club" that met every Thursday at a tavern in Cornhill. (This fictional club was undoubtedly invented as a jab at the Royal Society.) One week, a visiting physician brought with him an "Aegyptian Cargo" containing an exotic drug reputed to have unexplainable medicinal properties. Intrepid empiricists as the members were, it went without saying that they must try it. When all the men had taken a taste, Ward recorded their reactions.

"... every one nibbling at the sharp-end that had lain stewing in the Dregs, some nodding their Heads, as if they had found by the Taste, what Analogy it had with some other Species that was noted for its Vertue. Others spitting out what they had chew'd and mumbl'd, for fear the Secret should produce some poysonous effect. One declaring, it must be a great Dryer, because of the Spiciness of its Taste. Another, That it was certainly a powerful Antiscorbutick, because so full of Saline Particles. A Third, That he believ'd it was Antivenereal, because its biting Taste had some affinity with Guaicum. A Fourth, Asserting it a great Narcotique, for that it had numb'd his Tongue, by conveying it to his Palate. Thus the Jest went round, till every Member of the Club, who had the least skill in Physick, had most gravely deliver'd his Judgmatical Opinion."¹⁷⁶

Within the tavern's walls, each member of the club attempted to use his palate to situate the mystery medicine within the existing body of pharmaceutical knowledge. Yet no two men could agree on what it tasted like, so no one could agree on its precise medical use. Ward quickly revealed, however, that the joke was on them, as the visitor belatedly

¹⁷⁶ Ned Ward actually authored two pamphlets and one lengthy book about clubs. This excerpt comes from *The Secret History of Clubs*, (London, 1709): 24-38. According to Archibald Geikie and T.E. Allibone, this piece on the Vertuoso's Club was most likely based on one of the early dining clubs connected to the Royal Society.

admitted that the Egyptian natives did not actually *eat* the substance. It was intended for another orifice altogether.¹⁷⁷

On the surface, this satire exposes the problems with elevating the subjective palate into to a credible tool of medical inquiry. Echoing popular critiques of the Royal Society, Ward pokes fun at the earnest virtuoso so intent on learning for learning's sake that his (literally) myopic analyses beget humorous gustatory consequences. Taste-based medical deductions are impossible, Ward insists, as every man at the table interpreted his experience differently, detecting everything from spiciness to saltiness, the piquancy of capsaicins to the numbing effects of menthol. Ward also questions the supposedly innate and "natural" status of taste-based medicine; after all, it is not until the *virtuosi* are told exactly *what* they are eating that they unanimously decide that the taste is unpleasant. Accounting for taste seemed to depend on cultural preferences and taboos, and not necessarily on physiology.

Indeed, behind the scatological comedy rested greater social stakes. It was bad enough that a blind tasting produced a range of different sensations, undermining the certainty of the taxonomies Grew and Floyer had worked so hard to create. More worrisome was the fact that it was impossible to judge whose palate was accurate and whose was not. And if a man could evaluate medicines based on a taste alone, virtually *anyone* with a tongue could declare himself an authority. Elevating the subjective palate into a reliable pedagogical tool thus undermined the already unstable hierarchical divisions propping up the medical establishment. For as many different tastes that the club's members identified, there were just as many different disciplinary specialties that informed each virtuoso's erroneous conclusions. Labeled an "odd mixture of Mankind," members of this motley crew ranged from "a purblind Philosopher" to a "talkative Spectacle-maker," from an "atheistical Chymist" to a "water-gruel Physician." Taste-based medicine was very much a do-it-yourself, try-this-at-home kind of science; anyone, even those with the "least skill in Physick," felt entitled to offer his opinion.

Ward was not a physician himself—he was actually a publican. But he was also a High Church Tory deeply concerned about the erosion of the Church and the State's authority. It is therefore not surprising that his satire was penned shortly after the 1704 Rose decision that legally entitled London-based apothecaries to prescribe their own medicines, an act that further loosened the College of Physicians' grip on medical authority. By radically broadening the spectrum of actors who could lay legitimate claims to taste-based knowledge, the sense of taste, Ward warned, became a subversive trump card, undermining the foundations of civil society.

¹⁷⁷ Ward mentions that the substance was used because they ate so much manna, which was a laxative. Manna, the mythical Biblical food, was discussed frequently by natural philosophers; Leeuwenhoek and Locke both mention it. This trope—the learned physician's failure to identify familiar *materia medica* — is also present in anon, *Lex Talionis, or, a receipt of our present distempers* (London, 1685):25, where a mystery foreign herb turned out to be nothing but a carrot top.

Chapter Three

The Passions of the Palate

In the first two chapters, I discussed taste's historical significance to medicine and natural philosophy, traditions that began before Antiquity and survived well into the eighteenth century. There, I argued that even though experts regarded gustation as a primitive modality of experience, something men shared with all sentient beings, this did not mean they believed the sense of taste to be unimportant. For both experts and laymen, gustatory information informed diagnoses, therapies, and a host of clinical practices. These meanings were also resilient. Rather than falling prey to the political and intellectual upheavals of the mid-seventeenth century, they were integrated into the new science. A careful attunement to tastes and smells became crucial to the modern natural philosopher's identity, testifying to his expertise, his credibility, and his commitment to the pursuit of new and useful knowledge.

This chapter addresses taste's relationship to the human desire for food. Today, we know that the mechanisms governing human eating habits are extremely complicated. Physical sensations of hunger and satiety are fundamental involuntary states regulated unconsciously by hormones and the autonomic nervous system. Low levels of glucose and fatty acids send messages to the hypothalamus, inducing contractions in the stomach and a strong desire for food. Of course, hunger does not come close to explaining our various and sundry cravings for particular foods and flavors, at certain times, in specific places. Recent research has shown many food cravings to be motivated neither by hunger nor by unconscious nutritional needs. Instead, lust for desirable tastes like sugar are linked to desire for gratification induced by dopamine release, not unlike many illicit drugs.

The sense of taste influences food choices in important ways. As one of the last pieces of information we receive before a foreign substance is swallowed and taken into the body, knee-jerk gustatory judgments are invested with the ability to moderate hunger and satiety. If a substance does not pass an animal's basic 'taste test,' which varies according to the number and kind of taste receptors it possesses, a potentially hunger-appealing substance will not be ingested. The search for food would continue until an acceptable taste was found. Yet the relationship between hunger and taste is not static; as hunger intensifies, what tastes acceptable to us is constantly reassessed. Taste is also critical to maintaining a sufficient appetite to stay alive; recent studies have shown that loss of chemosensory abilities diminishes one's desire for food, leading to malnutrition.

Scholars have long considered the relationship between hunger and taste to be one of the most primitive—yet most important—ways that the body and mind interacted, even if they did not delineate the distinctions between hunger, appetite, and craving in the ways that we do now. All beings require nutrition; hunger, along with thirst and sexual arousal, is crucial to sustaining life. For men, however, equipped with faculties of reason, the various emotions governing food selection were much messier affairs. Caught in between his rational will and his lower, appetitive desires, tasting was easily prone to overindulgence, and therefore was always fraught with the possibility of sin.¹⁷⁸ This chapter these concerns against the backdrop of eighteenth century London's expanding

¹⁷⁸ See Korsmeyer, *Making Sense of Taste: Food and Philosophy*, 11-37.

consumer culture. Despite the spread of new chemical explanations for food and digestion, which effectively stripped tastes of their specific nutritional powers, the pleasures of taste continued to provide a powerful vocabulary for human desire and motivation, animating fervid debates over the merits of food connoisseurship.

I. Mortal Desires

Well before the discovery of hormones and peptides, ancient writers explored the complicated relationship between hunger and taste in philosophy and medicine. In the *Timaeus*, Plato depicted man in constant conflict with his bodily desires. Seating reason in the brain and the sense of taste within the heart, Plato described the lowly appetitive soul that governed hunger, thirst, and lust as an irrational force chained inside the gut like a rabid dog, where its cries were dimmed but never out of earshot. While appetitive needs continued to exist separately from reason, hunger, through careful prescription of tastes, could be manipulated. Aristotle, for example, argued that strategic consumption of different flavors could “season” the elemental feelings of hunger and thirst, stimulating men and women to seek out and reward different types of consumption.¹⁷⁹ This notion became central to the science of dietetics. In *On the Powers of Foods*, for example, Galen identified a variety of flavorful substances—wild chervil and briny olives, for example—that stimulated the appetite even though they provided the body little actual nourishment.¹⁸⁰ Such was the purpose of sauces and *condimentia*. Though easily susceptible to excess, a healthy appetite not only helped maintain health, but it also improved the tastes of various foods. ‘Hunger was a rich sauce,’ as the proverb went.

Early Christian writers channeled these understandings of the relationship between taste and the appetite into a new theology that helped explain man’s inherently sinful nature. Not only had the Fall dimmed the senses and subjected the human body to pain and disease, but it also subjected the mind to harmful longings and desires. We now inhabited a world where our bodies and souls were essentially at war with one another, and human eating habits, observed Augustine of Hippo, manifested this fallen state.

“When nature in its way demands supplements, which are absent, we do not say this is lust, but hunger or thirst. When the need has been satisfied, yet love of eating tempts the soul, then we have lust, then we have the evil to which a man must not yield, but must resist . . . we ought to recognize need for nourishment and distinguish it from demands of lust for eating.”¹⁸¹

All beings required nutrition and therefore hungered for food. Yet for animals, lacking a rational soul, this hunger was strictly functional and thus was free from sin. Animals ate only when nature demanded it and consumed only the few substances ordained to be their food. Humans, by contrast, could moderate their hunger with reason instead of taste, allowing them to delay gratification, to discriminate among different foods, to manipulate the appetite with spices and seasonings, as well as to overeat. Yet

¹⁷⁹ Aristotle, *De Anima*, 2.3.6-10

¹⁸⁰ Galen, *On the powers of foods*, trans. Mark Grant, *Galen on Food and Diet* (London: Routledge, 2000) 131, 145.

¹⁸¹ Augustine, *Against Julian*, 4.67.6-10.

the Fall had led the rational soul astray, causing man to desire food for gratuitous pleasure rather than strictly nutritional needs. Worse, these two rationales for seeking food were impossible to separate. Lust for eating could never be expunged from the genuine need for nourishment.

As human cravings for a particular food were whetted in the body but also depended on the mind's complicity, the fourth century theologian John Cassian depicted gluttony as the first of his eight carnal vices. For Cassian, it was the omnipresent, inescapable desire to avoid hunger—not sexual lust—where the seeds of sin were sown.¹⁸² Gluttony could take several forms: the desire to eat before a fixed time, the desire to eat large quantities of food, and the desire to indulge the sense of taste. All were foundations upon which greater and more complex faults rested. Little wonder that Augustine described the air we breathe—another tasteless “food” on which human life depended—in much more favorable terms.¹⁸³ Medieval ascetic orders, such as the Franciscans, tried to eliminate the sensual pleasures of eating by mixing ash into their food to destroy its flavor.¹⁸⁴ Still, it was impossible to divest the soul from all bodily passions; the sense of relief brought on by the alleviation of hunger still remained.

Taste proved an obstacle to faith in more ways than one. Bound to the concupiscible appetite, taste inhabited the profane world of the senses, providing a misleading portrait of the true order of things. The miracle of the Eucharist was a major example, as bread and wine retained their original sensory characteristics even after they were transformed into Christ's actual flesh and blood. Of all five sensory modalities, surmounting the deceptive verisimilitude of taste-based information posed the greatest challenge to new believers.¹⁸⁵ Taste, as the historian Georgia Frank has argued, was “an intractable sense, a thorn in Scripture's side,” that required extraordinary discipline and focus to overcome. This religious ambivalence towards taste and eating was manifested in other ways as well. In fact, the enjoyment of food and drink soon became a metonym for the materialist transgressions posed to Christians by epicurean thought. Epicurus's famous motto from the first book of Corinthians, “*let us eate and drinke, for tomorrow we die,*” supposedly underscored his libertinism, anti-authoritarianism, and renunciation of divine interference in the world; Christians saw it as an act of resignation for the man who has given up hope of salvation.¹⁸⁶ By indulging in the sensuous pleasures of food and drink, the epicure pledged to make “the best of the present for the sole satisfaction of the flesh,” for there was no hope of tomorrow.¹⁸⁷

The palate was a badge of sin in the postlapsarian world, an enduring reminder that man, crafted in the likeness of his maker, had been cursed to live like the beasts.

¹⁸² William Ian Miller, “Gluttony” *Representations* 60 (1997): 92-112.

¹⁸³ Augustine, *Against Julian*, 4:68.

¹⁸⁴ Caroline Walker Bynum, *Holy Feast, Holy Fast: The Religious Significance of Food to Medieval Women* (Berkeley: University of California Press, 1987): 35-7.

¹⁸⁵ Georgia Frank, “Taste and see: the eucharist and the eyes of faith in the fourth century,” *Church History* 70, no. 4 (2001): 619-643.

¹⁸⁶ Steven Greenblatt, *The Swerve: How the World Became Modern* (New York: Norton, 2011); *Dynamic Reading: Studies in the Reception of Epicureanism*, ed. Brooke Holmes and W.H. Sheari (New York: Oxford University Press, 2012).

¹⁸⁷ This is the subject of a lengthy sermon by the seventeenth century Presbyterian minister Thomas Case, “Sensuality Dissected, or, the epicure's motto opened, censured, improved, a sermon preached to divers citizens of London” (London, 1657).

Medieval and Renaissance dietetic writers were influenced by these early Christian views as much as they were by Greek and Latin scholarship. On the one hand, the God-given discriminatory powers of the tongue were critical to health, for the tongue evaluated what matched the individual's unique humoral constitution before food or medicine was ingested. But the mind, on the other hand, was easily corrupted. Of all the "false passions" to which man was susceptible, the sixteenth century Venetian nobleman Luigi Cornaro cautioned, the pleasures of eating were the most dangerous and least avoidable.¹⁸⁸ His contemporary, the English physician William Bullein, claimed that a predilection for highly seasoned sauces underscored a man's inner depravity; God was known to curse the epicure with an insatiable love of these foods.¹⁸⁹ The legend of Philoxenus, the glutton who wished for the neck of a crane in order to have more time to savor food before he swallowed it, was well known in early modern culture.¹⁹⁰ Taken together, the pleasures of taste cast the entirety of human nature into a dim and inglorious light: could men control their own appetites? Or were they instead controlled by them? Renaissance advice literature frequently correlated gentility with the ability to eat only when hunger compelled it, without capitulating to the fleeting pleasures of brutish animal sensations.¹⁹¹

Early modern anatomists, like their ancient predecessors, also portrayed taste and hunger as complementary engines propelling and guiding consumption through an unceasing cycle of carrots and sticks, pleasurable and painful sensations. The uncomfortable contractions of the stomach motivated the search for food, while pleasing taste sensations served as reward for performing the otherwise tedious practice of eating. In his *Physiologia* (1567) Jean Fernel described how the "grasping power" within the stomach "imagines food and feasting ... [and] soon induces a desire for them in the general appetite of sensing, which arouses ... specific appetite to assist it, and so appetite issues from the joint assembly and action of both [taste and hunger]."¹⁹² Even one hundred years later, Thomas Willis described the mechanism of appetite in very similar terms in *Two Discourses of the Soul of Brutes* (1683):

"We imagine the Drinking of excellent Wine, with a certain Pleasure, then we indulge it; the Imagination of its Pleasure is again sharpned by the taste, and then by a reflected Appetite drinking is repeated: So as it were in a Circle, the Throat

¹⁸⁸ Luigi Cornaro, *Sure and Certain methods of attaining a long and healthful life: with means of correcting a bad constitution etc.* (London, 1702), 30. Originally published in 1558 as *Trattato della vita sobria*, the book became endorsed by numerous physicians throughout the Continent. The first English edition was published in 1633.

¹⁸⁹ William Bullein, *A briefe and short discourse of the vertue and operation of balsame with an instruction for those that haue their health to preserve the same. Whereunto is added Doctor Bullins diet for health*, (London, 1585): 7.

¹⁹⁰ The first mention I have been able to find is in Atheneaus, *Deipnosophists, or, Banquet of the Learned*, vol. 1, trans. D.P. Young (London: H.G. Bohn, 1854): 8-10.

¹⁹¹ Steven Shapin, "How to Eat Like a Gentleman: Dietetics and Ethics in Early Modern England," *Right Living: An Anglo-American Tradition of Self Help Medicine and Hygiene ed. Charles Rosenberg* (Baltimore: Johns Hopkins University Press, 2003): 21-58.

¹⁹² Jean Fernel, *The Physiologia of John Fernel*, trans. John M. Forrester (Philadelphia: American Philosophical Society, 2003), 485.

or Appetite provokes the Sensation [*sic*], and the Sensation causes the Appetite to be sharpened, and iterated...¹⁹³

This cycle worked negatively as well. The concept of sensory-specific satiety was not lost on the early modern physicians; the more the stomach protruded with satiety, the less intense taste sensations were believed to be.¹⁹⁴ As hunger pangs were interpreted as signals that food from the previous meal had been properly digested and the body was ready to integrate more food into its substance, overconsumption endangered health by prematurely ingesting more food before the body was ready, thereby disrupting the balance among the humors.¹⁹⁵

Regaling the body with too much variety was equally dangerous. Some believed it tricked the appetite, thus driving overconsumption.¹⁹⁶ Others argued that, over time, it could compromise the sense of taste, forcing hopeless gluttons to seek ever-stronger flavors to appease their desensitized palates. Far before the French chemist Alexandre-Theophile Vandermonde linked consumption of luxurious foods to habit formation in the 1750s, as Emma Spary has shown, Luigi Cornaro decried the addictive powers of luxury foods in his influential dietary treatise, *La Vita Sobria* (1558).¹⁹⁷ [Gluttons] excuse themselves by saying they cannot live on a small amount of plain food,” Cornaro wrote, “because it would never appeal to their taste, and therefore, not enjoying it, they would fall into mortal weakness.”¹⁹⁸ This, to Cornaro, was undeniable evidence of a vitiated palate that had been mortally corrupted by luxury. Only by abstaining from everything but bread, broth, and eggs (eggs in particular were considered to be insipid and flavorless) could the palate’s discriminatory capabilities be restored. Indeed, temperance could improve one’s enjoyment of food to a prelapsarian level of sensitivity. “We must conclude that good taste [palate] comes from eating little,” Cornaro wrote, “and with this little, the humours are perfected and conserve health and with health a long life.”¹⁹⁹ Back in England, Thomas Moffett concurred. Forty years of nothing but manna was undoubtedly beneficial for the Jews, he wrote in his famous sixteenth century dietetic manual, *Health’s Improvement*, although he was certain that they complained terribly.²⁰⁰ In sum, given the palate’s many invitations to indulgence, it is little wonder that, of the

¹⁹³ Thomas Willis, *Two Discourses on the Soul of Brutes* (London, 1683), 49.

¹⁹⁴ *Ibid.* 49. This in effect, was an early attempt to describe a food’s saliency, or the strength or attractiveness of a sensory stimulus, which we now know to be a computation made by the brain regarding the physical reward value offered by this particular array of sensory inputs. See Shepherd, *Neurogastronomy: How the Brain Creates Flavor and Why it Matters*, 197-198.

¹⁹⁵ Along this reasoning, because they did not actually digest anything that they consumed, gluttons could eat themselves to death without getting fat; Albala, *Eating Right in the Renaissance*, 106.

¹⁹⁶ Thomas Moffett, *Health’s Improvement, or, Rules comprising and discovering the nature, method, and manner of preparing all sorts of food used in this nation* (London, 1655), 260-265. Physicians often favorably compared the monotonous animal diet to the diversity of human foods. However, the healthfulness of varied diet was always controversial; Moffett was skeptical of some of its health claims.

¹⁹⁷ Cornaro’s treatise, like its author, has had a long and remarkable life. Within several years of its publication, his writings had sparked fervid controversy throughout the Veneto, and were first published into English in 1633. His work has since become a fixture in the history of longevity science.

¹⁹⁸ “*La Vita Sobria*” in *Writings on the sober life: the art and grace of living long*, trans. Hiroko Fudemoto (Toronto: University of Toronto Press, 2014), 103.

¹⁹⁹ *La Vita Sobria*, 103-104.

²⁰⁰ Thomas Moffett, *Health’s improvement*, 263.

six ‘non-natural’ transactions with the environment that fell within an individual’s control (food and drink, exercise, evacuations, airs, emotions, and patterns of waking and sleeping), physicians considered improper intake of food and drink to be the leading cause of disease.²⁰¹

II. Cuisine and Connoisseurship

Moral ambivalence towards the human sense of taste never disappeared. Yet by the closing decades of the seventeenth century, the environment in which men and women searched for food had begun to change a great deal. Helped by lower food prices and improved conditions for transport and marketing, rare and unfamiliar new comestibles of all kinds began to enter the marketplace on a greater scale. Consumer habits were further shaped by elite circles of inquisitive *virtuosi*, thirsty for what was novel and exotic.²⁰² Indeed, recent scholarship has highlighted the Royal Society’s role in popularizing various aliments from coffee to chocolate to pineapples, while the prandial peregrinations of Fellows like Samuel Pepys and Martin Lister illustrate how coveted edible novelties became to inquisitive and moneyed early modern Londoners.²⁰³ Even indigenous foods became ‘new’ when prepared by expert French cooks in the fashionable Continental styles of Louis XIV’s absolutist court, and these new presentations soon spread afield via clubbable gatherings, coffeehouse banter, letters, and print.²⁰⁴ Food was a cornerstone of the consumer revolution.

Foreign fruits and spices, spirits and wines, haunches of well-marbled English beef and Continental *nouvelle cuisine*—not to mention the cookbooks, cooks, servants, glassware, pots and pans that accompanied them—were more than just status symbols among fashionable English consumers.²⁰⁵ They also contributed to ongoing conversations about the virtues of gustatory discrimination. In the previous chapter, I showed how by subjecting their tongues to the scientific method, the gentleman-*virtuoso* had emphasized the connection between taste and botanical expertise. “Many have wish’d my palate,” boasted the naturalist John Beale in a 1666 letter to the Royal Society’s first secretary, Henry Oldenburg.²⁰⁶ Sensitized by thirty years of fieldwork in the apple orchards of

²⁰¹ Not only were food and drink most lengthily internalized into the body, but disease itself was considered a fundamental state of imbalance caused by the failure to moderate consumption of food that was compatible with one’s unique humoral constitution.

²⁰² Joan Thirsk, *Food in Early Modern England* (London: Hambledon, 2007), 156.

²⁰³ See Cowan’s *The Social Life of Coffee*. For coffee, tea and chocolate, see Linda Levy-Peck, *Consuming Splendour: Society and Culture in Seventeenth Century England* (Cambridge: Cambridge University Press, 2005), 311-345. Sandra Sherman, “The Pineapple in England” in *Petits Propos Culinaires* 81 (2006): 46-67. On Hans Sloane’s connections to chocolate, see James Delbourgo, “Sir Hans Sloane’s Milk Chocolate and the Whole History of Cacao” *Social Text* 29, no. 1 106 (2011): 71-101. Also see F.R.S. John Houghton’s newsletter, which described new imports to the Custom House, new cookery methods, and advertisements for chocolate all in one issue. See Thirsk, *Food in Early Modern England*, 135-9.

²⁰⁴ Contemporary travelogues were often littered with accounts of bananas, mangos and pineapples encountered on remote adventures, described respectively as “grateful,” “luscious,” and “delicious.” There are some particularly good descriptions in Edward Cook’s *Voyage to the south seas*, (London, 1712), 58.

²⁰⁵ Since eating was an indispensable fact of daily life, dining spaces also became strategic places to display one’s wealth and erudition. In the 18th century, the majority of a family’s silver could be found in the dining room. See Amanda Vickery, *Behind Closed Doors: At Home in Georgian England* (New Haven: Yale University Press, 2009).

²⁰⁶ Letter from John Beale to Henry Oldenburg, 12 December 1662. EL.B1.16. Royal Society Archives.

Herefordshire, Kent, and Somersetshire, Beale's palate served the interests of the nation's cider-making industry, through which he hoped to wean the English nobility off of the expensive French claret currently draining their coffers. His powers of discrimination served a greater mercantile agenda to improve the prospects of the entire kingdom.

Yet as the science of gustatory discrimination migrated from the countryside to the dinner table, from the realm of empirical experiment to fashionable urban life, its precise virtues became more difficult to ascertain. This was particularly apparent during the first few decades of the 18th century, when the publication and distribution of cookbooks began to increase dramatically.²⁰⁷ Print culture provided a powerful new medium for conversations about food and cuisine.²⁰⁸ In grandiose prefaces, many of these early cookbook authors attempted to transform courtly cookery into a civic achievement. Not only did cookery testify to the "amazing plenty" that divine providence had afforded to mankind, but it also showcased man's mastery over the natural world.²⁰⁹ The ability to manipulate substances found in nature to improve their palatability was regarded a decisive anthropological moment that forever distinguished man from beast. In his famous travelogue, *Journey to Paris in the Year 1698* (1699) the physician, natural historian, and antiquarian Martin Lister wrote:

"Natural philosophy and Physick was to invent a more wholesome and better food, than the Beasts have, and to Eat Bread and Flesh, instead of Herbs and Corns, and to Drink Wine instead of Water ..."²¹⁰

Cuisine was both symbol and agent of human progress. To reject it, Lister wrote, "seems to me the most ungrateful to the author of good." Indeed, Lister had railed against the hypocrisy of the abstemious French monks who allowed themselves to eat only "sowre herbs and fish" yet styled and perfumed their places of worship in sumptuous detail. Gluttony remained a grievous sin, yet its definition slowly began change, allowing man's sensuous enjoyment to elevate him over other beings.

It was less clear, however, what kinds of sensuous enjoyment qualified as true connoisseurship. This question was not unique to Britain. In her study of eighteenth century Paris, a city as trafficked in new comestibles as much as in new ideas, historian Emma Spary has shown how *nouvelle cuisine* crafted by expert French cooks was designed with the physiology of the palate in mind. A "point of juncture between

²⁰⁷ Gilly Lehmann's *The British Housewife: Cookery Books, Cooking and Society in Eighteenth Century Britain* (Blackawton: Prospect Books, 2003) provides detailed statistics on cookbook publication history.

²⁰⁸ Social scientists accept that literacy is an essential prerequisite for culinary innovation, as it allows culinary hierarchies to be socialized and reproduced by exporting its ideas to a broader audience; Jack Goody, *Cooking, Cuisine, and Class: A Study of Contemporary Sociology* (Cambridge: University of Cambridge Press, 1982), 97-99. Pricilla Parkhurst-Ferguson, *Accounting for Taste: The Triumph of French Cuisine* (Chicago: University of Chicago Press, 2004), 18 defined cuisine as a "code that structures the practice of food and allows us to discuss and represent taste" that "negotiates the gap between collective and idiosyncratic tastes."

²⁰⁹ See the introductions to Francois Massialot, *The Court and Country Cook*, (London, 1702). The original French work, entitled *Le Cuisinier Royal et Bourgeois*, was published in Paris in 1691. Patrick Lamb drew on his service in the courts of Charles II, James II, and William III in order to write *Royal Cookery or the compleat court cook* (London, 1710). The book was extremely popular, going into four editions.

²¹⁰ Martin Lister, *Journey to Paris in the Year 1698*, 133-134.

mind and matter, reason and the passions,” Spary argues that the physical act of tasting, discriminating, and consuming new luxury foods and beverages became crucial to the philosophe-connoisseur’s identity, molding gentlemanly conduct and fuelling mental creativity.²¹¹ Not only was the French cook regarded as an “artist” who manipulated flavors, playing the palate like an instrument, but *nouvelle cuisine* also doubled as a technology for replicating polite society’s desirable qualities: harmony, balance, emotional restraint.²¹² It was no coincidence that the word *gourmet* entered the *Le Dictionnaire de l’Académie Française* in 1694: “someone who can taste wines well.”

Elevated by the prestige of *nouvelle cuisine* and the skills of clever cookery writers, a discerning human palate, Spary argues, became a badge of mental and bodily distinction among French philosophes. The introduction to Marin’s *Le Dons de Comus* (1739) famously claimed that while aesthetic reactions could be cultivated through practice, gustatory sensitivity depended on the delicacy of un-trainable physical organs.²¹³ This kind of culinary elitism also existed abroad. Well before the science of gastronomy entered the English lexicon, Gallic *nouvelle cuisine* enjoyed an enthusiastic and growing following across the Channel. Courtly English cookbooks (as well as English editions of French ones) frequently suggested that a discerning palate was required to truly appreciate the cuisine of modernity. In the courtly cook Francois Massiolot’s *The Court and Country Cook*, a 1702 English translation to the well-known *Le Cuisinier Royal et Bourgeois* (1691), the sense of taste was described as a “discerning Faculty” and a “Ray of ... Reason and Intellect.” Non-European nations did not know how to prepare or to season foods properly, the preface proclaimed, yet they would never know this by their palates alone, preferring the “most mean and ill dress’d Meats” and eating them “after the most distasteful manner.” Without the right palate, one could neither manage the appetite nor conduct oneself at the table. In *Royal Cookery*, (1710) Patrick Lamb, the official cook to Queen Anne, concurred with Massialot’s observations. A “vicious palate,” he affirmed, cannot be a “proper judge of tastes.”²¹⁴

Until as late as the 1750s, when a changing cultural climate called into question the value of artfully crafted luxury foods, Spary argues that connoisseurship of *nouvelle cuisine* was an important feature of the French philosophe’s identity. In England, however, food connoisseurship aroused heated controversy much earlier on. English writers, much like their Parisian counterparts, also attributed intelligence and creativity to the chemical effects of food and drinks upon the body, yet the ragouts, sauces, and quintessences in fashion were held up as vehicles for absolutist despotism and popish superstition. Such foods, designed to ingratiate the senses rather than nourish the body,

²¹¹ So long that moderation governed the appetite, connoisseurship of *nouvelle cuisine* underscored exercise of one’s mental capacities. Only in the 1750s, she argues, did the taste for *nouvelle cuisine* become symptomatic of flawed human nature; Emma Spary, *Eating the Enlightenment: Food and the Sciences in Paris* (Chicago: University of Chicago Press, 2012), 195-242.

²¹² In *The Expert Cook in Enlightenment France* (Baltimore: Johns Hopkins University Press, 2011) Sean Takats argues that the cook transformed from an imitator of elite dishes into a virtuoso who employs his own mind. Similarly, in *Culture and Cuisine: A Journey through the History of Food*, Jean-Francois Revel defined *nouvelle cuisine* as “impregnating foods with flavors” trans. Helen Lane (Garden City: Doubleday, 1982).

²¹³ Spary, *Eating the Enlightenment*, 223; Rebecca Spang, *The Invention of the Restaurant: Paris and Modern Gastronomic Culture* (Cambridge: Harvard University Press, 2000), 49.

²¹⁴ Patrick Lamb, *Royal Cookery*, 2.

were implicated in the erosion of old systems of patronage and obligation so important to maintaining social harmony. The constant pounding, reducing, and straining required to prepare delicate *cullises* wasted vast quantities of food that could easily have fed entire parishes. Equally worrisome was the degree to which food talk interfered with the all-important art of polite conversation. In 1738, one journalist grumbled that it was no longer possible to frequent London's taverns and coffeehouses without conversation being thwarted by "extatick interjections of Excellent! Exquisite! Delicious! Pray taste this, you never eat a better Thing in your Life: Is that good! Is it tender? Is it season'd enough? Won't it not be better so?"²¹⁵ "Is it not a melancholy Consideration," another commentator lamented several years later, "that Men of the first Quality should have Nothing to value themselves upon but the Merit of their Cooks? That a notorious Blockhead should be esteemed in the World only for being born with a good Palate?"²¹⁶ As impressionable city dwellers were learning, a "good" palate was notoriously difficult to quantify. In 1752, the dramatist George Colman warned readers in his satirical weekly, *The Connoisseur*, about a "new" urban creature "whose chief pride is a good taste . . . and a great stomach," who strategically uses his knowledge of aliment to climb the social ladder, all the while eating for free.²¹⁷

For many writers, taste was a touchstone in a culture war that threatened to weaken the moral fibers of the English nation. The very idea of a refined and discriminating palate, they argued, was little more than an insidious French tactic designed to exploit the fluidity of the English caste system. This sentiment was conveyed in a new word that entered the culinary lexicon during the mid-seventeenth century. *Haut gout*, defined in the OED as a "high or piquant flavor," wasn't exactly a taste as much as an idea of rich, pungent, and highly seasoned properties that could not be described in words. *Haut-gout* represented the taste of foreign luxury; its essence was particularly present in foods high in sulfuric compounds: garlic and onions, *asafoetida* and spices known for their seductive, lingering odors. In the satirical play, the *Comical Don Quixote* (1702) the stench of garlic breath could deal a man a "double death," yet added a "curious hautgoust" to one's dinner.²¹⁸ Alexander Pope anthropomorphized gluttony as a woman in his 1735 poem, "Epistle to a Lady," and made *haut-gout* her nose.

Haut-gout gnawed at vanity rather than hunger. It gestured to the artificial inscrutability of fashionable foods, their flavors rendered pleasant by custom alone. "If a lump of soot falls into the soup . . . stir it well," Jonathan Swift sarcastically advised in *Directions to Servants* (1731), "and it will give the soup a *high French taste*." On the surface, this quip reads as a jab at the poor quality of French food, which often was blamed for smothering the taste of rancid ingredients with generous helpings of pungent,

²¹⁵ *Common Sense, or the Englishman's Journal*, February 11, 1738.

²¹⁶ *A discourse very proper to be read in st john's* (London, 1750), 8-9.

²¹⁷ *The Connoisseur*, no. 87 September 25, 1755.

²¹⁸ Thomas D'Urfey, *The Younger Brother, or the Sham Marquis* (London, 1719). For importance of taste and smell to the cultural manufacture of disgust, see William Ian Miller, *The Anatomy of Disgust* (Cambridge: Harvard University Press, 1997). In *Acetaria* (London, 1699) 52, John Evelyn referred to garlic and "other Hautgouts" as noxious substances; due to its "intolerable Rankeness," he claimed that garlic had once been served as a punishment for crimes.

mysterious sauces.²¹⁹ This soup was so strong (and typically French), Swift implies, that eaters might fail to notice the soot's taste. But, read in light of Swift's pessimistic views of human nature, this line equally pertains to the *eaters*, so addicted to the social prestige of French cookery that they proclaimed likings for foods that their palates would otherwise reject. As taste sensations were so private—no one could truly know what one's companion truly experienced—the foppish parvenu would likely hide his grimace; that is, until custom transformed disgust into pleasure, and what once failed to qualify as food was reinvented as an acquired taste.

It is not altogether clear how seriously we should take these satires. Vented to a rapidly growing reading public, these cheaply printed condemnations of the palate were written primarily with polite entertainment in mind.²²⁰ (In fact, many eighteenth century newspapers saw no conflict in advertising the same courtly cookbooks that they also condemned in the following pages.) Some scholars have even suggested that the real target of these works had less to do with the physical palate as much as the broader concept of 'fashion' and the culture of aesthetic judgment that accompanied it. In the absence of sumptuary laws, aesthetic 'taste' served to unofficially refine and regulate the unbridled consumption of luxury goods. It functioned as a compass for ascendant financiers to navigate an increasingly complex commercial landscape, veiling some consumer appetites in an aura of civilized self-expression and vilifying others as low and brutish desires.²²¹ These two types of "taste" shared much more than a name. Both represented subjective discriminative abilities that conformed neither to traditional benchmarks of education and status nor made themselves available for purchase. It is thus little wonder that writers frequently invoked the gustatory sense as a metaphor for this new kind of cultural evaluation. Addison famously likened aesthetic taste to the ability to identify individual ingredients within a blend of tea. Hume compared it to a seemingly hereditary ability to detect traces of rust and leather within a barrel of wine.²²² Oftentimes, discussions of taste contained both gustatory and aesthetic meanings simultaneously, making it impossible to distinguish one from the other.²²³

We should avoid conflating the physical palate with aesthetic taste. Food connoisseurship certainly testified to an individual's ability to discern and judge, conferring upon him expertise and social status, but eighteenth century writers did not consider food to be a true object of aesthetic appreciation. Because it was physiologically connected to the carnal sensation of hunger, cuisine stimulated the body before the

²¹⁹ Commentators also pointed out that the foods used to season French cookery, such as garlic, truffles, and other types of mushrooms, were often found underground, imbuing them with a mysterious devilish quality.

²²⁰ Nor were they necessarily surprising. As Jack Goody has argued in *Cooking, Cuisine and Class* (Cambridge: Cambridge University Press, 1982) luxurious foods and "high" cuisines are virtually *defined* by the presence of some unceasing moral or political opposition to them.

²²¹ Scholars today believe that the concept of aesthetic taste originated sometime between the 15th and 17th centuries, somewhere between the court of Versailles and the Iberian peninsula. Most scholars believe that taste in England developed in the public sphere rather than the court. For a complete history of aesthetic taste, see Denise Gigante's *Taste: A Literary History* (New Haven: Yale University Press, 2009).

²²² See Joseph Addison, *Spectator* 409, June 19, 1712, and Hume, "On the Standard of Taste" (1757).

²²³ Cheyne invoked them both in his dedication of *The English Malady* to Lord Bateman, an MP and former patient. "Addresses of this kind are generally a sort of *ragous* and *olios*, compounded of ingredients as pernicious to the mind as such unnatural meats are to the body," he wrote. "But I know that your lordship's taste is too delicate, and your Judgment too chaste to be able to bear such cookery."

pleasures of the imagination. Eating was useful—necessary, in fact—how could one know whether the enjoyment of a fine dish could be attributed to the cognitive faculties and not the instinctual pleasure derived from the alleviation of hunger? The palate’s inability to appreciate taste sensations dispassionately undermined food’s status as an object of true connoisseurship.²²⁴ Man might be the only cooking animal, but cuisine was not high art.²²⁵

Simplifying discussions of the physical palate into mere metaphors for aesthetic judgment can also lead us to underestimate the medical stakes that cuisine posed to the English public. Anthropologists define eating as a liminal activity, a choice to effectively incorporate parts of the outside world into the self.²²⁶ A misplaced act of food connoisseurship therefore had potentially greater consequences than did that of painting, sculpture, or music. French cookery, its opponents argued, was more than just an unpatriotic incursion on English culture; in many ways, it resembled a biological weapon designed to weaken English bodies from within. Thus, by treating food appreciation as no different than the appreciation of any luxury good, a product of clever marketing but nothing more, we risk obfuscating taste’s deeper significance to the histories of medicine and the passions. As we will see, the human palate was more than just a touchstone for debating the merits of food connoisseurship. It also became a barometer of one’s inner mental state.

III. The Sensible Palate

What is food? How does it nourish and sustain us? The composition of aliments and the ways they worked on human bodies has always been a major subject of medical interest.²²⁷ As early modern physicians held that ingested food was synthesized into life-sustaining blood used to reconstitute the physical substance of the body, the food that one consumed on a daily basis could not be more critical. Prolonged consumption of particular foods, it was believed, could change one’s nature entirely. Nor were all foods created equal. Early modern dietaries emphasized that foods produced in the immediate environment—grown in the same soil and the same air as the men who consumed them—were naturally plentiful in the appropriate humors for that particular constitution.

By the turn of the eighteenth century, a handful of developments—the growing use of microscopy, the transformation of chemistry into a real academic discipline, and emergence of new physiological models of eating and digestion—precipitated new conversations about the makeup of human food. Food did not become any less exigent to physical and mental health; it was at least as important as the medicines that altered the body’s natural state. “What we take daily by pounds,” wrote the well-regarded physician

²²⁴ David Hartley actually argued that sensory pleasures were inferior to intellectual pleasures because of their “confined local nature,” while the pleasures of the imagination affected the entire nervous system; *Observations on Man* (London, 1749), 212.

²²⁵ This line of reasoning was explained in Edmund Burke’s *A philosophical enquiry into the sublime and beautiful* (London, 1757), but is present in other works as well. Kant thought tastes and smells inhabited realm of subjective senses and could not lead to cognition of an object without the assistance of one of the other (mechanical) senses.

²²⁶ See Claude Fischler, “Food, Self, and Identity” *Social Science Information* 27:2 (1988), 275-292.

²²⁷ Before the rise of nutrition science in the nineteenth century, these concerns were worked out in the realm of dietetics, which was an autonomous branch of medicine.

John Arbuthnot in the introduction to his famous *Treatise on Aliments* (1731), “is at least of as much importance, as what we take seldom, and only by grains and spoonfuls.”²²⁸ Instead, this deluge of new information breathed life into old controversies over the healthfulness of foreign foods. Some hoped that understanding their mechanical and chemical composition might herald new medical breakthroughs that could prolong human lives. Many of the new comestible luxuries of the eighteenth century, such as chocolate and coffee, had been introduced to the British public as medicines. Others believed that the newfound popularity of foreign foods had caused diseases to become more deadly than they once had been, making traditional remedies ineffective.

These two positions frequently overlapped, and did not always break down along conventional Ancient and Modern cleavages. In a prolific body of satirical poetry and prose, for example, the High Church Tory William King skewered the exotic culinary fascinations of enterprising *virtuosi* such as Hans Sloane and Martin Lister. His well-known satirical poem *Art of Cookery* (1709) compared the latest English culinary fashions to the decadent imperial Roman tastes responsible for the Empire’s decline and fall.²²⁹ But even Martin Lister, who bore the brunt of King’s culinary-minded attacks, was hardly an apologist for all the foreign foods then in fashion. While he lauded the rich wines and Parisian ragouts he savored in *Journey to Paris* as important cultural and medical legacies of Latin Antiquity, he held only contempt for the mind-altering properties of coffee, tea, and chocolate imported from the Far East and Americas. God had introduced these life-shortening luxuries, he believed, as a conniving check on population growth.

Drawing on the chemical theories of Van Helmont and Robert Boyle, physicians frequently coded the nutritional dangers of various foodstuffs in the abstract vocabulary of spirits and sapid salts: the volatile, crystalline substances that made up all matter.²³⁰ Salts were necessary for life—even water was comprised of them. Yet the wrong salts in the wrong quantities could interfere with digestion. One physician described the sharp salts contained in foreign liquors such as coffee, tea, chocolate, and brandy as clusters of tiny lancets so sharp that they severed the nearly invisible strings of nerves, membranes, tendons, and muscles, setting the body into a nervous frenzy.²³¹ The Scottish physician George Cheyne (1671-1743) was particularly successful in linking unhealthy foods to their saline composition. In his bestselling self-help treatise, *Essay on Health and Long Life* (1724), he argued that the characteristically piquant exotic plants found in the hot climates of the East and West Indies (a result, he believed, of their prolonged exposure to harsh solar rays) became progressively more difficult to digest as they traveled up the food chain and coagulated with the animal oils of their predators, creating a host of

²²⁸ John Arbuthnot, *An essay concerning the nature of aliments* (London, 1731), v.

²²⁹ Anita Guerrini has explored these dietary debates in “Health, National Character and the English Diet in 1700” in *Studies in History and Philosophy of Biological and Biomedical Sciences* (2012) 43:2, pp. 349-356.

²³⁰ See Anne Marie Roos, *The Salt of the Earth: Natural Philosophy, Medicine, and Chymistry in England 1650-1750* (Leiden: Brill, 2007) and Antonio Clericuzio, “The Internal Laboratory: The Chemical Reinterpretation of Medical Spirits in England 1650-1680” *Alchemy and Chemistry in the Sixteenth and Seventeenth Centuries* (London: Kluwer, 1994) pp. 51-83.

²³¹ Duncan, 51.

nervous afflictions.²³² Harmful clusters of salts could also be synthesized in the kitchen. They explained the poignancy of rich and aromatic foods, sauces, and wines.

In a series of recent articles and lectures, Steven Shapin has argued that new chemical forms of alimentary expertise undermined the intellectual salience of sensory sources of knowledge about various foods. Once powerful “philosophical probes” that linked human bodies and minds to the environment by identifying substances that matched the body’s humoral constitution, taste experiences were gradually removed from the realm of reliable knowledge about the world and human body. Stripped of their innate powers, tastes were reimagined as ‘secondary’ qualities that had no inherent *being* outside of the taster’s experience. It was no longer a food’s *taste*, of all things, that predicted its ability to heal or harm, but rather forces that remained hidden from the senses.²³³ Understanding the specific powers of foods was just as important as it had always been; physicians ardently claimed their chemical studies to align with the Hippocratic vision. But chemistry now triumphed over sensuous evidence. Over time, this change served to justify the concentration of alimentary knowledge in the hands of expert scientific practitioners rather than laymen, effectively paving the way for the emergence of nutrition science in the nineteenth century.²³⁴

This change is also evident in eighteenth century dietetic writing. “Food has a taste whereby tis known and coveted and loathed,” wrote the French food analyst Louis Lémery in the introduction to his famous *Traite’ des Aliments*, which was translated into English in 1706. While taste sensations could hint at a substance’s chemical composition and the effects it was likely to produce, sensations could be only at best conjectures as opposed to verifiable certainties. By the opening decades of the eighteenth century, the ‘taste-test’ was relegated to a primitive form of physic, if it could even be called physic at all. Some physicians invoked it to criticize the old fashioned Galenists, “who explicate all things by hidden qualities” instead of modern mechanical explanations.²³⁵ Dangerous and debilitating substances could circulate through the blood, others argued, and still remain imperceptible to the palate.²³⁶

Nevertheless, modern understandings of aliment continued to be framed within older concerns about taste’s deep and unholy sway over the human passions. The pleasures of taste awakened the primal appetite’s terrible powers, driving behavior in ways that reason and learning could not. Ancient physicians had known about these capabilities. For centuries they had carefully prescribed spices and sauces to stir it and

²³² Young and tender plants, by contrast, had very few dangerous salts and thus were healthier. See George Cheyne, *An Essay on Health and Long Life* (London, 1724) as well as Anita Guerrini, *Obesity and Depression in the Enlightenment: The Life and Times of George Cheyne* (Norman: University of Oklahoma Press, 2000).

²³³ John Arbuthnot, for example, says that selecting aliment should not have anything to do with taste at all. See *An Essay Concerning the Nature of Aliments* (London, 1731), 32. He follows up this work with *Practical uses of diet* (London, 1732), which describes the qualities of aliments and dietary rules in abstract, non-organoleptic terms.

²³⁴ Much of this literature, however, was not geared exclusively towards specialists. In *An essay concerning the nature of aliments* (1731), Arbuthnot claimed that anyone with the anatomy of a butcher could understand his work, while William Forster’s *A treatise on the various kinds and qualities of foods* (Newcastle, 1738) was also aimed at the lay reading public.

²³⁵ John Purcell, *A treatise on vapours, or hysterick fits* (London, 1702).

²³⁶ Nicholas Robinson, *A new system of the spleen, vapours, and hypochondriak melancholy* (London, 1729) p. 112

temper it, facilitating proper digestion. Now Englishmen lived in a society where cuisine had been severed from matters of need and instead carefully engineered to arouse the passions. Critics satirized the extraordinary amount of time and labor expended to bring foreign monstrosities, such as the coveted green sea turtle, to polite tables, as well as the material culture that these foods engendered: “whetters and provocatives” to anticipate the call of hunger, or the “saws, chisels and instruments” designed to scrape the calipash dry.²³⁷ “Invention is rack’d, to furnish the materials of our food the most delicate and savoury possible,” Cheyne lamented. “Even the animals we eat for food are made into epicures ... [by] thrusting down such unnatural and high season’d foods into them.”²³⁸

Animals, living in a state of brute ignorance, were free from these afflictions. Contemporaries often marveled at the ease with which they selected nutritious foods with the unassisted senses alone.²³⁹ Man was unluckily unique in his confused nutritional choices, which continued to be rationalized in the language of natural depravity. Once “corrupted with our souls,” the Huguenot iatrochemist Daniel Duncan wrote, the mouth, being the “principal Gate by which our Friends and Enemies enter,” lost the ability to separate the salubrious from the merely sensual.²⁴⁰ We thus must not believe “that Partial Councillor Taste,” Duncan cautioned, “which seeking nothing but Pleasure, never gives its Approbation to unpleasant Things, how useful soever they may be.”²⁴¹

Increasingly, however, physicians saw the palate’s duplicity as a consequence of civilization. The alimentary environment had been blemished by the arrival of new and foreign luxury foods characterized by mixture and excess, many of which functioned as vehicles for the decadence and moral laxity of French court culture. The sense of taste, the Bath physician David Kinneir wrote in 1739, has been “corrupted by the commerce of men.”²⁴² Given the ephemeral pleasures of this artfully designed cuisine, pleasures intensified by their brevity, making nutritional decisions based on gustatory evidence was a forlorn hope. This nefarious alimentary environment predisposed the particularly sensitive and weaker-willed to become enslaved to their fickle, pleasure-seeking palates. Physicians delineated how this could happen in two different ways.

The first accorded to a model of habituation. Once an individual capitulated to his bodily desires, he was led into a downward spiral that eventually robbed him of the

²³⁷ “A Humorous Account of a Turtle Feast and a Turtle Eater,” in *The World* no. 123, May 8, 1755. Did “turtle clothes” actually exist? I have yet to find any evidence of real turtle eating uniform. Most likely this simply meant loose-fitting clothes. The only other reference I have found comes from “A Scene of Shades” published in the *General Evening Post*, October 11, 1770. This article tells the story of fictional “Common Councilman Guzzledown” who announces, “because I knew there was to be a great deal of turtle, I put on my light drab frock and gold-laced scarlet waistcoat that laces down the back.”

²³⁸ George Cheyne *An Essay on Health and Long Life*, 35.

²³⁹ Thomas Willis, wrote “Cattel feeding in the Pastures, are more Skilful than Men, about the Virtues of Herbs; for they easily discern at the first tast, what are for food; what for Medicine ... when we in the mean time, unless taught by experience, are wholly ignorant of their Virtues or poysonous force: so that *Pliny* Complained, that it was a shame, that all Animals Knew what was healthful for themselves, besides Man.” See *Two Discourses on the Soul of Brutes* (London, 1693), 34. However, physicians were divided on whether animals actually had superior palates.

²⁴⁰ Daniel Duncan, *Wholesome Advice against the Abuse of Hot Liquors* (London, 1706), 5.

²⁴¹ *Ibid.*, 5. Duncan did not advocate complete abstention from these substances, yet believed the problem was that sufferers mistook them for medicines.

²⁴² David Kinneir, *A new essay on the nerves, and the doctrine of the animal spirits rationally considered* (London, 1739), 41-45.

ability to taste at all. Today physicians associate *ageusia*—loss of taste—with losing the desire to eat, often leading to weight loss and depression.²⁴³ Historically, however, it portended the opposite kind of behavior. Loss of taste exhorted patients to overcompensate for their muted gustatory sensations by consuming ever-greater varieties and quantities of pungent foods. This belief had existed long before the eighteenth century, yet it was now elaborated with new anatomical realism. Duncan argued that high concentrations of sulfurous salts found in coffee and tea burned off the tongue's nervous endings like a depilatory removed the skins from animals.²⁴⁴ The burns soon hardened into calluses, preventing the tongue from tasting and setting in motion a vicious cycle of habituation that operated by diminishing returns. Others argued that a rich and unhealthful diet weakened the natural elasticity of the nervous fibers, blunting all forms of sensory perception, including hunger and satiety. Piqued by curiosity, reinforced by society, and habituated by custom, addiction was a malevolent collusion between the palate, the gut, and the mind, linked together through the nerves. A refined and delicate temper did little to overcome it; to the contrary, it could actually be a liability. Great wits tended to be great epicures, the new generation of so-called nerve doctors observed. They attributed this to their softer, springier, “less curiously modulated” nerves, which heightened the intensity of sensory experiences, making the mind especially susceptible to enchantment. Harnessed to emerging conversations about nervous sensibility, taste disorders were elite afflictions.²⁴⁵

If a blunted taste indicated the will's capitulation to the irrational passions, an overly sensitive palate was a symptom of a disordered mind. Taste phantoms and dramatic changes in chemosensory sensitivity have always gestured to greater change in one's mental state, yet the association between women and pathological tastes was particularly enduring.²⁴⁶ Naturally more passionate, sensuous, and impressionable than men, women had been associated with abnormal gustatory predilections for centuries. For example, in her study of medieval female hagiographies, Caroline Bynum Walker has shown how divine possession was frequently associated with extraordinary chemosensory powers.²⁴⁷ By the seventeenth century, as the soul became regarded as a

²⁴³ Norman Mann, “Management of Taste and Smell Problems” *Cleveland Clinic Journal of Medicine* 69:4 (April 2002): 329-336. Chemosensory disorders are underappreciated but can cause extreme psychosocial consequences in sufferers. Psychologists are only beginning to research and publish information and offer support to sufferers of chemosensory disorders. Also see Carl Philpott and Duncan Boak, “The impact of olfactory disorders in the united kingdom” *Chemical Senses* 39:8 (2014): 711-718

²⁴⁴ Daniel Duncan, *Wholesome Advice against the Abuse of Hot Liquors*, p. 106. “in eating they have not the lively and nice Taste that other People have ... Deficiency is common to them, and to all those who abuse Ragoos, Confections, Wine, and other strong Liquors.

²⁴⁵ This was most powerfully reiterated by Cheyne and Nicholas Robinson; see *Spleen and Vapours*, pp. 62-63. The paradoxical “caste system” created by the rise of nervous sensibility has been mentioned by many scholars; see “Nerves, Spirits, Fibres: Towards Defining the Origins of Sensibility” *Studies in the Eighteenth Century*, III (1973) John Mullan, “Hypochondria and Hysteria: Sensibility and the Physicians” *The Eighteenth Century* 25:2 (1984) 141-174, G.J. Barker-Bensfield, *The Culture of Sensibility: Sex and Society in Eighteenth-Century Britain* (Chicago: University of Chicago Press, 1992).

²⁴⁶ Constance Classen has explored this in *The Color of Angels: Cosmology, gender, and the aesthetic imagination* (London: Routledge, 1998), 76-77. Taste's representation as an ape, she argues, “understood to signify a degenerate human, manifesting all the worst human vices, from gluttony and lechery ... echoed classical notion of a woman as an imperfect man.”

²⁴⁷ Joan the Meatless, the subject of a 15th century anti-Lollard treatise penned by Thomas Netter (d. 1430) supposedly did not eat for 15 years other than at the Eucharist and could differentiate between one thousand

rational faculty rather than a vehicle of divine inspiration, and psychological phenomena were reinterpreted as products of bodily states, the same pathologies remained. Strange cravings during pregnancy, pica or “absurd tastes” for inedible substances such as chalk or dirt were frequently explained in chemical terms, stemming from a poor regimen or poor digestion, as well as aberrations in the production of saliva.²⁴⁸ By the eighteenth century, disordered tastes also became powerful symptoms of the new nervous diseases such as hysteria and hypochondria, which were believed to disproportionately afflict women. The well-known physician Nicholas Robinson prefaced his well-known 1729 treatise on the nervous diseases by proclaiming:

“Who would think it possible, did not daily experience convince us of it, that a thin, pale, meager Girl should covet toasted coals before wholesome food, or prefer the cranching of dirty Lime and Tobacco Pipes before the most delicious Viands?”²⁴⁹

Robinson explained these old ailments with mechanical rationales. Rather than blunting the flavors of food, a poor diet could relax the nervous fibers that conveyed motion and sensation, causing bland foods to taste like fire or pepper. In short, no matter what the precise causes were, or whether the affliction was explained chemically or mechanically, the disordered palate and its bizarre, unnatural cravings perfectly mirrored the irrational female mind.

Taken together, these conversations illustrate the sense of taste’s enduring connection to internal mental states. While individual flavors were gradually stripped of their therapeutic powers, taste remained a salient motivational force, grating uncomfortably against the exercise of reason and restraint. These meanings persisted in spite of growing alimentary security and general prosperity among all social classes, the growing delicacy applied to all matters of elite food consumption, and man’s best efforts to “civilize” it.²⁵⁰ Civilizational advance, in many ways, only seemed to intensify ancient, inherited concerns. The sense of taste, sketched so deeply in human experience that they were almost innate, continued to provide a vocabulary for explanations of basic motivation and desire.²⁵¹ They still do. When we proclaim to have a ‘taste’ for something, it means that we desire it.

consecrated and unconsecrated bread, which she did “not by divine inspiration but by a certain skill of her senses, since she had such a horror of all bodily food that she could not tolerate its taste or smell;” See Caroline Walker Bynum, *Holy Feast, Holy Fast: The Religious Significance of Food to Medieval Women*, 35-37, 91-92.

²⁴⁸ See John Maubrey’s chapter on pica in *The female physician* (London, 1730), 81-84.

²⁴⁹ Nicholas Robinson, *A new system of the spleen, vapours, and hypochondriak melancholy* (London, 1729), 69; John Mullan, “Hypochondria and Hysteria: Sensibility and the Physicians,” *The Eighteenth Century* 25, no. 2 (1984): 141-174.

²⁵⁰ Taking a cue from Norbert Elias, the sociologist Steven Mennell has spoken of the “civilization of the appetite,” making extremes of gluttonous consumption unacceptable. “On the Civilizing of Appetite” in *Theory, Culture, and Society* 4 no. 2 (June 1987): 373-403. No glutton, he argues, could be a gastronome as well. More recently, Pricilla Parkhurst-Ferguson has discussed a “culinary civilizing process” that “formalized ingestion;” *Accounting for Taste: the Triumph of French Cuisine* (Chicago: University of Chicago Press, 2004), 31.

²⁵¹ *An Essay Concerning Human Understanding*, 1.4.2, John Locke contends that hunger is an idea developed in the womb.

In many ways, English physicians depicted the human sense of taste as a duplicitous, ever-present temptation that must be overcome. The best way to control the tendency to overindulge was to abandon the pleasures of the palate in favor of bland, simple foods. “If we would enjoy a sound state of health, and preserve a vigorous old age,” Nicholas Robinson warned, we should refrain from tasting such delicious morsels, “least their too frequent repetition impair the constitution.”²⁵² Given the temptations posed by pleasant tastes, it is little wonder that Cheyne counseled his patients “to eat and drink by our EYE,” instead of our fallible, mortal palates, whether by measuring out separate portions or by counting mouthfuls one by one.²⁵³ Yet for all of their condemnations of luxurious foreign cuisine, nervous physicians ended up profiting off of the subjective desires of the human palate just as much as cookery writers and fashionable epicures did. By linking gustatory experiences and cravings to the physical health of the nerves, physicians marketed the idea of a pure, uncorrupted, child-like palate, sketching a template upon which social status could be assessed.

²⁵² Nicholas Robinson, *A new system of the spleen, vapours, and hypochondriak melancholy* (London, 1729), 150.

²⁵³ George Cheyne, *An Essay on Health and Long Life* (London, 1724), 39-40, 226.

Chapter Four

Commensality and Taste

On the 27th of October 1743, so the minute book tells us, eight close friends established a new private dining club. Every Thursday thenceforth, the men convened for dinner in one of the swank private dining rooms of the Mitre Tavern on Fleet Street, which was patronized by literati such as Boswell and Johnson and where the food was presented on silver plate.²⁵⁴ There, a hearty commons would be served—generous chops of butcher’s meat, fresh fish, heaping servings of boiled fowls with bacon, market greens, butter and cheese, puddings and fruit pies—all washed down with pints of claret and port.

In a matter of months, the club had evolved into the Royal Society’s semi-official social adjunct.²⁵⁵ Dinners began at the fashionably late hour of four in the afternoon, and continued until the Royal Society’s eight o’clock general meeting held across the street. If a gentleman was fortunate enough to be elected into the club, he was required to pay six shillings as a subscription fee, creating a modest fund from which to tip the cooks and waiters, pay for the carriage and portage of edible gifts, and, when needed, diffuse the expense of under-attended meals.²⁵⁶ Over the second half of the eighteenth century, these dinners were attended by princes and politicians, explorers and Eskimos, scientists and celebrities. This was a much more serious affair than a mere gathering of friends and colleagues, as the diners were pointedly aware. They styled themselves, rather grandiosely, the ‘Thursday’s Club call’d the Royal Philosophers.’

In the previous chapter, I sketched taste’s relationship to hunger and the passions against the backdrop of the English commercial revolution. Grounded in narratives of natural depravity, taste’s connection to the concupiscible passions set sobering limits on enlightenment. This final chapter turns from the individual appetite to the act of sharing food. Existing scholarship on commensality, which has been, up to now, the domain of sociologists rather than historians, rarely includes discussions of taste, a private

²⁵⁴ The Mitre was no stranger to London’s flourishing associational culture. The nature of the establishment is conveyed in a criminal deposition taken in 1785; *Old Bailey Proceedings Online*, September 1785, trial of James Linch, while the occasional broken glass or dish noted in the club’s records reveals that the tableware was worth a pretty penny. From 1729 to 1753, the Society of Antiquaries regularly met at the Mitre after the conclusion of the Thursday’s Club meeting. Samuel Johnson and his circle also patronized the tavern; James Boswell recalled enjoying “a good supper and port wine” there in the 1760s. (It is important to keep in mind, however, that there were several other Mitre Taverns in eighteenth-century London: one in Fenchurch Lane, one in Charing Cross, and another one in St. James Market.)

²⁵⁵ By ‘semi-official,’ I mean that almost everyone who was a member, excluding the first few years of the club’s existence, was a fellow of the Royal Society, although membership in the Royal Society by no means guaranteed membership in the club. Beginning with Martin Folkes, the president of the Royal Society always became the *de facto* President of the Dining Club; this rule, however, was not codified until 1766. Renamed the Royal Society Club in 1795, the club still exists today.

²⁵⁶ This fee did not last long. In 1749 the admission fee was raised to a guinea, but this still did not inhibit the club from periodically falling into debt, requiring members to contribute a few extra shillings every couple of years. In 1756, the dinner cost was raised to three shillings, and the subscription fees changed accordingly. The Society of Dilettanti and the Society of Antiquaries, with which the Thursday’s Club membership overlapped, both charged one guinea upfront (for five dinners) and four to five shillings for each dinner thereafter.

experience that is exceedingly difficult to quantify.²⁵⁷ This final chapter, using the Royal Philosophers as a case study, demonstrates how shared taste experiences were crucial to demarcating new social formations.

Analyzing the historical significance of a concept such as commensality, however, requires some reading between the lines. The Royal Philosophers, for all their meticulous recordkeeping, never wrote a mission statement. Scrawled on the pages of its leather-bound minute book and its gold-embossed volumes of dinner records, however, are the same basic talking points.

A Dinner to be ordered every Thursday for Six at one Shilling + six pence p head for Eating. If fewer than Six come the deficiency to be paid out of the Fund subscribed ... A pint of wine to be paid for by every one that comes, be the number what it will, and no more unless more wine is brought in that that amounts to.

These concise, matter-of-fact details might imply that members came together each week simply to enjoy each other's company over a good meal at a reasonable price (the cost per head was upped to the hefty sum of four shillings a few years later)—yet the practiced imposition of rules and regularity upon the dinner hinted at some form of ulterior agenda. A clique was forming. While the Royal Society boasted 301 fellows by 1740 and reached 460 by 1780, a 1748 rule fixed membership in the Thursday's Club at just 40 men.²⁵⁸ And although the club's social and professional make-up differed little from the Royal Society as a whole—members included noblemen and tradesmen, doctors and lawyers, politicians and clergymen, Whigs and Tories—many lambasted the club as an elitist faction designed to usurp control of the Royal Society's affairs.

Some saw the Thursday's Club as a symptom of the entire fellowship's intellectual decline.²⁵⁹ Once lampooned for their *excessive* interest in knowledge that was new but not useful, beginning in the 1730s and 40s, fellows began to be attacked for their apathy towards any kind of knowledge at all. In his scathing *Dissertation on Royal Societies* (1750) the botanist John Hill, a former Royal Society reject who thereafter became its most vociferous critic, attributed the institution's skewed priorities to the cliquish world of the tavern and coffeehouse, complaining that meetings were dominated by the “redoubled Clamour of a whole Society talking at once; some of where they had dined, some of where they intended to sup.”²⁶⁰ Not only was the Thursday's Club held responsible for the Royal Society's turn towards frivolity but also, being the largest and

²⁵⁷ For example, Paul Fischler argues that the founding fathers of the social sciences considered commensality to be important, but examined it principally in religious and ritualistic contexts; Paul Fischler, “Commensality, Society, and Culture,” *Social Science Information* 50 nos. 3-4 (2011): 528-548.

²⁵⁸ H. G. Lyons, *The Royal Society 1660-1940* (Cambridge: Cambridge University Press, 1944), 165.

²⁵⁹ This argument is implied in the critiques of the Royal Society vented by John Hill and William Stukeley, which are discussed in G. S. Rousseau and D. A. B. Haycock, “Voices Calling for Reform: the Royal Society in the Mid-Eighteenth Century, Martin Folkes, John Hill, and William Stukeley,” *History of Science* 37 (1999): 377-406.

²⁶⁰ In the satire Hill also accuses the character intended to be Martin Folkes of falling asleep during the Royal Society's meeting due to his exceptionally large dinner ostensibly held at the Thursday's Club, see *A Dissertation on Royal Societies* (London, 1750), 25. Rousseau and Haycock have also suggested that the last portion of Hill's 3-part critique, in which Folkes' clique remove to a coffeehouse in order to discuss how to maintain their dominance over the Royal Society, is a thinly veiled reference to the Thursday's Club.

most powerful faction within the Royal Society, it was frequently blamed for rubber-stamping then President Martin Folkes's mismanagement of the institution's affairs.

The party line, unsurprisingly, tells a very different story.²⁶¹ In the most recent biography of the Thursday's Club published in 1976, its biographer T.E. Allibone contended that the club proudly continued the Royal Society's rich tradition of convivial gathering traceable back to its Gresham College days. After all, the well-known diaries of early fellows such as Samuel Pepys and Robert Hooke frequently portrayed the tavern and coffeehouse as hubs of leisure and intellectual exchange. In these informal settings animated by food and drink, learned discussion contrasted sharply with the rigid Oxbridge curriculum. We should keep in mind, however, that Allibone was himself a member of the same club (today known as the Royal Society Club) and, as we shall see, such devotion often caused members to inflate the club's historical significance.

Perhaps controversy was inevitable. New codes of fashionable behavior threatened to obscure well-worn markers of rank and birth, while new wealth had spawned a kingdom of status-hungry fops eager to display their newfound purchasing power in luxurious consumer items. Social harmony seemed to be undermined by transient fashions and the indulgence of private appetites. The dining table was hardly isolated from these concerns. Through an analysis of thousands of pages of the club's ordered, meticulous records,²⁶² I portray the club as a response to a society in transition.²⁶³ Institutionalizing new dining practices and gifting rituals allowed the

²⁶¹ The foundation of the Thursday's Club has merited a place in histories of the Royal Society for over 160 years. Charles Weld mentions it in his *A History of the Royal Society* (London, 1848), while Henry Lyons has suggested that the Thursday's Club was founded as a response to the Royal Society's growing size as a place to informally discuss scientific matters in *The Royal Society 1660-1940* (Cambridge: Cambridge University Press, 1944), 170-172. In addition, three histories of the Royal Society have been written to date, all of which were authored by former members: Admiral Smyth's *Sketch of the Rise and Progress of the Royal Society Club* (London, 1860), Sir Archibald Geikie's *Annals of the Royal Society Club* (London, 1917), and T.E. Allibone's *The Royal Society and Its Dining Clubs* (Oxford: Pergamon Press, 1976). While there has been considerably less work published by historians with no affiliation with the club, this is most likely because until around 2010, its records were kept by the club, not the Royal Society itself.

²⁶² This kind of analysis was made possible by a relational database created over the spring and summer of 2013 out of thousands of documents photographed in the archives. Christopher Church and Kier Mierle were instrumental in planning, implementing, and utilizing this database. See <https://github.com/mandelkern/gastronomicus>.

²⁶³ Over the past twenty years, scholars have challenged the notion that the Royal Society was in decline throughout the eighteenth century, see David P. Miller, "Into the Valley of Darkness: Reflections on the Royal Society in the Eighteenth Century" *History of Science* 24 (1989): 155-166, Richard Sorrenson, "Towards a History of the Royal Society in the Eighteenth Century" *Notes and Records of the Royal Society of London* 50, no. 1 (1996): 29-46, and a special issue of *The British Journal for the History of Science* 32 no. 2 (1999), edited by Richard Sorrenson. However, this does not mean that the Royal Society did not face new problems during the eighteenth century. G. S. Rousseau and D. A. B. Haycock have called attention to concerns about Martin Folkes' leadership, his dual presidency of the Royal Society and the Society of Antiquaries, and the quality of *Philosophical Transactions* in "Voices Calling for Reform: the Royal Society in the Mid-Eighteenth Century, Martin Folkes, John Hill, and William Stukeley," *History of Science*, 37 (1999): 377-406. Meanwhile, David Philip Miller has called attention to the Royal Society's politically polarized state, suggesting that the eighteenth century Royal Society should be regarded as a 'holding party' dominated by several different constituencies, the most important of which was a coterie he termed the "Hardwicke circle" centered around the patronage of Philip Yorke; David Philip Miller, "The Hardwicke Circle: The Whig Supremacy and its Demise in the Eighteenth-Century Royal Society," *Notes and Records of the Royal Society of London* 52:1 (1998): 73-91. Last, R.W. Home has noted foreign membership reached record numbers—nearly 50%—of the Royal Society's fellowship during the 1740s,

Thursday's Club to make commensality a polite science, linking agricultural and commercial progress with paternal obligation through shared experiences of taste.

I. Communal Dining in *The Athenian Letters*

The first half of the eighteenth century witnessed dramatic changes in upper-class social mores. As the competitive courtly civility of earlier days was gradually uprooted by the urbane virtues of the Town, standards of conduct adopted an increasingly associational character. The gentleman was valued for his altruism, compassion, generosity, and wit. Visits and social calls became routine elements of fashionable urban life.²⁶⁴

Such qualities were best cultivated through purposeful association, which inhered in the club. Dating back to the mid-seventeenth century, the earliest clubs had been linked with covert acts of sedition transpiring beyond the eyes of the state. By the eighteenth century, however, they had become permanent fixtures of London's emerging civil society. In 1711, the 3rd Earl of Shaftesbury defended the club as an authentic expression of man's natural inclination to socialize with his peers. Sociable fellowship, Shaftesbury argued, was as important to man's survival as was his need to eat and drink.²⁶⁵ Freeform discussion and debate taking place among a group of friends not only liberated conversation from the "formality of business" and the "tutorage and dogmaticalness of the schools," but it also improved its participants by smoothing over their less desirable characteristics. Sociability was essential to progress. "To restrain this," Shaftesbury warned, "is inevitably to bring a rust upon men's understandings."²⁶⁶ Writing in the same vein nearly 40 years later, the 4th Earl of Chesterfield also stressed the importance of club-like activity to a gentleman's education. "It is by conversations, dinners, suppers, [and] entertainments in the best companies," he wrote in 1750, "that you must be formed for the world."²⁶⁷

Commensality has defined clubbable association from its earliest days. Historian Peter Clarke has argued for the English club's origins in the routine informal gatherings around the sixteenth century alehouse table, while the OED defines a club as a pool of contributions used to defray the expense of a communal meal.²⁶⁸ In the popular imagination, clubs themselves were products of their food rituals. The diabolic Calves Head Club, so maligned by conservative Tory fear-mongers, was rumored to organize

precipitating numerous proposals to limit them during the 1750s and 1760s. In 1766, the Royal Society's statutes were revised to admit only two foreign members each year. See "The Royal Society and the Empire: the Colonial and Commonwealth Fellowship Part 1: 1731-1847," in *Notes and Records of the Royal Society* 56, no. 3 (2002): 307-32.

²⁶⁴ See Philip Carter, *Men and the Emergence of Polite Society* (New York: Pearson, 2001) and Susan Whyman's chapter on visiting customs in *Sociability and Power in Late Stuart England* (Oxford: Oxford University Press, 1999), 87-109.

²⁶⁵ See Anthony Ashley Cooper, Earl of Shaftesbury, "Sensus Communis, or an essay on the Freedom of Wit and Humour," *Characteristicks of Men, Manners, Opinions, Times*, vol. 1 (London: 1711).

²⁶⁶ *Ibid.*, 64.

²⁶⁷ See letter 118, dated August 6, 1750, in Philip Dormer Stanhope, *Letters written by the late Right Honourable Philip Dormer Stanhope, Earl of Chestserfield, to his son, Philip Stanhope, Esq.* (London, 1774), 38.

²⁶⁸ Peter Clark, *British Clubs and Societies 1580-1800: The Origins of an Associational World* (Oxford: Oxford University Press, 2000).

secret feasts every anniversary of Charles I's execution, while the quick-witted Kit-Kats supposedly adopted their name from a beloved mutton pie. In 1711, Joseph Addison declared "our modern clubs" to be virtually founded upon eating and drinking, although this was hardly said as a compliment.²⁶⁹ Club membership was widely regarded as excuse to indulge in wine, women, and general debauchery; Addison would not be the last to compare this new institution to the licentious symposium of classical Greece.²⁷⁰

Rome's influence on communal eating was just as insidious. It was widely believed that connoisseurship of exotic and decadent foods was responsible for the Roman Empire's descent into moral decadence and political collapse.²⁷¹ Such beliefs were exacerbated in 1705, when the well-known physician and collector Martin Lister released a new edition of Apicius Coelius's cookbokk, *De Opsoniis et Condimentis* (popularly referred to as *On the Soups and Sauces of the Ancients*). This imperial Roman recipe collection had been compiled from several different sources ranging the first to the fourth centuries AD. Although Lister's first run was very limited—only 120 copies were printed, mostly for his colleagues in the Royal Society—word of mouth publicity precipitated the release of a second edition in 1709. The recipes for *garum*, flamingo, and dormouse pie notwithstanding, Lister's extensive annotations about imperial Roman dining customs ignited debates about connoisseurship and table-based association.²⁷² (The oft-repeated legend surrounding Apicius testified to the corrupting powers of the luxurious appetite; he was rumored to have committed suicide after his depleted coffers prevented him from continuing the sumptuous lifestyle to which he had become accustomed.) As late as the 1750s, dining in the Apician style was still considered current enough to satirize.²⁷³

This was the environment in which a close-knit circle of friends studying at Cambridge researched and wrote a compendious four-volume work that attempted to retell the events of the Peloponnesian Wars through the correspondence of a fictional Persian diplomat stationed in Athens throughout the crisis. Titled *The Athenian Letters, or the Epistolary Correspondence of an Agent of the King of Persia*, this ambitious work

²⁶⁹ *The Spectator*, no. 9 (London, 1712), 51.

²⁷⁰ In fact, we now have evidence that in addition to the symposium, which usually took place after the meal, ancient Greek men also organized themselves into dining clubs formed for political or religious purposes. Even the word for dining room—*andron*—etymologically translated into "men's room." See Andrew Dalby, *Siren Feasts: A History of Food and Gastronomy in Greece* (London: Routledge, 1996), 12-13.

²⁷¹ The physician James Mackenzie claimed Apicius had "studied health very little in his dishes" and spoiled the "simple and wholesome" prescriptions of Hippocrates by using dill, hogslard, savory, coriander-seeds, vetches, peese, beets, fennel, and mallows;" see James Mackenzie, *History of Health, and the art of preserving it* (London, 1758), 57.

²⁷² *The art of cookery, in imitation of Horace's art of poetry* (London, 1708), William King's satirical response to Lister, argued that the publication of Lister's *Apicius* has precipitated a pan-European flight to libraries, archives, and ancient historical sites, where English *virtuosi* scrambled to add new ancient curiosities to their collections back at home. Alexander Pope took a stab at Lister in the fourth book of the *Dunciad* (London, 1728) mocking the Apician table loaded with "specious miracles" that "turns hares to larks, and pigeons to toads." More recently, Anita Guerrini has explored Lister's influence on contemporary dietary debates in "Health, National Character and the English Diet in 1700" in *Studies in History and Philosophy of Biological and Biomedical Sciences* 43, no.2 (2012): 349-356.

²⁷³ Tobias Smollett devoted a chapter in *The Adventures of Peregrine Pickle* (London, 1751) to mocking a physician who attempted to recreate an Apician dinner for his guests, titled: "The doctor prepares an entertainment in the manner of the ancients, which is attended with divers ridiculous circumstances."

painstakingly surveyed the diverse rituals, beliefs, and customs practiced throughout the ancient Mediterranean world. While the work was purely fictional (supposedly inspired by the co-authors' readings of Thucydides), its authors invented an elaborate pedigree for their masterpiece. The text claimed to be an authentic rendering of a Spanish manuscript passed through several kingdoms and several translations before eventually finding its way into the hands of an English consul stationed in Tunis. It was published anonymously in four volumes in 1741 and 1743.²⁷⁴

The Athenian Letters didn't deal exclusively with dining. The work examined educational systems, legal systems, and religious rites; more cultural insight, its preface boasted, than the "most formal and elaborate treatises of grave antiquaries." But the communal meal, the text suggested, was an especially important window into a people's social mores. In its opening pages, the Persian protagonist compares Athenian dining customs to the Eastern banquets of his native land. "The Asiatic feasts," he recalls, "are remarkable for the vast quantities of provisions, the costliness of the preparations, and the sumptuous furniture." "The chief recommendation of a Greek one," he continues, "is the elegance and variety of the table-talk, so that an Athenian said prettily enough, our entertainments do not only please, when we give them, but [also] the day after."²⁷⁵

Neither a display of a ruler's power nor an act of rebellion against the status quo, the Athenian banquet sought to fuel meaningful social exchange. Throughout the course of his letters, the Persian diplomat praises this feature of Athenian meals, remarking on the citizens' extraordinary hospitality and the convivial gaiety of their symposia.²⁷⁶ As the war carried on, however, ominous symptoms of Asiatic luxury began to appear in Athenian culture, which "like a fatal pestilence ... [had] occasioned such desolation in [the Persian] empire."²⁷⁷ By the sixth year of the war, it infected the Athenians' sacrificial rites. Once happy to offer their Gods simple cakes and water as expressions of humility and gratitude, the Athenians now orchestrated elaborate sacrifices to pander shamelessly to the Gods. So ostentatious had their sacrifices become, the diplomat bemoaned, that each "deity was known to have a favorite animal."

As the austere yet socially improving aspects of Athenian dining succumbed to eastern decadence, the Persian diplomat had the fortune to be stationed in Sparta, the one place that Asiatic luxury would seemingly never take hold. While the Spartan food had little to recommend it to the Persian correspondents—one criticized its infamous black broth and the all-around "sordid diet" of the city—they were impressed by the "remarkably improving" nature of the table talk, which limited conversation to virtue,

²⁷⁴ According to his descendent Philip Yorke, *The Life of Lord Chancellor Hardwicke*, vol. 1 (Cambridge: Cambridge University Press, 1913), 207-8, only ten copies of the 1741-43 edition of the *Athenian Letters* were published. It was not published for a wider audience until 1781, and was followed by two more volumes in 1798. By this time, the *Letters* were well received and enjoyed "considerable vogue." It was also published in Basel in 1800, twice in French publications in 1803, and again in English in 1810.

²⁷⁵ *The Athenian Letters*, vol. 1, 14.

²⁷⁶ Such positive regard of Athens was not unusual. As Lawrence Klein has emphasized, the eighteenth-century philosophy of politeness advanced by the third Earl of Shaftesbury glorified the culture of classical Athens, where, he argued, public oratory and learned conversation substituted for the authority of the Church and the court. Lawrence Klein, *Shaftesbury and the Culture of Politeness: Moral Discourse and Cultural Politics in Early Eighteenth-Century England* (Cambridge: Cambridge University Press, 1994), 200-206.

²⁷⁷ *The Athenian Letters*, vol. 1 (London, 1742-1746), p. 61.

liberty, and “contempt of other nations.”²⁷⁸ Commensality was tightly monitored; each table had a select company that admitted no man without the consent of the existing membership, done “to prevent any interruption in the conversation, and that no citizen may be uneasy at the seasons appointed for relaxation.” Each participant was required to pay monthly dues and prohibited from dining in private beforehand.

Breaking bread together, the *Athenian Letters* suggested, corroborated a civilization’s social health. The banquet was a cornerstone of Athenian civil society while the communal Spartan table taught character, honor, and military discipline. Yet while eating and drinking together freed conversation from artifice, fuelling authentic social commerce among men and improving the group as a whole, gratuitous indulgence in the pleasures of food was an obstacle to commensality, inevitably fuelling civilizational decline.

II. The Table as Laboratory

While the Thursday’s Club never attempted to recreate the communal meals described in the *Athenian Letters*, the text and the Club shared common creators. Of the twelve known contributors to the *Athenian Letters*, six of them became important players in the Thursday’s Club, helping to shape its political and cultural agenda. The leader and most important figure in both of these enterprises was Philip Yorke (1720-1790), son and heir to the powerful first Earl of Hardwicke.²⁷⁹ Described as “historically curious,” and known for his obsession with “uncommon letters, papers, manifestoes, and things of that sort,” Yorke was admitted to the Royal Society in 1741 and the Society of Antiquaries in 1744.²⁸⁰ He became a patron of the club in August 1748, only a few months after it began to keep official records. While he rarely attended the weekly dinners in person, his presence was felt in other ways. His exalted position was acknowledged by the club’s members every time that they drank his health in claret and feasted on the venison he sent, like clockwork, to the club every summer.

Yorke also influenced the club’s activities through the friends and relatives who had worked with him on the *Athenian Letters*. The antiquarian Daniel Wray (1701-1783) met Yorke in 1737 and joined the Thursday’s Club in 1744. The following year, Yorke’s patronage helped him secure an appointment as deputy teller of the Exchequer. Thereafter he continued to attend the Thursday’s Club for almost forty years. Similarly, the well-known physician William Heberden (1710-1801), who had used his professional skills to describe the state of Hippocratic medicine in the *Athenian Letters*, joined the

²⁷⁸ *Ibid.*, 92-107.

²⁷⁹ The first Earl of Hardwicke was a major player in the House of Lords, serving as Lord Chancellor from 1737-1756 and helping to shape both foreign and domestic policy. Philip Yorke eventually succeeded to his father’s title in 1764.

²⁸⁰ Stephanie L. Barczewski, “Philip Yorke, second Earl of Hardwicke,” in *Oxford Dictionary of National Biography*. According his biographer George Harris, the young Philip Yorke’s obsession with history stemmed from his unhappy visit to France in 1749, after which he came home “more convinced than ever of the superiority of the English race, manners, and constitution;” Harris, *The Life of Lord Chancellor Hardwicke* (London: E. Moxon, 1847), 4. Yet as shown by his involvement with *The Athenian Letters*, his historical interests extended well beyond the scope of Great Britain. He became one of the first trustees of the British Museum and even took joy in composing fake newsletters from the past that others mistook for originals.

Royal Society and the Thursday's Club immediately following his move to London in 1749.²⁸¹ Thanks to a slew of high-profile publications combined with his renowned diagnostic skills, Heberden became one of the club's wealthiest and most respected members. He faithfully attended club dinners for thirty-five years.²⁸²

Yorke's closest friend and agent was the Reverend Thomas Birch (1705-1766). Son of a coffee-mill maker yet filled with upwardly mobile aspirations, Birch respectively had been elected to the Royal Society and the Society of Antiquaries in 1734 and 1735. One year after meeting the aristocrat in 1740, Birch had secured a place for himself as Yorke's trusted confidante.²⁸³ Making friends in high places quickly paid off. Not only did Birch go on to help found the Thursday's Club in 1743, but, thanks to his gift for social climbing and devotion to the status quo, he was also elected secretary of the Royal Society in 1741, a position from which he could further advance the Royal Society's affairs.²⁸⁴ Birch never forgot the institution that had made possible his social and material successes, which he memorialized in his *History of the Royal Society* (1756-1757), a sprawling four-volume chronicle of the institution's minutes compiled and reproduced in exhaustive detail. Yet Birch's zeal surpassed his sense of personal debt.²⁸⁵ In his eyes, both the Royal Society and the Thursday's Club represented the triumphant natural progression of Whig cultural values. They emblemized particular notions about history, society, and politics that, Birch believed, were more ancient than England itself.

The connection between the *Athenian Letters* and the Thursday's Club went beyond the overlapping players in Philip Yorke's social network, a powerful group that the historian David Miller, in a 1998 paper, has termed the "Hardwicke Circle."²⁸⁶ Traces of both the Athenian and Spartan tables are latent in the club's various rules and practices described in its records. Much like the Spartans did, club members sought to carefully regulate the conditions in which dining occurred. Dinners always began at 4pm, when attendance was also taken. (Weekly attendance was not required, but prolonged absences were grounds for expulsion.) Members ate in the same private room upstairs; relocating to another room was a major cause of complaint.²⁸⁷ A formal annual meeting oversaw the

²⁸¹ Ernest Heberden, *William Heberden: Physician in the Age of Reason* (London: Royal Society in Medicine Services, 1989), 20-22.

²⁸² On Heberden's diagnostic abilities, see Roy Porter, "The rise of physical examination" in *Medicine and the Five Senses*, ed. W.F. Bynum and Roy Porter (Cambridge: New York, 1993), 179-197. Heberden's illustrious achievements were also conveyed by the venison—albeit only a haunch rather than an entire buck—sent to the club, perhaps in respectful emulation of his patron Hardwicke's larger annual gifts.

²⁸³ Joseph Almagor, "The Correspondence between Thomas Birch and Philip Yorke as a Chronicle of Its Age: The Case of the War of the Austrian Succession," *Lias* 21 (1994): 135-49.

²⁸⁴ Marie Boas Hall, "Henry Miles and Thomas Birch," *Notes and Records of the Royal Society* 18, no. 1 (June 1963): 39-44.

²⁸⁵ Birch had long been obsessed with memorializing the achievements of great men. He had been elected to the Royal Society on the merits of his ambitious *General Dictionary, Historical and Critical* (1734-1741), an important ancestor to the *Oxford Dictionary of National Biography*. Years later, he followed up on this work with biographies of Elizabeth I and Robert Boyle.

²⁸⁶ Members of the Hardwicke circle were particularly interested in history and antiquities as opposed to natural philosophy and mathematics, and the composition of the Thursday's Club reflected this. Many of the club's members maintained simultaneous memberships in the Royal Society and the Society of Antiquaries; in fact, so much did the two clubs overlap that the Antiquaries *also* met on Thursdays at the Mitre Tavern, commencing their meeting after the Philosophers had wrapped up.

²⁸⁷ For example, when the club decided to relocate to the Crown and Anchor in 1780, the club came to an agreement with Thomas Simkin, then proprietor of the tavern, designed to ensure that "in the future no one

elections of officers, new members, and proposed modifications to the rules, which were always approved by a majority vote. Weekly meals were always ordered as a “commons” pre-arranged from the tavern proprietor and were served in a style known as *a la francais*; that is, they were presented all at once on large platters from which diners selected what they wished. There was no *a la carte* service.

Such purposeful management of the table was the task of the punctilious Josiah Colebrooke, who served as the club’s treasurer from the club’s founding until his death in 1775. Measured by numbers, Colebrooke was the Thursday’s Club’s most loyal member, attending over 1100 dinners throughout his thirty-two year tenure. An apothecary by trade, Colebrooke also avidly studied antiquities and numismatics, doubling as treasurer to the Society of Antiquaries.²⁸⁸ Given his zeal for collecting, it comes as no surprise that Colebrooke assumed stewardship of the Thursday’s Club’s dinners with pride and scientific precision. Like his colleague Thomas Birch, he viewed his secretarial duties in greater historical terms, never hesitating to invoke the opinion of “posterity” or “some future philosopher” when custom was threatened. In Colebrooke’s hands, the science of commensality was consciously put into action.

This is reflected in the club’s policy towards non-members. The Thursday’s Club was unusual among gentleman’s clubs for entertaining high numbers of guests (Figure 1). Guests comprised on average about one fifth of each meal’s attendance, for which the Royal Society’s then president, the antiquarian and mathematician Martin Folkes, was undoubtedly responsible. Ever since his election to the presidency in 1741, Folkes had sought to spread the Royal Society’s cultural influence across the Continent, and he saw the Thursday’s Club as an untapped public relations tool.²⁸⁹ Folkes’s involvement most likely catalyzed the club’s formalization, as Colebrooke began keeping detailed records almost immediately after Folkes’s election to the Thursday’s Club in 1747.

shall complain of his dinners.” The agreement stipulated that Simkin provide the club “a comfortable room” for the weekly meetings and “not be moved about from room to room on frivolous pretences.” Royal Society Club Minute Book 1748-1820, Royal Society Archives.

²⁸⁸ Colebrooke published only two papers in *Philosophical Transactions* during his lifetime, the first about a meteor—“the greatest sky rocket I have ever seen”—and a second one about methods for replicating ancient “encaustic paintings” created using burnt wax.

²⁸⁹ The growth of the Thursday’s Club coincided with the professionalization of European scientific institutions, in which Folkes played a significant role. In 1739, shortly before his election to the Presidency of the Royal Society, Martin Folkes traveled to Paris “chiefly with a view of seeing the Academies there, and conversing with the learned men;” BL, Add. MS 4222, fols. 25–6; also quoted in George Rousseau’s entry, “Martin Folkes,” in *Oxford Dictionary of National Biography*). Changes begin to take off over the following decade, including the reciprocated exchange of the *Mémoires* and *Philosophical Transactions*; see James McClellan, *Science Reorganized: Scientific Societies in the Eighteenth Century* (New York: Columbia University Press, 1985).

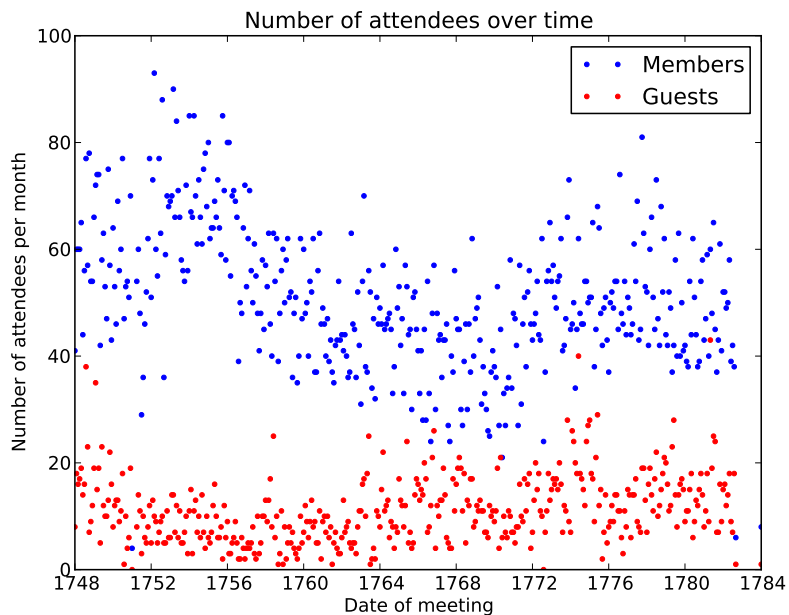


Figure 1: Attendance Patterns of Members and Guests (1748-1783)

Invited guests comprised a heterogeneous group. Over the eighteenth century, the Thursday’s Club entertained Polish princes, Russian dignitaries, Italian mathematicians, as well as English celebrities, politicians, and members of other scientific societies. Still more remarkable were the non-Western visitors to the Philosopher’s table, such as Chief Thayendanega, the Mohawk ally to the British during the Revolutionary War, the Tahitian celebrity Omai, and Chet Quang and Wang Tong, two Chinese men who came accompanied by interpreters.

Constant rotation of foreign and domestic visitors served two additional purposes. First, it allowed members to showcase their dexterity as polite hosts. Conversation with one’s peers was certainly important, but the true gentleman was also expected to converse freely with those of different rank, station, and culture. Facilitating these casual collisions was crucial: not only to refine a gentleman’s conversational skills, but also to assess his reputation by the charm and erudition of his guests.

Second, on a more practical level, invited guests ensured the club’s preservation. The additional dinner fees that guests were required to pay obviated the need to dip into the common fund to pay for deficient attendance. Repeated invitations also doubled as recruiting and vetting processes, since aspiring Philosophers could supplement their paper qualifications by displaying their social skills. In spite of these benefits, managing these non-subscribers was a constant source of anxiety. In March, 1749, only six months into the club’s formal existence, a note signed by 22 members required that “all gentlemen who are not subscribers themselves must be introduced by a subscriber present each time they dine here” and that “this order be written and fixed up at the door.”²⁹⁰ Several months later, the Philosophers agreed to ban all “strangers” from the club except those introduced by the President. This rule was renewed in July 1766, and as future assurance, Colebrooke also began to track which members had invited which visitors and

²⁹⁰ Royal Society Club Dinner Books, Royal Society Archives.

how often. At the annual meeting of 1775, lest boundaries between members and guests were forgotten, the club collectively decided that “no Stranger be admitted two successive Thursdays.”²⁹¹

Small wonder, in light of these rules, that the Thursday’s Club gained a reputation for exclusivity. Securing repeated invitations did not guarantee eventual election. Nearly every newly inducted member had dined as a visitor at least several and in some cases up to 70 times before receiving an official nomination. Even after that, some gentlemen remained on the balloting list for a decade before being voted into the club. The election of new members, held annually on the final Thursday of July, was a no less weighty task. Guests were unofficially prohibited from attending this special meeting, which was supervised by the club’s most faithful members and sanctified by the presence of venison. Nominees needed much more than a simple majority vote; at the 1760 annual meeting, the club voted to reduce the number of permissible “negative” votes for election from 5 to 3. Once a nominee had overcome these obstacles and had passed the election, he was expected to pay his subscription fee in full at the next dinner he attended.

Thus, while perhaps not immediately obvious, there are important links between the commensal models explored in the *Athenian Letters* and those revealed in the club’s records. In the vein of the Athenians, renowned for the “elegance and variety of their table-talk,” the table cultivated social intercourse and improvement. In the vein of the Spartans, praised for their discipline, the table fostered unity and fealty to the group. Within the rigorously policed confines of the dining room, eating together converted professional, collegiate, and civic relationships forged in the Royal Society into familiar, kin-like ones. Provision of food and company required social and emotional reciprocation, fostering alliances and cooperative relationships that meals continuously renewed. Even when the Royal Society took annual recesses during Christmas and summer, the Thursday’s Club continued to meet every week.

Finally, holding these private dinners before the Royal Society’s meetings took place created a space for attendees to organize their convictions and leverage their influence. This is showcased in the club’s attendance registers. Ever since Martin Folkes assumed the presidency in 1747, every President of the Royal Society was also elected President of the Thursday’s Club. Yet the electors drew from a limited pool, for every Royal Society President elected during the eighteenth century happened to be a member of Thursday’s Club to begin with. The Thursday’s Club’s importance to the Royal Society’s leadership even extended beyond the Presidency, as the Royal Society’s 21-man strong Council was always populated by at least a handful of Club members. This connection was only strengthened in 1766, when the two secretaries of the Royal Society were officially declared *ex officio* members of the Club.²⁹² Seen in this light, the Club’s unofficial pedagogical purpose as a training ground for future decision-makers becomes all the more apparent, giving a hint of plausibility to rumors of an oligarchical “coffee house junto” decried by the Royal Society’s mid-century critics.

²⁹¹ As T.E. Allibone has argued, this was the impetus for the formation of the short-lived rival Royal Society Club, led by Joseph Banks. See “The Thursday’s Club Called the Club of the Royal Philosophers, and its Relation to the Royal Society Club,” *Notes and Records of the Royal Society of London* (Jun., 1971) 26, no. 1: 73-80.

²⁹² Royal Society Club Minute Book 1748-1820, Royal Society Archives.

III. Eating and Knowing

The structured conditions in which dinners took place were essential to cultivating commensality, but the physical environment could only do so much. Social bonds were made sacred by the kinds of food that the club consumed. This is suggested by the club's numerous bills of fare, which were transcribed dutifully in its dinner books week after week. Thanks to Josiah Colebrooke's meticulous record keeping, we have access to thirty-two consecutive years of them, over 7000 meals in all.²⁹³ This is indeed noteworthy; it was unusual to invest such care in transcribing tavern meals, even those of the Mitre's caliber.²⁹⁴ Most elite clubs only listed the total cost of the dinner, occasionally noting the price of wine or the rare venison gift. Even the Royal Society's anniversary dinners lacked such details, although the Thursday's Club clearly appropriated its institutional parent's enthusiasm for collection and record. Indeed, just as scientific understandings of the natural world and the peoples who inhabited it were intimately bound up with the cataloguing of local flora, fauna, customs and cookery, so too did the club's systematic transcription and collection of the club's bills of fare harness dining to the scientific method. In many ways, the stylized presentation of foods upon the table each week resembled the presentation of curiosities at official Royal Society meetings, stimulating the mind, sharpening the wit, and pleasuring the imagination all at once.²⁹⁵

In other words, the mere presence of these bills of fare implies that the ingredients used in meals as well as the various ways they were prepared mattered greatly to the club's identity. Colebrooke actively wondered how future philosophers would interpret these dinners, and took care to describe unfamiliar dishes the club was served in his graceful and metronomic hand.²⁹⁶ Yet how exactly, did food matter? Subjective comments on the particular flavors of the food are sparse; notes on etiquette are all but absent. Nor do we have records of these foods' precise origins or the routes whereby they traveled. There are no surviving plans of the Mitre's kitchen, nor indications of how many cooks and servants it employed. Yet by analyzing the historical, social, and symbolic significance of recurring dishes on the bills of fare against extant understandings of the 18th century journey from farm to table, I argue that the collective experience and consumption of these particular foods allowed members vicariously to

²⁹³ The club stopped recording its bill of fare in 1786, following the death of its then treasurer, William Russell, who had performed the duties since 1782. It is uncertain why this practice was discontinued at this time.

²⁹⁴ While many other self-described dining clubs kept careful attendance records, complaints books, and even rules of etiquette at the dinner table, mention of the food itself is oddly absent from them; see, for example, the rule books belonging to Brooks Club; see Rule Books, London Metropolitan Archives ACC/2371.

²⁹⁵ On the social and scientific roles of curiosities, see Palmira Fontes da Costa, "The Culture of Curiosity at the Royal Society during the First Half of the Eighteenth Century," *Notes and Records of the Royal Society* 56, no. 2 (May, 2002): 47-66.

²⁹⁶ When "toad in the hole" first appeared in the dinner books on May 2, 1769, Colebrook added the additional description, "alias beef in a pudding" before the name eventually stuck. Likewise, when the club was served a "crocant of pears" for the first time in 1765, he described it as "a tart without a lid." On the rare occasions when Colebrooke could not attend the dinners, another member collected the requisite information for his later transcription.

participate in Britain's agricultural and commercial transactions taking place beyond the tavern's walls and to sacralize the bonds of commensality.²⁹⁷

English hospitality has traditionally been measured in butcher's meat, which was synonymous with wealth and self-sufficiency.²⁹⁸ Making up roughly one-third of a typical meal at the Thursday's Club, it appeared on the table in various cuts and preparations: from large roasted chines of beef to boiled chumps of mutton, fried legs and loins of lamb, pork, and veal. None of these dishes were necessarily beyond the means of the middling sort, but their relative proportions marked social distinctions. The club's rules made clear that the haunch of beef set upon the dinner table was worth more than its weight alone. Why else would particularly large haunches gifted to the Thursday's Club—those that measured over three feet in length—entitle its giver to honorary membership? This stipulation called attention to advances in animal husbandry taking place beyond the dining room. Selective breeding undertaken over the eighteenth century caused the average carcass weights of cattle, sheep, and pigs to virtually double, making the chine of beef a technological triumph.²⁹⁹ In addition to extending the physical girth of the cow, sheep, and pig, the size, number, and diversity of animals herded in droves to London's wholesale markets increased markedly during the 18th century, while better roads made the marketing of livestock cheaper and more reliable during the autumn and winter months.³⁰⁰ The table provided a venue to appreciate these innovations; some dinners, particularly during the late spring, showcased five basic types of butcher's meat—veal, beef, lamb, mutton, and pork—all in one meal.

Analyzing the club's patterns of vegetable consumption showcased similar innovations in horticulture and urban transport. While full-time market gardens can be found on sixteenth century maps of London, operations in Westminster, Chelsea, and Lambeth became larger and considerably more sophisticated after the Restoration, making longstanding status symbols such as artichokes and asparagus more available to public eating-houses such as the Mitre.³⁰¹ While these are the only vegetables recorded over the first fifteen years of the club's existence, over the 1760s and 1770s, the Thursday's Club also began to note broccoli, endives, cucumbers, carrots, and especially French beans. Salad also appeared with ever-greater frequency, so much that, by the 1770s, the number of vegetable dishes listed had doubled. Improvements in gardening

²⁹⁷ Anthropologists have constantly reminded us that food—organized in meals—perform important cultural operations far beyond the food's function itself. See Mary Douglas, "Deciphering a Meal" in *Daedalus* 101, no. 1 (Winter, 1972): 61-81 and Roland Barthes, "Towards a Psychosociology of Contemporary Food Consumption" reprinted in *Food and Culture* ed. Carole Counihan and Penny van Esterik, 3rd edition (New York: Routledge, 2013), 23-30.

²⁹⁸ Miles Taylor, "John Bull and Iconography of Patriotism," *Past and Present* 134 (February, 1992): 93-128. However, the connection between cattle and wealth predates the formation of the 'English' national character. The word "pecunia" is a Latin word meaning "wealth in cattle."

²⁹⁹ M.E. Turner, J.V. Beckett, B. Afton, *Farm Production in England 1700-1914* (Oxford: Oxford University Press, 2001), 173-209.

³⁰⁰ Theo Barker and Dorian Gerhold, *The Rise and Rise of Road Transport 1700-1990* (Houndmills: Macmillan, 1993), 45-48. Defoe commented on the state of London's roads for the transport of livestock in *A whole tour through the island of Great Britain* (London, 1722). Before that, stock was usually sold in early autumn before the roads got bad. See Ray Bert Westerfield, *Middlemen in English Business between 1660-1760* (New Haven: Yale University Press, 1915), 209.

³⁰¹ Malcolm Thick, *The Neat House Gardens: Early Market Gardening Around London* (Blackawton: Prospect Books, 1998), 33-34, 46-49.

methods also widened seasonal availability.³⁰² Once served exclusively in June, by the 1780s cauliflower could be found during December and January. The spinach season likewise expanded to cover the entire fall, winter, and spring. By the 1780s, the total number of vegetable dishes served in winter had increased eight-fold (Figure 2).

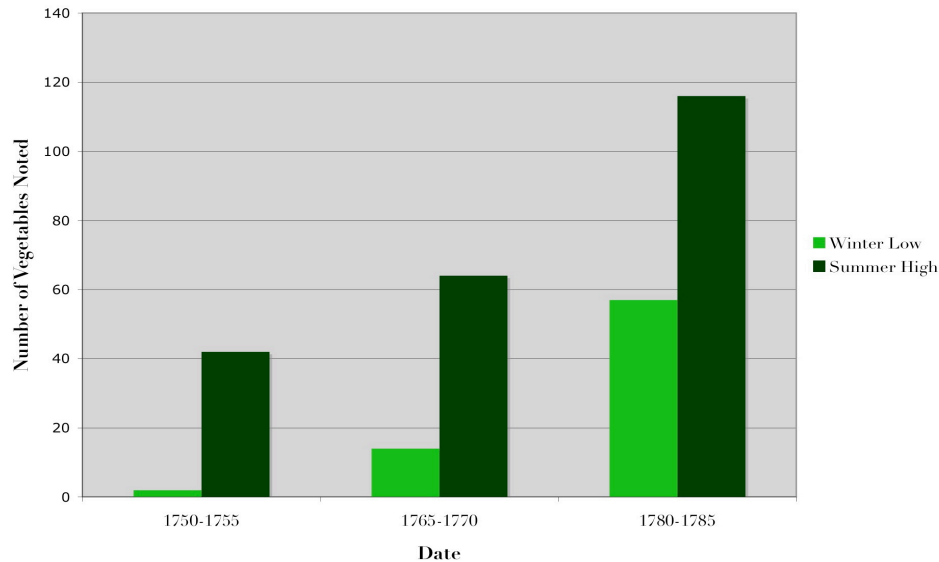


Figure 2: Changes in Vegetable Consumption in the Thursday’s Club

Not everything at the table testified to the powers of agricultural improvement. Abundant quantities of fresh fish and shellfish were considered part of Britain’s natural inheritance, intended for men to enjoy, as one observer pointed out, “without the labour and expence, which attends the produce of the land.”³⁰³ But thanks to formal establishment of Billingsgate as a wholesale fish market in 1699, combined with better transportation built in the 1720s, Londoners had faster access to fresh fish from the coasts than ever before.³⁰⁴ Improved roads and canals were particularly important to the fish trade because it was such a perishable commodity; packing on ice did not begin until 1785.³⁰⁵ The Thursday’s Club reaped the benefits in the form of turbot, fished in the remote northern territories then controlled by the Dutch, along with other coastal fish such as cod, sole, skate, mackerel, whiting, lobsters, and salmon.³⁰⁶ But while the poorer

³⁰² *ibid.*, 36-37.

³⁰³ *The London Fishery Laid Open, or, the Arts of the Fishermen and Fishmongers set in a True Light* (London, 1759), 26. For this reason, fishing had been regulated by Parliament for centuries, putting laws into place governing when and what one could fish.

³⁰⁴ Joan Thirsk, *Food in Early Modern England*, 159.

³⁰⁵ Westerfield, *Middlemen in English Business between 1660-1760*, 209-110.

³⁰⁶ Salmon, for which England was famous during the 18th century, had once been plentiful in the Thames. By the 18th century, salmon was caught primarily in Northern England on coasts, mouths of rivers, and in rivers themselves. According to Adam Fox, salmon caught on river Derwent during the 18th century was ridden through the night from Carlisle to London, in order to fetch 2s6d a pound. See Fox, “Food, Drink and Social Distinction in Early Modern England,” in *Remaking English Society: Social Relations and Social Change in Early Modern England*, ed. Steve Hindle, Alexandra Shepherd, John Walker (Woodbridge: Boydell, 2013), 165-187.

man's fare of herrings and sprats appeared on the bill of fare occasionally, freshwater fish, by contrast, such as trout, perch, pike, and tench, fished in the Thames and local ponds and streams, were served noticeably less often. In spite of the market's ability to collapse ever-greater distances in the name of unparalleled abundance and variety, the Thames was becoming progressively more polluted.³⁰⁷

Consecrated by the presence of foreign wine, which distinguished the urbane London tavern from the common alehouse, consuming these dishes called attention to the nation's changing agricultural and commercial fortunes.³⁰⁸ The persistence of large joints of meat, platters of fish and fowl, boiled vegetables and fruit pies vividly contrasted with the fashionable styles of continental cuisine that, instead, emphasized the personal dexterity of the cook.³⁰⁹ French-style *fricassees* and *ragouts* made their first respective appearances on the bill of fare only in 1758 and 1763, and thereafter were served only about one to two times a year. This was possibly related to the political climate; the War of the Austrian Succession (1740-1748) and the Seven Years War (1756-1763) had produced flurries of culinary patriotism vented in the press. Not until the 1770s did dishes such as *beef tails a la braise* and *soup santé* appear beside traditional chops and pies, as did foreign novelties such as Dutch *water soucheys* and curry served with *pillow rice*. Such dishes were occasional curiosities rather than staples of the meal, a point that was reiterated in the 1776 minutes.³¹⁰ Indeed, a French geologist visiting in 1784 described the dishes as “the solid kind, such as roast beef, boiled beef and mutton prepared in various ways, with [an] abundance of potatoes and other vegetables, which each person seasoned as he pleased with the different sauces which were placed on the table in bottles of various shapes.” The dinner, he concluded, was “truly in the English style.”³¹¹

Although in many ways, the bill of fare celebrated agricultural and commercial progress, the club drew firm distinctions between commercial foods and those unavailable for purchase in the marketplace. In 1748, for example, several months after the club began keeping records, Philip Yorke presented the club with venison, which was served to the diners as a roasted haunch, a roasted neck, and a pasty. The members

³⁰⁷ Alwyne Wheeler, *The Tidal Thames: The History of a River and its Fishes* (London: Routledge, 1979), 19-22.

³⁰⁸ Colin Smith, “The wholesale and retail markets of London 1660-1840,” *Economic History Review* 55, no. 1 (Feb., 2002): 31-50.

³⁰⁹ On the French cook's contribution to the identity of cuisine moderne, see Sean Takats, *The Expert Cook in Enlightenment France* (Baltimore: Johns Hopkins University Press, 2011), 95-115. Rejection of French culinary values also was reflected in the club's treatment of labor. *Nouvelle cuisine* reflected the French expert cook's training and special skill as much as his employer's taste and munificence. But save for the meager annual tips noted each year in the minute books, the identities of the Mitre's cooks go unacknowledged.

³¹⁰ This minute defined the dinner as “made up with the best beef stakes, mutton chops, lamb chop, veal cutlets or pork stakes instead of made dishes, or any dearer provisions;” Royal Society Club Minute Book, 1748-1820, Royal Society Archives. The club's bill of fare did feature several traditional “made dishes”—that is, more ingredient-heavy dishes typified by heavy sauces and seasoning—such as pigeon pies, offal heavy marrow puddings, and hashed calves heads; these were not considered foreign but had been components of English cuisine for centuries.

³¹¹ This does not mean that the visitor liked the dinner. After having watched the members drink themselves into oblivion before a meeting at the Royal Society at 8 p.m., he remarked that he “should not wish to partake of similar dinners.” See B. Faujas de Saint Fond, *A Journey through England and Scotland and to the Hebrides in 1784. Revised edition of the English translation edited with notes by Archibald Geikie*, vol. 1 (Glasgow, 1907), 46.

present were delighted. Four bottles of claret were ordered to celebrate the occasion. At the next meeting, the following rule was appended to the minute book:

Resolved *nem con* that any Nobleman or Gentleman Complimenting this company annually with Venison not less than a haunch, shall during the continuance of such annuity be deemed an Honorary Member and admitted as often as he comes, without paying the fine which those members do who are Elected by Ballot.

Within its first two years, the Royal Philosophers extended this provision to donors of turtle and extraordinarily large chines of beef, beginning a rich and varied tradition of edible gifting. An annual donation of any of these three foods bestowed its giver with honorary status in the Thursday's Club, a special toast to his health in claret, and an official word of thanks personally delivered. Over thirty-eight years of the club's records, 214 haunches of venison, 21 turtles, and 3 haunches of beef were gifted to the society (Figure 3).

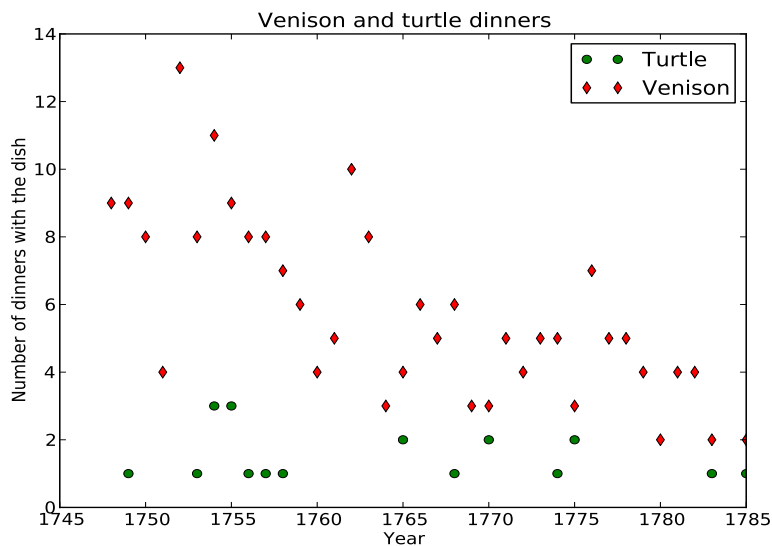


Figure 3. Venison and Turtle Dinners

Food gifts were hardly novel features of social relations. Since pre-antiquity, they have structured religious rituals, marked time, seasons, and rites of passage, and concretized relationships between patrons and clients.³¹² This last function was particularly salient during the sixteenth and seventeenth centuries, as the work of Susan Whyman and Felicity Heal has shown.³¹³ But while food gifts never went out of style—

³¹² Beginning with Marcel Mauss, *The Gift: The Form and Reason for Exchange in Archaic Societies*, trans. W.D. (New York: Norton, 1990), gifting has become a significant topic of anthropological and sociological scholarship. According to Andrew MacGowan, wealthy Roman patrons used food gifts in place of commensality to mediate relations with inferiors. See *Ascetic Eucharists: Food and Drink in Early Christian Ritual Meals* (Oxford: Clarendon, 1999), 48.

³¹³ Felicity Heal, "Food Gifts, the Household, and the Politics of Exchange in Early Modern England," *Past and Present* 199 (May, 2008): 41-70; Felicity Heal, *The Power of Gifts: Gift Exchange in Early Modern*

after all, we still give them today—they shed many of their customary connections to patriarchy and duty by the eighteenth century, when a new set of values—wit, taste, and politeness—began to redefine gentility.³¹⁴ The Thursday’s Club did not follow this trend; in fact, its gifting rituals abided by unwritten customs that had been practiced in Britain for centuries. These rituals were inherently strategic, working to articulate and concretize different types of social distinctions within the club.

The first of these qualities had to do with specific food types. Unlike the innumerable quantities of domesticated cows, sheep, and pigs that passed anonymously through the Mitre’s kitchen, animals that touted England’s agricultural and commercial innovations, venison and turtle evoked the masculinized *exo-cuisine* of the hunt, thus demarcating them from quotidian patterns of consumption. At the same time, size mattered greatly to the value of these gifts, for it measured the patron’s capacity to feed the dependents entrusted to his care—hence the careful records of the freight charged for transporting slaughtered bucks, and the weights and measures applied to chines of beef. (Although beef was not hunted, the “Homerian” size restrictions on it transformed it into a non-commercial rarity; throughout the club’s history, only one man managed to meet this criterion.³¹⁵) Size was also particularly important for the exotic and mysterious West Indian green sea turtle. Rumors of specimens so large that they dwarfed kitchens and dining rooms circulated in newspapers and coffeehouses; the Royal Philosophers learned this themselves in 1749, when they were moved to an adjacent room in the Mitre thanks to a 400-pounder bestowed on an another unnamed association.

There were important cultural differences between eating venison and eating turtle during the eighteenth century. Historically, venison had encapsulated the power of landed privilege as well as the social obligations of charity and hospitality that this privilege entailed.³¹⁶ As Michael Beaver has argued, sixteenth century conduct manuals described the stag hunt as a school of honor, imparting to its participants the juridical and magisterial skills they required to rule. Venison fashioned as much as it mirrored the social order. These meanings lied at the heart of the 1723 Waltham Black Acts, which legislated the nobility’s control over these resources by rendering poaching punishable by death, and such understandings were unlikely to have been lost on the Thursday’s Club when the new rule was passed 25 years later. Further, while the privileges of honorary membership were technically open to “any nobleman or gentleman” who provided a

England (New York: Oxford University Press, 2014); Susan Whyman, *Sociability and Power in Late Stuart England: The Cultural World of the Verneys* (Oxford: Oxford University Press, 1999).

³¹⁴ Whyman, *Sociability and Power*, 69-70, 89-91. The decline of food gifting rituals is key to Whyman’s argument. She cites a growing gap between the values of city versus country hospitality. While food exchange remained an important element of social relationships, it shed much of the meaning it had assumed when practice in the country manor. However, such practices persisted in Britain’s bastions of tradition and hierarchy; similar venison gifting rituals remained common in Oxbridge dining halls.

³¹⁵ Having received a chine of beef that measured that was “34 inches in length and a weight of 140 pounds,” the club agreed that the antiquarian and cartographer William Hanbury’s gift was deemed equal to “half a buck” and entitled him to the same benefits. Hanbury sent these shipments (along with carp) annually between 1750 and 1752.

³¹⁶ Hunting regulations had been around for millennia; they can be traced back to the Gwentian Code of Welsh law in 942 AD. The first game laws in England were enacted in 1389-1390. For details, see Daniel Beaver, *Hunting and the Politics of Violence before the English Civil War* (Cambridge: Cambridge University Press, 2012); Roger Manning, *Hunters and Poachers: A Social and Cultural History of Unlawful Hunting in England 1485-1640* (Clarendon, Oxford University Press, 1993), 5-17.

venison gift, it was only nobility who ever actually profited from it. Only two powerful aristocrats—Philip Yorke and Anthony Cooper, the 4th Earl of Shaftesbury—sent the Thursday’s Club enough to maintain their honorary status over several years.³¹⁷ By the late eighteenth century, however, as dealers and tradesmen made venison available to connected urban populations, the number of venison gifts to the club slowly began to decline.

Unlike venison, turtle was not symbolically linked to the nobility. It first came to the British public’s attention as the sustenance of Indians, slaves, and shipwrecked sailors who had no recourse to anything better. But thanks to its rarity and its tabooed status—eating norm-breaking exotic foods can often confer distinction—turtle became a fashionable delicacy in England during the 1740s and 1750s, although its consumption was frequently associated with gluttony and corruption. Virtually impossible to procure without connections to West Indian enterprises, anonymous parvenus went so far as to put out ads in London newspapers in their quests to obtain one.³¹⁸ Even the club was not immune from these pressures. After the first turtle promised to the club happened to die as it crossed the English Channel during the autumn of 1750, it took another four years before the Club received another one.³¹⁹

Thanks in part to its distant origins, eating turtle also could be a pedagogical exercise. This is suggested by a 1755 club dinner that honored Commodore George Anson (1697-1762). Anson had recently achieved fame for his book, *A Voyage Around the World* (1755): a swashbuckling chronicle of his exploits during the War of Jenkins Ear in which the turtle, consumed on a remote island in the Pacific, played a short yet decisive role.³²⁰ When word got out that Anson would present one to the club, invitations were sent to all the members by penny-post. Anson effectively turned the green sea turtle into a natural history lesson and a trophy, a symbol of the seemingly limitless opportunities offered by a growing empire. Its unique, indescribable flavor—some thought it tasted like beef, some like chicken, some marveled at its texture, with the consistency of butter—allowed club members to actively participate in the state’s overseas expansion. Even its shell seemed to double as a communal bowl, evincing a forgotten form of fellowship that seemed to predate history and time. After one 1780 dinner with the club, the Scottish inventor James Watt felt compelled to write to his wife that “never was turtle eaten with *greater sobriety and temperance*, or more good fellowship.”³²¹

³¹⁷ Second only to Yorke in his largesse to the Thursday’s Club was Anthony Ashton Cooper, the third Earl of Shaftesbury’s son and successor. The fourth earl devoted much of his life to the avid study of his father’s works, preparing a new edition the *Characteristics* in 1732. He was inducted into the Royal Society in 1754 and became an honorary member of the club shortly thereafter. There was a marked difference between gifting only a haunch of venison—which many non-nobles did—as opposed to a whole buck.

³¹⁸ Nicholas Rogers and Gerald Jordan, “Admirals as Heroes: Patriotism and Liberty in Hanoverian England,” *Journal of British Studies* 28, no. 3 (July, 1989): 201-24.

³¹⁹ Turtle feasting became so popular that while the prestige of venison consumption gradually declined over the eighteenth century, turtle maintained its novelty for decades.

³²⁰ I discuss the significance of turtle feasting in Anson’s *Voyage Around the World* in exhausting detail in “The Politics of the English Turtle Feast,” *The Appendix: A New Journal of Narrative and Experimental History* 1 no. 4 (2013).

³²¹ James Patrick Muirhead, *The Life of James Watt: With Selections from his Correspondence* (New York: Appleton, 1859), 20.

These foods were not the only gifts given to the society. The club also received gifts of fresh fruits, various freshwater fish, exotic pigs, and smaller game such as hares and pheasants (Figure 4). While such gifts did not yield the same rewards as gifts of venison, turtle, and beef, their economic separation from the quotidian rhythms of the marketplace is evident, imbuing them with special status.

Food never gifted	Food always gifted
Livestock	Venison
Domesticated fowl	Partridge, pheasant
Saltwater fish	Freshwater fish
“Garden stuff”	Exotic Vegetables
Cooked fruit	Fresh fruit

Figure 4: Forms of Food Gifts in the Thursday’s Club: 1748-1784

Partridges and pheasants were hunted, not commercially bred, while freshwater fish were procured from local streams rather than brought in to markets from the coasts. These unmarked gifts were also highly personal. While venison could stand as an edible proxy of a distant patron’s presence, ancillary gifts tended to be gifted by senior members of the Thursday’s Club. Several times over their tenures, both Josiah Colebrooke and Thomas Birch presented the club with a single perch, pike, or potted charr: fish that were not particularly rare or exotic themselves but instead given as tokens of loyalty and goodwill.³²² Moreover, in contrast to the readily available apples, pears, plums, and damsons cooked and preserved in various pies and tarts on the bill of fare, fruit *gifts*, given fresh to showcase their delicate fragility, hailed from either private physic gardens (as did the pineapples, cantaloupes, and “Aegyptian lettuces” given by F.R.S. Philip Miller, a longstanding member of the club and gardener of the Chelsea Physic Garden) or aristocratic hothouses (as did the apricots, white currants, and Carolina strawberries given by F.R.S. James Douglas, the 14th Earl of Morton). Gifts of fruit were particularly intimate demonstrations of a gentleman’s sensibility, for they showcased his commitment to new learning as well as the fertility of his land.

All of these gifts—marked and unmarked—were vestiges of a political and social order mediated by older economies of paternal obligation rather than commercial exchange. What was new was the club’s ability to appropriate these older structures from the court, household, and estate and assimilate them into urbane commensal practices.³²³ Not only did gifts emblemize the respective needs to be reciprocated by patrons and clients, symbolically renewing the traditional social order, but they also allowed eaters to embody them. We should remember that physicians regarded food not as fuel for the body but also as physical replacements for dissipated flesh and spirits. Food that was

³²² These meanings are present in the diary of Parson Woodforde, who frequently recorded giving tench caught in local ponds and streams to family and friends. See the entry dated May 26, 1768 in *The Diary of a Country Parson*, ed. John Beresford (London: Oxford University Press, 1924). Here, the food gift gestures to friendship and familial intimacy. This might have something to do with fish’s greater availability as opposed to meat, as well as its symbolic inheritance; fish has stood as a Judeo-Christian symbol of fertility since Biblical times.

³²³ The patron-client system as it worked in the Stuart court is discussed in Linda Levy-Peck, *Court Patronage and Corruption in Early Stuart England* (London: Unwin Hyman, 1990), 12-29.

consumed actually *became* that person's flesh and blood. Seen in this light, ingesting food was critical to concretizing patron-client relations, which had to be actively corporalized through eating if they were to have any meaning at all.

This comes to light in a 1757 dispute over the admission of Philip Dormer Stanhope, the 4th Earl of Chesterfield (1694-1773) as an honorary member of the club. Instead of presenting the club with one of the three marked gift foods, Chesterfield wrote a satirical petition to the king, a copy of which was read aloud to the club members over dinner. Thanks to its overwhelmingly positive reception, Chesterfield's cousin, a longtime club member, proposed that Chesterfield should be elected an honorary member of the club on the spot. The present company unanimously agreed.

But Colebrooke, who had missed dinner that night, was deeply unsettled by the nomination. He vented his concerns in the dinner books with a lengthy diatribe that took up several pages, asking whether a piece of writing was an adequate substitute for the communal consumption of a food gift. Wit and humour worked only on the mind, he argued, making the petition vulnerable to changing fashions and customs. Indeed, even though Colebrooke conceded, given the time and the resources, that perhaps a "standard" of wit could be achieved, he argued that mental entertainments lacked the layers of meaning that foods had come to represent. Wit was associated with style instead of substance; its "nourishments" were metaphorical at best. In fact, substituting a petition in place of food appeared to be a double failure on the Earl of Chesterfield's part. Not only did Chesterfield fail to play by the gift economy's rules, but he also violated an unspoken social contract; to display hospitality and largesse were practically mandated by his birthright. Should word get out that a *nobleman* was admitted on these terms, Colebrooke warned, the club would not only "be much embarrassed," but it also would find itself flooded with new applicants. In fact, posterity would most likely consider the "petition" a name of a new dish, Colebrooke went on, so much did the proposal violate the strictures of custom so essential to the Thursday's Club's identity.

Today, we don't usually talk about the faculty of taste when we talk about commensality. We invite people not simply to eat and drink, the saying goes, but to eat and drink *together*. Yet what made the food gift special, Colebrooke argued, was its ability to concretize the bonds of kinship through shared taste experiences, even though the taste itself was experienced privately. "Every one knows the meaning of the words venison, turtle, and chine of beef," Colebrooke argued, "the things are objects of our own senses, we know the tast of them." While gustatory sensations were just as ineffable and subjective as instances of wit or polite humor, the former category marked "substantial forms, that may be tasted," the internalization of which was a semi-sacred act.

Colebrooke's plea ultimately went unheard, and Chesterfield's honorary admission to the Thursday's Club was made official, although the nobleman never attended—or sent a gift—ever again. Nevertheless, by invoking taste experiences to uphold commensal models, the Thursday's Club marked an important feature of later cultures of food connoisseurship. The romantic advocates of gastronomy that emerged in the nineteenth century, for example, viewed the pleasures of the palate as the pinnacles of aesthetic appreciation; sensual pleasure, they argued, was an end unto itself. Yet even gastronomy was ultimately dependent on the communal knowledge of individual sensory experiences; indeed, connoisseurship was impossible without company.

Afterward

Taste Worlds

Taste preferences are subjective; that we have always known. However, the hypothesis that we all *experience* tastes differently only began to gain empirical support during the 1930s, when a DuPont chemist accidentally released a cloud of the chemical PTC (phenylthiocarbamide) in his lab and noticed that some of his colleagues reeled from its intense bitterness while others tasted nothing at all. Further studies indicated that only about two-thirds of the population could taste PTC, and that this ability was genetically determined. Genetic variations in taste have been extensively studied since then, as they betray important clues about our dietary evolution. Recently, scholarly and public interest has converged around the phenomenon of “supertaste,” a phenotype identified by Linda Bartoshuk in 1991.³²⁴ Originally defined by the ability to taste another chemical called PROP (6-n-propylthiouracil), supertasters, Bartoshuk argued, live in “neon taste worlds” and experience sweet and bitter sensations more intensely, as well as the burn derived from oral irritants such as capsaicin and alcohol. Our many taste worlds subsequently inform food selections. In recent years, the diversity of human taste worlds has begun to seep into public health debates.³²⁵

Yet the concept of taste worlds also can be used in a cultural sense. The previous chapters have illustrated how early modern thinkers invested gustatory information with medical, epistemological, and cultural meanings only distantly familiar to us today. These meanings were deeply inflected by the slippery and unquantifiable nature of gustatory knowledge. Indeed, throughout the seventeenth and eighteenth centuries, physiological explanations for taste always remained uncertain; cases continued to be published about men and women who continued to experience flavors despite losing their tongues. Variations in hedonic preferences were equally difficult to explain; albeit frequently discussed, the questions that plagued Hans Sloane during his time in Jamaica—how we develop taste preferences, what they say about us—were never really resolved. Yet, as I have shown, it was precisely because taste was so resistant to quantification that caused it to become wrapped up in ongoing debates about reason, credibility, and authority. In many ways, the subjective nature of gustatory experiences complicated the production of new knowledge, binding men to unshakeable prehistoric appetites and setting limits on enlightenment.

Taste, in early modernity, was not a science. It was understood as an ordering system that mediated human relationships to the natural world. Grounded in medical theories of the humors and the six non-naturals, this system informed various studies of nutrition and healing. It survived well into the eighteenth century, substantially longer

³²⁴ The term ‘supertaster’ was first used by Bartoshuk in the trade journal *Food Technology*. The concept was developed further in a landmark 1994 article: Linda Bartoshuk, Valerie Duffy, Inglis Miller, “PTC/PROP tasting: anatomy, psychophysics, and sex effects,” *Physiological Behavior* 56, no. 6 (1994):1165-71. See Hayes and Keast, “Two decades of supertasting: where do we stand?” *Physiological Behavior* 104, no. 5 (2011): 1072-1074.

³²⁵ Bartoshuk has argued that supertaster’s heightened reactions to certain tastes inform their food choices, causing them to avoid bitter cruciferous vegetables and glucose-rich processed foods. As a result, they tend to be at higher risk of colon cancer but also have been observed to be thinner on average than non-supertasters due to their taste-based food selections.

than previous scholarship would have one believe.³²⁶ Even Linnaeus, known for his *rejection* of sensorial schemes of botanical classification, believed that the sensory qualities of plants—especially tastes—revealed important nutritional information.³²⁷ Not only did Linnaeus observe that the fruiting bodies of plants of the same class often shared common gustatory properties, but he also considered their tastes to be reliable indicators of specific therapeutic uses. The strongest tasting and smelling plants in a given genus, he claimed, were usually the “most efficacious” and “possess[ed] the greatest medicinal virtues.”³²⁸

The therapeutic information signaled by a plant’s gustatory properties came under increasing scrutiny, however, over the second half of the eighteenth and nineteenth centuries. “The *Colour* is a very uncertain guide; the *Smell* goes but a little farther,” cautioned the eminent Scottish physician William Cullen in a 1761 lecture on *materia medica*; “it is the *Taste* only that is of any extensive application.” However, while Cullen acknowledged (and frequently cited) the pioneering work of Linnaeus and the English physician John Floyer, he warned that they “have carried the matter too far.”³²⁹ The English botanist William Withering, writing over a decade later, was even more skeptical. Not only did he believe that sensible properties have “but little connexion with the diseases they are adapted to cure,” but he also contended that this view had been utterly abandoned by respectable physicians after a number of unsuccessful studies.³³⁰ Even if technologies *did* exist for objectively analyzing different tastes, Withering implied, they would not tell us much about a substance’s medicinal virtues. Ultimately, the therapeutic significance of taste did not overcome the rise of alternative drug-classification systems, the increasingly specialized training required by new chemical machinery, and the isolation of the first white, bitter tasting alkaloid powders observable in a glass tube.³³¹ Over decades, gustatory observations slowly disappeared from the pharmacological literature.

Yet the cultural stakes attached this early modern taste world extended well beyond the realm of medicine. Because ingesting food connected the human body to the environment in which that food was grown, diet was a powerful register of human difference. Climate and soil quality dictated flavor principles; George Cheyne, for example, attributed the characteristic piquancy of tropical spices to the harsh and penetrating solar rays near the equator, while the milder qualities of native English plants were explained by the island’s wetter and more temperate climate. Similar to the way that climactic conditions explained variations in skin color, mental agility, and a society’s

³²⁶ India Mandelkern, “Taste-Based Medicine,” *Gastronomica: The Journal of Critical Food Studies* 15 no. 1 (2015): 8-21.

³²⁷ Hugh Rose, *The elements of botany, being a translation of the Philosophia Botanica* (London, 1775), 314.

³²⁸ *ibid.*, 248.

³²⁹ William Cullen, *Lectures on the materia medica* (London, 1772), 2. This is an unauthorized publication of his work from circulating 1761 lecture notes taken at the University of Glasgow.

³³⁰ William Withering, *An account of the foxglove, and some of its medicinal uses* (London, 1785), 2.

³³¹ Lissa Roberts has argued that the challenges of operating new machines deployed in the late eighteenth-century chemical revolution caused the decline of “sensuous technology” as reliable determinants of scientific knowledge; see Roberts, “The death of the sensuous chemist: The ‘new’ chemistry and the transformation of sensuous technology,” *Studies in History and Philosophy of Science Part A* 26, no. 4 (1995): 503-529.

civil and political institutions, prolonged consumption of food produced in a foreign climate—food “tortured by [its] native taste”—could gradually alter the temperament.³³²

Custom dictated what counted as food. But, even into the nineteenth century, taste preferences somehow appeared to be etched more deeply into the self. The ostentatious nabob, his exotic dress, his garish manners—this was the cultural soot of a messy colonial enterprise. Yet it was ultimately his tastes—an acclimation to these burning savage spices—that marked the real renunciation of his English identity.³³³ Indian curry cut through the art and pretension of prandial connoisseurship; as wily Becky Sharp found out the hard way in Thackeray’s *Vanity Fair*, a fondness for it proved impossible to fake.³³⁴ Several times more salient than the average edible import, curry influenced a man’s powers of reason and his sexual behavior.³³⁵ A liking for it gestured to an irrevocable change in his constitution. Thus, falling somewhere between increasingly superficial consumer preferences, such as clothing on the one hand, and increasingly inalienable categories, such as gender and race on the other, an individual’s gustatory preferences sat ambiguously somewhere in between the realms of nature and culture.³³⁶

The intellectual assumptions underpinning this early modern taste world invested eating with medical, moral, and spiritual stakes that are barely perceptible in today’s culture. The infinitely divisible, shareable nature of food, the French sociologist Claude Fischler has pointed out, socialized the individualized nature of gustatory experience, merging public and private spheres. Thus, experienced in the right conditions, communal consumption of special foods concretized identities and convictions in ways that the rational faculties could not. For example, the fear-mongering pamphlet literature surrounding the seditious activities of the late Stuart period Calves Head Club almost exclusively cited the Club’s commensal practices as the most damning proof of the Club’s depravity. Every anniversary of Charles I’s execution in 1649—the 30th of January—members supposedly feasted on calves’ heads (believed physically to resemble the late king’s oblong face and goatee) and imbibed blood red wine from the empty

³³² Martin Ranald, *The influence of tropical climates on European constitutions* (London: J. Churchill, 1861), 169.

³³³ Tillman Nechtman has explored the significance of Indian food to the nabob’s ambiguously foreign status in *Nabobs: Empire and Identity in Eighteenth Century Britain* (Cambridge: Cambridge University Press, 2010).

³³⁴ In the novel, the protagonist Becky Sharp attempts to impress a potential suitor by trying an Indian curry supposedly prepared the same way it was on the subcontinent. However, she is totally unprepared by the spicy flavor, which is only made worse when she is offered a green chili. “She thought a chili was something cool, as its name imported, and was served with some. ‘How fresh and green they look,’ she said, and put one into her mouth. It was hotter than curry; flesh and blood could bear it no longer. She laid down her fork. ‘Water, for Heaven’s sake, water!’ she cried.” See William Makepeace Thackeray, *Vanity Fair*, vol. one, chapter three.

³³⁵ Nechtman, *Nabobs*, 174-5.

³³⁶ While cultural difference and racial biology were never entirely separate during early modernity, many scholars have shown the 18th century to be a critical watershed in creating new categories of identity; see Dror Wahrman, *The Making of the Modern Self: Identity and Culture in Eighteenth-Century England* (New Haven: Yale University Press, 2004); Laura Brown, *Homeless Dogs and Melancholy Apes: Humans and Other Animals in the Modern Literary Imagination* (Ithaca: Cornell University Press, 2010); Roxann Wheeler, *The Complexion of Race: Categories of Difference in 18th Century English Culture* (Philadelphia: University of Pennsylvania Press, 2000); Mark Harrison, *Climates and Constitutions: Health, Race, Environment and British Imperialism in India 1600-1850* (New York: Oxford University Press, 1999).

skulls.³³⁷ Echoing the bovine face of the Canaanite idol Moloch and the bloody human sacrifices performed in his name, the empty calf skull, consecrated with wine, transmogrified the Eucharist into a ritualized cannibalization of the king's body.³³⁸

Within the context of a meal, taste invoked a sense of realness and immediacy that enflamed the most primal of human emotions. This is well illustrated in a strange document—a list of ingredients used in a Calves Head feast—a High Tory judge claimed to have discovered in 1711, tucked into a copy of a well-worn book.³³⁹ The source itself is likely apocryphal—most historians believe that the Calves Head Club itself was invented by High Church Tories to undermine the legitimacy of the constitutional changes enacted under the new Whig rule. But this hardly diminishes the document's design: to confirm beyond doubt that this society of traitors not only existed, but continued to thrive on English soil. "This was truly the bill of their eatables, besides drink," the judge swore; it had been confirmed by "one of honour and reputation, and in a considerable publick post."

For Bread, Beer and Ale 3.10.0

For Fifty Calves Heads 5.5.0

For bacon 1.10.0

For 6 chickens and 2 capons 1.00.0

For three joints of Veal 1.18.0

For butter and flower 0.15.00

For Oranges, Lemmons, Vinegar and spices 1.00.0.

For anchovies capers and samphire 0.05.0

For oysters and sausages 0.15.0

For sorril, sage, parsely, sweet herbs, and onions 0.05.0

For the use of pewter and linen 1.00.0.

For firing in the kitchen 0.15.0

For firing in the parlour 0.3.0

For boat hire and portorage 0.05.0

For cook's wages 0.15.0

³³⁷ These accounts, however, are not always consistent. Ned Ward described the chef d'oeuvre as a "large dish of calves heads dressed several ways; a large pike with a small one in his mouth, as an emblem of tyranny, a large cods-head, by which they pretended to represent the king singly, as by the calves head before, they had done him, together with all them that had suffer'd in his cause; a boars head with an apple in its mouth," *A Secret History of the Calves Head Club, or, the Republican Unmasqu'd*, (London, 1702, 1703), 18. It is also unclear whether men each consumed a calf's head before drinking wine from the skull or whether they drank healths from one skull passed around the table. While a woodcut printed in 1734/5 shortly after a disturbance at the Golden Eagle Tavern, depicts a single skull for each man, older songs and images imply that there was only one skull per dinner. See Dan Bergice, "A lecture held forth at the calves-head feast before a society of Olivarians & Round-heads, at the white L---n in Cornhill, on the thirtieth of January," (London, 1691/2); Samuel Butler, "The Kentish Spy, or, a Memorial of the Calves Head Club" (1712); Jonathan Swift, "Toland's Invitation to Dismal, to Dine with the Calves Head Club, imitated from Horace" (1711).

³³⁸ The false deity is associated with Ammon in 1 Kings 11:7: "Then Solomon built a high place for Chemosh the detestable idol of Moab, on the mountain which is east of Jerusalem, and for Molech the detestable idol of the sons of Ammon." Also see Leviticus 18:21, 20:2-5, 2 Kings 23:10, Jer. 32:35.

³³⁹ The sheaf is entitled "A true Bill of Fare for the Calves Head Feast, 1710," Add. MSS, R.P. 3862, British Library.

For garnishing and stewing 0.05.0

Total 18.06

Set in the intimacy of the kitchen as opposed to the formality of the dining room, every listed ingredient betrayed important medical and geographical intelligence, bringing the networks of sedition into glaring, fleeting focus.³⁴⁰ Sage, cultivated since antiquity, was touted for its abilities to improve memory, lubricate stiff joints, and temper the dangerous qualities of the fatty meat with which it was served.³⁴¹ Tart, acidic sorrel was used to quench thirst and whet the appetite of an army. Samphire, known for its pleasant aroma and slightly spicy taste, was also believed to aid human digestion of fish and meat dishes. The fact that it only grew on Britain's rocky coasts suggested that the club's extended network of Republican sympathizers had penetrated the most remote of enclaves.

More troubling was the presence of ingredients available only beyond British shores. Pickled anchovies and capers began to be imported from the Mediterranean during the late seventeenth century, superseding the flavoring roles that East Indian spices once had.³⁴² Oranges and lemons also hailed from southern Europe, although vast sums of money, time, and expertise were expended on hothouses and horticultural equipment to cultivate them at home. Within the orange also resided a political statement. As the crest of the Dutch house invited to invade and rule Britain in 1688, the orange came to emblemize the Anglican triumph over popish tyranny. "No flavour is better than that of the taste of an orange," proclaimed the broadsheet ballads published in the Revolution's wake, also lauding its health-giving abilities and perennial fruit.³⁴³ For the Calves Head Club, the orange likely served as a reminder of England's continued oppression under a hereditary monarchy anathema to its radical republican values.

In the same way that the addition of quotidian physical details made early novels seem more lifelike, direct invocation of diverse tastes and smells within this list of ingredients stressed the visceral immediacy of what supposedly happened behind closed doors.³⁴⁴ The sensations conjured by these ingredients served as important rhetorical forces: piquing the palate, whetting the appetite, heightening the nervous pulse.³⁴⁵ The list's charges for the boat rental and its portage from an unknown location, the rental and firing of an unnamed kitchen and parlor, and the wages paid for the labor of an

³⁴⁰ For medicinal uses of herbs during the medieval period, see Ann Hagen, *Anglo-Saxon Food and Drink: Production, Processing, Distribution and Consumption* (Hockwold cum Wilton, Norfolk: Anglo-Saxon Books, 2006).

³⁴¹ Nicholas Culpeper, *The complete herbal, to which now is added, upwards of one hundred additional herbs* (London: Thomas Kelly, 1850).

³⁴² C. Anne Wilson, *Food and Drink in Britain: From the Stone Age to recent times* (Harmondsworth: Penguin, 1984), 46, 52. As late as the 1750s, capers retained novelty in categories of "new" ingredients recently available for purchase in markets.

³⁴³ See "A New Song of an Orange, to that excellent old tune of a pudding, &c." (1688) and "The Virtue of a Protestant Orange: Being the best Antidote against Roman Poyson," (c. 1689).

³⁴⁴ Sarah Lloyd, "Pleasing Spectacles and Elegant Dinners: Conviviality, Benevolence, and Charity Anniversaries in Eighteenth-Century London" *Journal of British Studies* 41, no. 1 (Jan., 2002): 23-57.

³⁴⁵ Patrick Lamb's *Royal Cookery* (London, 1710) listed a recipe for calves head roasted with oysters.

anonymous cook all presupposed the existence of men in uncounted numbers secretly communicating, organizing, feeding: quietly metastasizing off of the state's body.³⁴⁶

Taste no longer means what it once did. As physics and chemistry weakened its ability to mediate human relationships to nature, gastronomy, the “science of eating” that developed during the nineteenth century, turned the physical pleasures of the palate into vital participants in aesthetic activity. The ability to articulate complex aromas and flavors increasingly called attention to one's ability to reason and arbitrate, showcasing individual subjectivity over the collective solidarity created in communal meals. Only a chosen few, gastronomy's architect, Jean-Anthelme Brillat Savarin wrote in 1825, had been born with the sensory acuity to appreciate certain foods. The palate became a *bona fide* status symbol.

The cultural evolution of food-tasting rituals reflects an important shift in the status of taste. From the ancient Roman *praegustator* to the medieval French rite of *assayage*, food-tasting rituals have always organized relationships among men. Historically, the presence of a food taster was a mark of political power. The taster himself—usually a servant or a slave—was not exalted. Rather than assessing the sensory nuances of the meal, the taster assured the food's safety—instilling credence or confidence—before the food was ingested by someone more powerful.³⁴⁷ This practice is extremely rare today. Now, in an era of relative abundance and tightly regulated food safety standards, the public performance of tasting—from wine to coffee, beer to olive oil—has become a demonstration of embodied cultural expertise, practiced in the name of leisure rather than the preservation of political order.

Today's food critics make their livings off of their palates; the influential wine critic Robert Parker, for example, has a one million dollar insurance policy for his nose.³⁴⁸ Our modern-day exaltation of sensory expertise is nicely revealed in the recent documentary “Somm,” (2012) which describes the trials of four men vying for the title of master sommelier.³⁴⁹ In one scene, one of the contenders visits an ear, nose and throat before he flies to France to perform the blind tasting, the last and most notoriously

³⁴⁶ For dining's capacity to mobilizing symbols and traditions, see James Epstein, “Radical Dining, Toasting, and Symbolic Expression in Early Nineteenth-Century Lancashire: Rituals of Solidarity,” *Albion: a Quarterly Journal Concerned with British Studies* 20, no. 2 (Summer, 1988): 271-291. For the political stakes of feasting, see Newton Key, “The Political Culture and Political Rhetoric of County Feasts and Feast Sermons” in *Journal of British Studies* 33, no. 3 (1994): 223-226; Jason Kelly, “Riots, Revelries and Rumor: Libertinism and Masculine Association in Enlightenment London” in *Journal of British Studies* 44, no. 4 (2006): 759-795.

³⁴⁷ *Assayage* could also be done artificially by touching food with substances reputed to change color or bleed if poison present. Serpents' tongues, for example, were reputed to be especially good at tasting salt. See *The Rituals of Dinner: The Origins, Evolution, Eccentricities and Meaning of Table Manners* (New York: Grove Weidenfeld, 1991), 140.

³⁴⁸ See the 2004 documentary “Mondovino” directed by Jonathan Nossiter. See Steven Shapin, “Hedonistic Fruit Bombs,” *London Review of Books*, February 3, 2005.

³⁴⁹ This goes hand in hand with a broader transformation in the popular usage of the term sommelier. Once used to describe a wine server, the term has been coopted in recent years to denote a connoisseurial expertise; the term is increasingly being applied to products as diverse as whiskey, mustard, and even water; see Jeff Fiedler, “Why Is the Word ‘Sommelier’ Being Co-Opted?” *Punch*, February 10, 2015.

difficult part of the exam. One can study obscure appellations and service etiquette all you want. The tasting is the moment of truth.

We know now, of course, that there is a lot more that goes into sensory evaluations than individual sensory powers alone. The brain, it turns out, does most of the work. Still, the idea that the sense of taste is special—that it indicates a discerning and particularly sensitive disposition—persists. This is evident in the public fascination with supertasting. While, as explained above, the definition of the supertaster is actually quite narrow—it is thought to involve the ability to detect the molecule PROP and increased numbers of fungiform papillae—the public has drawn very different conclusions. “Many of the people who come into our lab have read about supertasting,” Dr. Nicole Garneau, a geneticist who runs a research lab at the Denver Natural History Museum recently told me. “And most of them think that they have it.”³⁵⁰

Social distinction is only one component of the much larger taste world that we live in today. Once basic requirements for nourishment are met and choice in food becomes available, taste becomes crucial to the design, marketing, and ultimate success of mass-produced industrial foods across the social spectrum.³⁵¹ International food corporations annually spend billions of dollars to fund sensory studies at labs such as the Monell Chemical Senses Center in Philadelphia. Here, sensory scientists examine the hedonic properties of all five senses in order to engineer composite flavor experiences guaranteed to prove irresistible to consumers. There are aroma wheels, hedonic indexes to quantify liking, and specific methods of sensory evaluation for almost every food industry. Locating the human “bliss points” for tastes such as sugar, salt, and fat is crucial to keeping customers loyal to a given product, perhaps too much so.³⁵² Indeed, over the past five years, activists have indicted these practices as insidious tactics to keep people physically hooked on harmful junk foods. For while our preferences can be determined by many things—class, culture, experience, and exposure—these preferences exist in a world that has been predetermined. The taste sensations that are perceptible to us today have survived a long period of forgetting, as dietary shifts gradually removed the need to be aware of certain chemicals in our food. Our tastes are thus exceptionally powerful records of our past. We are what we once ate.

³⁵⁰ Scientists have recently proposed replacing the term with *hypergeusia*, or abnormal sensitized taste.

³⁵¹ Sensory evaluations of food became an important specialty within the field of food technology during the 1940s, centering on two groups, one in food tech department at the University of California, and the other one in the army. See Bartoshuk, “History of Taste Research”; Steven Shapin, “The Sciences of Subjectivity,” *Social Studies of Science* 42, no. 2 (April, 2012):170-184.

³⁵² These concerns recently have been voiced in Michael Moss’s recent work of investigate journalism, *Salt Sugar Fat: How the Food Giants Hooked Us* (New York: Random House, 2013).

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