A PERFECT BODY OF KNOWLEDGE
TASTE AND DIGESTION IN EIGHTEENTH-CENTURY FRANCE

One afternoon in the mid-eighteenth century, the pharmacist Henri-Albert Gosse sat down to a fine, if somewhat light, dinner. He began with a soup of clarified beef bouillon and fresh herbs, accompanied by ordinary Parisian bread. Next Gosse consumed a plate of lean beef and spinach, more bread, and an Orléans red wine. After finishing his meal he consulted the time, and precisely thirty minutes Gosse later vomited forth the entire contents of his stomach. Then he began to sift carefully through the watery remnants of his former meal.[1] On successive days, Gosse repeated his experiment at progressively longer intervals: first waiting one hour, then two before vomiting. Again, he analyzed his vomitus and precisely recorded its color, consistency, odor, and flavor. Eventually Gosse broadened his experiments to analyze the digestion of specific ingredients, using his results to compile a table of foods organized according to their relative digestibility.[2]

Through his precisely ordered regurgitations, Gosse was trying to solve one of the eighteenth century's great mysteries: how did digestion work?[3] But as a cultural historian, I for one could not help wondering, "Who cooked all of these meals?" Despite Gosse's explicit scientific intentions, his experimental diet conformed perfectly to the latest trends in French cuisine. It included signature elements like bouillon, fresh herbs and vegetables, and lean meat. When Gosse later prepared his table of foods organized according to their relative digestibility, his findings largely recapitulated the contemporary gastronomic hierarchy of French cuisine, then holding sway from one end of Europe to the other.[4] The most fashionable foods of the mid-eighteenth century – for example, asparagus, artichokes, and veal – were invariably deemed by Gosse easiest to digest.[5] Less digestible but still manageable were less fashionable though still respectable salad greens, beets, carrots, and figs. Gosse labeled anything cooked in oil or butter as irredeemably indigestible, and here the pharmacist echoed the eighteenth century's new culinary emphasis on lighter and simpler preparations.[6] Gosse's experiments thus indicate that keys to understanding digestion lay not just in the act of eating but the specific foods involved and the ways in which they were combined and prepared.

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[1] J. Senebier, "Considérations," in *Experiences sur la digestion de l'homme et de différentes especes d'animaux*, Geneva, Barthelemi Chirol, 1784, p. cix.
[2] *Ibid., p. cxiv-cxviii.*
[3] Gosse was not alone even in his peculiar methodology, with at least one other investigator, a certain Reuss, also performing experimental vomiting. Ibid., p. cx.
[4] See, for example, P. Camporesi, *Exotic Brew: The Art of Living in the Age of Enlightenment*, trans. C. Woodall, Cambridge, Polity Press, 1994; S. Mennell, *All Manners of Food: Eating and Taste in England and France from the Middle Ages to the Present*, Oxford, Basil Blackwell, 1985.
[5] Senebier, "Considérations," p. cxvii-cxviii.
[6] Ibid., p. cxiv.

Indeed, the process of digestion was of keen interest not just to pharmacists, physicians and anatomists, but also to cooks, who had been exploring the connection between diet and health since the early eighteenth century. Beginning in the 1730s, decades before Gosse painstakingly spilled his guts, French cooks embarked on a new initiative to medicalize cuisine that centered on the process of digestion, an audacious effort that is all the more remarkable given cooks' station as domestic servants.[7] This article begins by surveying the landscape of diet and physiology that cooks faced at the turn of the eighteenth century. Next, it investigates how cooks sought to manipulate the interaction between diner and food by inserting themselves into the key bodily functions of taste and digestion. When cooks began to offer their own interpretations of digestion, and in particular of the relationship between diet and the body, they argued for an entirely new understanding of the interaction between the two. Cooks appropriated the language and science of digestion and turned them to their own ends, arguing that their labors constituted nothing less than an extension and ultimately an improvement of the body's functions.

Diet and Health – In the eighteenth century, diet and health were inseparable. No clear line differentiated cookbook from medical treatise, and popular wisdom and medical authority alike regarded cooking as an essentially medical practice.[8] Yet closeness did not necessarily translate into parity, and one historian has argued that medical cookery was traditionally considered the "poor cousin" of other, more prestigious medical fields.[9] Poor cousin though it may have been, medical cookery produced perennially best-selling texts: the Salerno School's medical aphorisms regarding dining, for example, appeared in no fewer than 240 editions between 1474 and 1846.[10] Based on the humoral models of bodily function then current, such texts tended to focus on the interaction between the innate or "natural" qualities of foods and the bodily constitutions of those who consumed them. Baldassare Pisanelli's work on dietetics, which first appeared in French translation in 1596, characterized alimentary consumption as "une continue transmutation du manger et du boire" required to sustain the human body.[11] Deprived of proper foods, the body would simply consume

[7] For a detailed investigation into the domestic service of cooking, see S. Takats, "Corrupting Cooks: Domestic Service and Expertise in Eighteenth-Century France," Ph.D. diss., University of Michigan, 2005.

[8] For discussion of the lack of a boundary between cooking and medicine, see J. Revel, *Culture and Cuisine: A Journey Through the History of Food*, trans. H.R. Lane, Garden City, N.Y., Doubleday, 1982, p. 118; L.L. Schiebinger, *The Mind Has No Sex? Women in the Origins of Modern Science*, Cambridge, Mass., Harvard University Press, 1989, p. 112. And so it should come as no surprise that Doctor Bordeu's first question regarding his patient in *D'Alembert's Dream* is "What did he eat for supper?" D. Diderot, *Rameau's Nephew and D'Alembert's Dream*, L. Tancock, Baltimore, Penguin Books, 1966, p. 165.

[9] Schiebinger, *The Mind Has No Sex?*, p. 113.

[10] D. Roche, *A History of Everyday Things: The Birth of Consumption in France, 1600-1800*, trans. B. Pearce, Cambridge, Cambridge University Press, 2000, p. 247.

[11] B. Pisanelli, *Traité de la nature des viandes et du boire, avec leurs vertus, vices, remèdes et histoires naturelles, utile et délectables à quiconque désire vivre en santé*, trans. A.D. Povillon, St. Omer, Charles Boscart, 1620.

itself like a lamp running dry: "defaillant l'huyle, la mesche brusle entierement."[12] Yet not all food was equal to the task of sustaining human life, and different fuels served different needs. Pisanelli categorized foods according to a number of variables, including humoral qualities, virtues and vices, and medicinal uses. Figs, for example, were "chaudes au premier degré, et humides au second."[13] Veal in contrast was "temperé en toutes ses qualitez."[14] Although primarily focused on discrete ingredients, Pisanelli extended his model to include a few compound items, approaching, if only cautiously, what might actually wind up on a diner's plate. Pisanelli's entry for sauce, for example, suggests that it aided digestion of meat and "trenche les flegmes qui sont en l'estomach."[15]

Pisanelli's system exerted a profound influence on medical cookery that persisted through the eighteenth century. Though French physicians proposed increasingly refined accounts of the interaction between alimentary consumption and health, Pisanelli's general idea of bodily replenishment remained the same. For example, in his 1702 treatise on the medical properties of food, the physician Louis Lémery echoed Pisanelli, arguing that food replenished the "dissipation continuelle" of the human body's "propre substance."[16] As late as 1790, the physician Jourdan Lecointe claimed that "[o]n ne peut sainement réparer les pertes continuelles du corps humain, qu'en lui offrant journellement les sucs les plus analogues à sa parfaite constitution, et ceux qui, par leur nature, sont les plus propres à le nourrir et à le fortifier."[17] Physicians continued to follow Pisanelli closely, arguing that alimentary consumption ought to conform to the specific bodily losses to be replaced.

Although they were generally satisfied with Pisanelli's characterization of bodily refreshment, later physicians did not always share his essentially agnostic attitude toward foods. According to Lémery, the same alimentary properties that nourished the body could also potentially destroy it: "si les aliments contribuent si necessairement à la conservation de notre santé et de notre vie, ils produisent aussi la pluspart des maladies ausquelles nous sommes exposez, et ils causent souvent la mort, par le mauvais usage qu'on en fait."[18] Moreover, physicians came to argue not just that some foods might be "bad"; rather, they suggested that cooks, in the process of preparing foods for consumption, might be

[12] Ibid., "Préface." "without oil, the wick burns away entirely."
[13] Ibid., p. 1. "hot in the first degree and humid in the second."
[14] Ibid., p. 97. "temperate in all its qualities."
[15] Ibid., p. 187. "cut the stomach's phlegm."
[16] L. Lémery, *Traité des aliments*, Paris, 1702, "Préface.". Lémery explicitly acknowledged Pisanelli's influence, noting that "Pisanelle dans son Traité des Aliments a tenu à peu prés le mesme ordre, et c'est de luy dont je l'ay emprunté."
[17] J. Lecointe, *La Cuisine de santé, ou moyens faciles et économiques de préparer toutes nos Productions Alimentaires de la maniere la plus délicate et la plus sanitaire d'après les nouvelles découvertes de la cuisine Françoise et Italienne*, Paris, Briand, 1790, p. 28-29. "[t]he continual losses of the human body can only be healthfully replenished by daily offering the juices the most analogous to its perfect constitution, which by their nature are the most proper to feed and fortify it."
[18] Lémery, *Traité des aliments*, "Préface." "if food contributes so necessarily to the conservation of our health and life, it also produces the majority of the illnesses to which we are exposed, and it often causes death by the poor use we make of it."

responsible for corrupting them. Cooks countered that they could prepare dishes designed "à conserver et à maintenir la santé en bon estat."[19] François Massialot's *Le Cuisinier roial et bourgeois* (1691) argued that "quand tous ce Ragoûts pourroient contribuer à la corruption du corps; n'est-il pas vrai aussi qu'ils servent à le soûtenir […] ?"[20]

The criticism of cooks as potential corrupters, however, effectively opened the door for cooks to make their own claims. By moving beyond the intrinsic qualities of foods and toward a sense that they could be manipulated, physicians provided cooks with the opportunity to assert their own dietetic expertise. Beginning in the 1730s, cooks began to contest physicians' domination of the discourse of food and heath. They rapidly appropriated the dietetic systems devised by physicians, creating their own tables and dictionaries of alimentary properties along with sophisticated taxonomies of cuisine. But cooks imagined more than just the appropriation and repackaging of existing medical wisdom. By redefining cooking as a largely scientific endeavor, cooks could claim to facilitate or even modify the chemical processes of the human body. In particular they focused their energies on the two physiological functions understood to regulate the body's needs: taste and digestion.

Taste – Just as in today's English language, "taste" in eighteenth-century France carried both figurative and literal meanings. On the one hand, it explicitly referred to the sensory function of detecting flavor. Through the organs of the tongue, throat, and even stomach, it was believed, flavors could penetrate into the body. On the other hand, "taste" also could signify a level of "discernment," "acuity of judgment," and "sensibility."[21] According to the *Encyclopédie*'s entry for "Taste," this duality was universal, existing "in all known languages."[22] But taste during the eighteenth century also carried another, medicalized meaning specific to the period, with taste and health invariably linked together. The cook François Marin claimed that his bouillon recipe's simplicity ensured its superiority "for taste and for health."[23] Physician Jourdan Lecointe proposed formulating cooking "by

[19] François-Pierre de La Varenne, *Le Cuisinier françois, enseignant la maniere de bien apprester, et assaisonner toutes sortes de viandes, grasses et maigres, legumes, Patisseries, etc. Reveu, corrigé, et augmenté d'un traitté de confitures seiches et liquides, et autres delicatesses de bouche. Ensemble d'une table alphabetique des matieres qui sont traittées dans tout le livre* (Paris: Pierre David, 1652), "Le Libraire au Lecteur." "to conserve and maintain the good state of health."

[20] F. Massialot, *Le Cuisinier roial et bourgeois, qui apprend à ordonner toute sorte de repas, et la meilleure manière des ragoûts les plus à la mode et les plus exquis. Ouvrage très-utile dans les familles, et singulièrement nécessaire à tous maîtres d'hôtels, et ecuïers de cuisine*, Paris, Charles de Sercy, 1691. "though all these dishes could contribute to the corruption of the body, is it not also true that they serve to sustain it?"

[21] "Goust," in *Dictionnaire de l'Académie françoise, dedié au Roy*, 1, Paris, Jean-Baptiste Coignard, 1694.

[22] L. de Jaucourt, "Goût," in *Encyclopédie, ou Dictionnaire raisonné des sciences, des arts et des métiers, par une Société de Gens de lettres*, D. Diderot and J.L.R. D'Alembert, Paris, Briasson, 1751.

[23] F. Marin, *Les Dons de Comus, ou les délices de la table. Ouvrage non-seulement utile aux Officiers de Bouche pour ce qui concerne leur art, mais principalement à l'usage des personnes qui sont curieuses de sçavoir donner à manger, et d'être servies délicatement, tant en gras qu'en maigre, suivant les saisons, et dans le goût le plus nouveau*, Paris, Prault, fils, 1739, p. 152.

taste and by reason of health."[24] And quintessential observer of daily life Louis-Sébastien Mercier concurred that cuisine should be subordinated to the masters' taste and health.[25]

Physicians argued that a diner's taste preferences reflected the body's present physiological needs. According to Louis Lémery, appetite "contributes to health" because it leads diners "to seek the foods [they] need."[26] By making the appropriate foods taste best at just the right moment, appetite regulated alimentary consumption. Appetite, therefore, could substitute for the skills of the cook, and vice versa. This understanding of taste and appetite was hardly confined to medical theory, and indeed commentators like Louis-Sébastien Mercier acknowledged it as a commonplace, noting, "On nous répète sans cesse en vers et en prose, que l'appétit est le plus parfait cuisinier."[27] Cooks applauded this characterization of appetite, with one claiming that "le sens du goût est un présent qu'elle [la nature] nous a fait."[28]

Yet however perfectly taste, appetite, and diet might theoretically function, a diner's sense of taste could on occasion misfire, leading him or her to consume the wrong foods. According to the physician Nicolas Andry, "tastes vary, and it is ordinarily by taste rather than by principles that we judge the good and bad qualities of a food in the world. Each claims that what he likes the best is the most healthful, and thus arrives this variety of opinions on the nature of each food."[29] Abandoning any effort to pin down potentially fickle taste, Andry argued that doctors followed "more reliable rules." Because in principle taste ought to have compelled diners to eat well, explaining disgust for otherwise salubrious foods constituted one of the great puzzles of contemporary medicine. Lémery claimed that in some cases a bad experience with a poorly prepared meal might leave "une trace dans le cerveau" which would henceforth violently remind diners of the offending meal.[30] As a consequence one might shun otherwise healthful foods. Equally disastrous, under certain extreme conditions people were driven to eat things wholly inappropriate for consumption, like charcoal, plaster, and soil.[31] Because appetite clearly did not always function properly, doctors admitted that in some situations it needed to be stimulated or dampened.

Indeed, physicians claimed that nourishing meals could only come from "la main d'un bon physicien, et d'un habile médecin, parfaitement instruits de l'hygiène, c'est-à-dire, de cette partie de médecine,

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[24] J. Lecointe, *La Pâtisserie de santé, ou moyens faciles et économiques de préparer tous les genres de pâtisseries de la manière la plus délicate et la plus salutaire*, Paris, Briand, 1792, p. 23.
[25] *Ibid., p. 130.*
[26] Lémery, *Traité des aliments*., "Préface."
[27] L. Mercier, *Tableau de Paris*, Amsterdam, 1782, vol. 11, p. 230. "It is ceaselessly repeated to us in verse and in prose that appetite is the most perfect cook."
[28] Menon, *La Cuisine et office de santé propre à ceux qui vivent avec œconomie et régime*, Paris, Le Clerc, 1758, p. 8. "the sense of taste is a gift [nature] has made for us."
[29] N. Andry, *Traité des alimens de caresme*, Paris, 1713, "Avertissement."
[30] Lémery, *Traité des aliments*, "Préface." "traces in the brain"
[31] *Ibid.* Lémery blamed the "retention of menstrual humors" for the majority of such cases.

qui traite des alimens."[32] But even as physicians asserted their authority over diet, cooks during the eighteenth century began to claim their own expertise over the human body. Yet only physicians, never cooks, were to be trusted with such manipulations. Physician George Cheyne suggested that "a doctor can attempt something to revive taste which has been lost as a result of sickness."[33] The abbé Collet warned cooks tending to sick people that "en tâchant de réveiller leur appétit, ils ne doivent point excéder le régime prescrit par le Médecin."[34]

As a key component of sensibility, taste held great potential for wreaking havoc on the mind and body. As one scholar has suggested, "[Even] as they exalted sensibility, eighteenth-century authors also expressed a deep anxiety about it: moralists and physicians alike viewed sensibility as a potentially dangerous quality that could lead to emotional excess, moral degeneracy, and physical debilitation. At the height of its conceptual popularity, therefore, sensibility was situated somewhere between enlightenment and pathology."[35] Taste, like all sensibility, functioned at the nexus of "the physical and the moral realms."[36] Because taste was at the same time so important and so malleable, it posed immense dangers in the wrong hands.

Although doctors were quite sure of taste's role in the regulation of consumption, the diversity of the terminology used to describe taste's sensory organs suggests considerable uncertainty about exactly how it functioned. To describe the tongue's structure, for example, medical texts used various terms ranging from "fibrils" or "nervous tufts" to "glands," "protrusions," "pyramids," "mushrooms," and "nipples."[37]

Perhaps because of the uncertainty surrounding the operation of taste, doctors tended to avoid prescribing general diets.[38] Pisanelli had suggested that "la varieté des complexions, des ages, des regions, et des saisons requiert qu'il [le nourrissement] soit diversement administré," and most physicians heeded his advice, which certainly provided a comfortable promise of job

[32] P. Hecquet, *Traité des dispenses du carême*, Paris, Fréderic Léonard, 1710, vol. 1, p. 444. "the hand of a good physician and a skilled doctor, perfectly instructed in hygiene, that is to say this part of medicine that deals with food."
[33] G. Cheyne, *L'Art de conserver la santé des personnes valétudinaires et de leur prolonger la vie, traduite du latin de M. Cheyne, avec des remarques intéressantes*, Paris, Laurent-Charles D'Houry, fils, 1755, p. 86.
[34] P. Collet, *Instructions et prières à l'usage des domestiques*, Paris, Debure l'aîné, Herissant, Herissant, Tilliard, 1758, p. 309. "in trying to wake their appetite, they must not exceed the diet prescribed by the doctor."
[35] A.C. Vila, *Enlightenment and Pathology: Sensibility in the Literature and Medicine of Eighteenth-century France*, Baltimore, Johns Hopkins University Press, 1998, p. 1.
[36] *Ibid., p. 2.*
[37] Lémery, *Traité des aliments*, "Préface"; Lecointe, *La Cuisine de santé*; "Mamelon," in *Dictionnaire de l'Académie françoise, dedié au Roy*, Paris, 1694; "Papille," in *Dictionnaire de l'Académie française*, 6, Paris, 1835; de Jaucourt, "Goût.".
[38] One notable exception was Tissot's recommended diet for men of letters. S. Tissot, *De la santé des gens de lettres*, Paris, François Didot, 1768, p. 25-26, 151-176. Particularly alarming for the hungry intellectual was his assertion that thinking too much ruins digestion.

security.[39] But by later abdicating this role, physicians left open the opportunity for cooks to use taste to control diet. Cooks further exploited uncertainty about taste by eagerly appropriating its anatomical jargon. Menon, for example, analyzed the effect of overly strong flavors on the "*papilles*" and the "fibers" of the tongue.[40] By exploiting their nearly exclusive access to one of the body's sensory organs, cooks proposed to influence metaphysical taste as well. Stimulating the anatomy of the tongue was tantamount to stimulating the spirit. According to one cookbook:

> Comme le goût corporel et le goût spirituel dépendent également de la conformation des fibres et des organes destinés à operer leurs diverses sensations, la finesse de ces deux sortes de goûts, prouve assurément la finesse des organes qui leur sont propres, et par consequent on peut, ce me semble, remonter du goût corporel à un principe très délicat qui lui est commun en quelque façon avec le goût purement spirituel.[41]

Commentators like Mercier delighted in such claims, and in the interest taken by cooks in the tongue's anatomy. He claimed that the best cooks exercised a taste "susceptible de saisir toutes les nuances des papilles nerveuses."[42] Mercier praised such a cook, who "interrogera toutes les houpes nerveuses, et toutes les merveilles cachées d'un goût profond paroîtront par l'adresse des cuisiniers."[43]

Just as the anatomy of taste was uncertain, so taste was similarly mysterious in its more metaphorical sense, that is, of cultural sensibility. Some contended that taste was essentially innate. The physician Lecointe argued that cooks could never fully imitate the taste that came only with good breeding. He claimed that "dames de distinction" and "cavaliers" could, guided by their taste alone, cook more successfully than cooks.[44] Mercier, in contrast, suggested that taste could be copied or imitated, counseling each cook to undertake "[u]ne étude assidue du goût de son maître, dont le palais doit devenir le sien."[45] He contended also that taste could be improved through experience, decrying the "novice palate" that had not yet experienced the era's new cuisine.[46]

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[39] Pisanelli, *Traité de la nature des viandes et du boire*, "Préface." "[t]he variety of complexions, ages, regions, and seasons requires that [nourishment] be administered diversely."
[40] Menon, *La Science du maître d'hôtel cuisinier, avec des observations sur la connoissance et proprietés des alimens*, Paris, Paulus-du-Mesnil, 1749, p. viii-ix.
[41] Marin, *Les Dons de Comus*, p. xxvi-xxvii. "Bodily taste and spiritual taste depend equally on the configuration of the fibers and organs destined to produce their diverse sensations. The acuteness of these two sorts of tastes assuredly proves the acuteness of the organs which correspond to them, and consequently one can, it seems to me, ascend from bodily taste to a very delicate principle which is shared in some way with purely spiritual taste."
[42] Mercier, *Tableau de Paris*, vol. 12, p. 316. "capable of seizing all the nuances of the nervous *papilles*."
[43] Ibid., vol. 12, p. 318. "interrogate every nervous fiber and all the hidden marvels of a profound taste will appear by cooks' address."
[44] Lecointe, *La Pâtisserie de santé*, p. 19.
[45] Mercier, *Tableau de Paris*, vol. 12, p. 312. "An assiduous study of his master's taste, whose palate should become his own."
[46] Ibid., vol. 12, p. 318-319.

Cooks proposed a delicate balancing act: they would appease taste without altering it. One cookbook claimed that readers would find inside nothing but "mets *naturels*, *simples*, recommandables par leurs salubrité, qui flattent *innocemment* le gout, qui reveillent l'appétit, sans l'*irriter*, et dont la *benigne* saveur réjouisse l'organe sans alterer la santé."[47] The cook Menon claimed that he could assemble a package of flavors uniquely suited to each diner. For someone with a dull palate, for example, he suggested "un sel dominant, proportionné à l'affaissement des fibres de leur organe, un suc acide et corrosif qui en altére le tissu, pour se fair sentir."[48] For the delicate and sensitive diner, he would compose an "harmonie des saveurs," stimulating the tongue in the same way a musician would try to please the ear.[49] Indeed, the distillation manual *La Chimie du goût et de l'odorat* proposed an order of flavors analogous to the musical scale: "Sept tons pleins font la base fondamentale de la Musique sonore; pareil nombre des saveurs primitives font la base de la Musique savoureuse."[50]

But if cooks could play the tongue like a musical instrument, how did that that affect the body's own sense of what it ought to consume? If foods were made to taste good, did their disagreeable properties remain unchanged? For example, one cook admitted that capers "ont naturellement un petit goût désagréable," but he also claimed that it could be eliminated through careful preparation (with salt and vinegar).[51] If taste were meant to indicate which foods ought to be consumed, what were the consequences of interfering with that sensibility?

Digestion – If the sense of taste acted as the gatekeeper to what entered diners' mouths, then digestion determined what ultimately permeated into the body. And like taste, digestion had broad social and cultural implications. It was commonplace, for example, to assert that peasants and the poor enjoyed significantly more robust digestive systems. The article "Potato" from the *Encyclopédie* noted that the tuber was well-known to cause intestinal gas, though this effect was considered to pose no serious problem for those most likely to consume potatoes. "[M]ais qu'est-ce que des vents," Venel asked, "pour les organes vigoureux des paysans & des manoeuvres?"[52] In contrast to these rugged peasants, men of letters reputedly had more fragile stomachs, with the implicit suggestion that those who labored in the absence of significant mental activity could digest just about anything without suffering

[47] Menon, *La Cuisine et office de santé*, p. 9. Italics mine. "*natural* and *simple* dishes, commendable by their salubrity, which *innocently* flatter taste, rouse the appetite without *irritating* it, and whose *benign* flavor renders the organs joyous without altering health."

[48] Menon, *La Science du maître d'hôtel cuisinier*, p. ix. "a dominant salt in proportion to the collapse of their organ's fibers and an acidic and corrosive juice which by altering the tissue will make it felt."

[49] *Ibid., p. vi-viii.* "harmony of flavors"

[50] P. Poncelet, *Chimie du goût et de l'odorat*, Paris, P.G. Le Mercier, 1755, p. xix. "Seven full notes comprise the fundamental base of sonic music; the same number of basic flavors comprise the base of savory music."

[51] Menon, *La Cuisine et office de santé*, p. 81. "naturally have a bit of a disagreeable taste"

[52] G. Venel, "Pomme de terre, Topinambour, Batate," in *Encyclopédie, ou Dictionnaire raisonné des sciences, des arts et des métiers, par une Société de Gens de lettres*, D. Diderot and J.L.R. d'Alembert, Paris, Briasson, 1751, http://artfl.uchicago.edu/cgi-bin/philologic31/getobject.pl?c.96:10:14.encyclopedie0507. "What does gas matter for the vigorous organs of peasants and workers?" Gosse incidentally found potatoes to be rather digestible. Senebier, "Considérations," p. cxvii-cxviii.

any particular distress.[53] Digestion even held religious significance, as the heated debate over the medical impact of a periodically meatless diet reveals.[54]

Despite the general interest in digestion, its operation, like that of taste, remained mysterious. Explanations ranged widely, with some anatomists speculating that a sort of crushing and rotting action dissolved ingested foods or that foods simply digested themselves.[55] One theory even maintained that armies of worms performed digestion.[56] But aside from these admittedly fringe theories, medical authorities typically identified the process of digestion as analogous to cooking. Daniel Roche explains, "For a long time, the stomach was thought of as sort of a pot that, boiling with internal heat, cooked the substances one had ingested."[57] According to Venel's article on digestion in the *Encyclopédie*, such an explanation owed its origins to Hippocrates.[58] Despite these ancient origins, the cooking model of digestion continued to resonate during the eighteenth century, with physicians frequently describing the process of digestion as *coction*, a word which could signify either "cooking" or "digestion."[59] Heated by the body and its organs, food was imagined to transform from the raw to the cooked.

Various mechanical and chemical theories of animal physiology inflected contemporary understanding of digestion, but the underlying notion of cooking remained constant. For example, mechanistic models of the body appeared in the late seventeenth century and for a brief time dominated scientific understanding of human anatomy. Most influential of the mechanistic school was the model of physician Herman Boerhaave, who proposed a body that was effectively a hydraulic machine, with ever smaller and more intricate networks of pipes at the tissue level.[60] Within just a few decades, however, new theories of digestion began to challenge mechanistic models. Some physicians suggested that digestion involved fermentation, a sort of "yeast" which decomposed foods. Philippe Hecquet's 1710 *De la digestion des alimens* provoked a firestorm of controversy when he suggested that digestion was effectively a chemical trituration that dissolved ingested foods into ever smaller components. But even in these newer models, the metaphor of cooking retained its place. When Raymond Vieussens, physician and member of the Académie royale des sciences, published an article on digestion as fermentation, he claimed that the stomach "*cui*[t] [les aliments] par l'action de

[53] Tissot, *De la santé des gens de lettres*, p. 25-26.
[54] For competing views on the salubrity of a meatless diet, see Hecquet, *Traité des dispenses du carême*. and Andry, *Traité des alimens de caresme*.
[55] P. Hecquet, *De la digestion des alimens, pour montrer qu'elle ne se fait pas par le moyen d'un levain, mais par celui de la trituration ou du broyement*, Paris, François Fournier, 1710, p. 11.
[56] G. Venel, "Digestion," in *Encyclopédie, ou Dictionnaire raisonné des sciences, des arts et des métiers, par une Société de Gens de lettres*, D. Diderot and J.L.R. D'Alembert, Paris, Briasson, 1751.
[57] Roche, *A History of Everyday Things*, p. 247.
[58] Venel, "Digestion."
[59] The word derives from the Latin "coctio," which also holds the same dual sense.
[60] Given this chapter's opening tale of vomiting, it is worth noting that Boerhaave was the first to describe the tearing of the esophagus during violent vomiting, known today as Boerhaave's Syndrome.

son propre levain." In response to a competing mechanical theory, Vieussens responded that in such a model "l'estomac ne sauroit agir par lui-même, ni par les parties de son voisinage, de maniere à pouvoir broyer et reduire en une espece de bouillie, les alimens qu'il reçoit dans sa cavité"[61] No single model fully displaced its competitors, and the *Encyclopédie* described the situation at mid-century as "a sort of concordance of all the systems" with chemistry largely dominating the discourse.[62] Writing in 1757, physician Anne-Charles Lorry proposed that digestion involved a number of components proposed by earlier theorists, each of which had its analog in the kitchen: dissolvents, movement and heat, protection against outside elements; and a natural pressure which extracts the useful elements from the crude.[63]

Despite the ascendancy of chemical explanations of digestion, the notion of digestion as cooking failed to disappear. In his *Traité des aliments*, Louis Lémery used *coction* interchangeably for "cooking" and "digestion," at one point labeling the "preparation of foods" undertaken by the cook, involving seasoning, frying, roasting, or boiling as *coction*; at another point he noted that the wrong foods could interrupt the *coction* of the stomach, whose operation he proceeded to detail.[64] Writing near the end of the century, the physician Jourdan Lecointe used *coction* primarily to denote cooking, but referred to undigested food as "raw," thus retaining the sense that the stomach somehow cooked food.[65] Mercier on the other hand preferred the digestive sense of the word when he suggested that the best cooks now prepared foods for a "laudable *coction*" without the "crude parts" that would otherwise "fatigue the stomach."[66] One description of the usage of preserved foods noted that specialized *coction* – here cooking – would "render them more digestible."[67]

Cooking had thus long supplied a useful metaphor for digestion, but in the mid-eighteenth century cooks began to turn this relationship on its head, exploiting current medical and chemical theory to explain their work in the kitchen. In 1739 the cookbook *Les Dons de Comus* asked its readers: "quel est dans le fond l'objet du Cuisinier, si ce n'est pas de faciliter la digestion par l'apprêt et la cuisson des viandes? d'aider les fonctions de l'estomach en excitant ses facultés, et souvent de changer les alimens solides en une espece de chyle

[61] Hecquet, *De la digestion des alimens*, p. vii. Emphasis mine. "cooks [food] through the action of its own yeast." "the stomach would not know how to act on its own nor by its neighboring parts how to be able to grind and reduce into a form of broth the foods that it receives in its cavity."
[62] Venel, "Digestion."
[63] A. Lorry, *Essai sur les alimens, pour servir de commentaire aux livres diététiques d'Hippocrate*, Paris, Vincent, 1757, p. 144.
[64] Lémery, *Traité des aliments*, "Préface."
[65] Lecointe, *La Pâtisserie de santé*, p. 17, 32-33, 39.
[66] Mercier, *Tableau de Paris*, vol. 12, p. 312.
[67] P. Macquer, *Dictionnaire raisonné universel des arts et métiers*, Paris, P. Fr. Didot jeune, 1773, p. 593.

artificiel, comme on le voit par les extraits et les restaurans."[68] Three years later, the book's sequel *La Suite des dons de Comus* reiterated this point, asking "what is the function of the cook?"

> Si ce n'est de dégager ces sucs de leur viscosité naturelle ou des particules qui les enveloppent, par la cuisson, les bains, les extraits, pour les faire passer dans le sang avec moins d'embarras? si ce n'est d'aider par le mélange de sucs plus doux ou plus actifs, selon le besoin, les facultez digestives de l'estomac? si ce n'est encore à délayer les sels qui rendent ces sucs corrosifs, et à corriger leurs acides par des ingrédiens convenable?[69]

La Suite des dons de Comus openly borrowed medical language, citing, for example, Philippe Hecquet's treatise on digestion and claiming that digestion is a "sort of elixation."[70] Cooks argued that their work could actually reinforce the human body's otherwise degraded digestive capacities: one cookbook suggested that a human being needed to cook in order to eat meat because "[i]l n'a ni bec, ni griffes, ni dents propres à ce genre de vie carnassiére, il n'a point l'estomac assez chaud pour digerer comme les loups."[71] While initially chided as pretentious, such claims were soon adopted by other cooks.[72] In 1749, Menon argued that the ideal cook "subtilise les parties grossieres des alimens" in order to separate the coarse from the refined, in a nod toward corpuscular mechanics. Moreover, "elle les perfectionne, les épure, et les spiritualise en quelque sorte." The dishes that resulted "doivent donc porter dans le sang une plus grande abondance d'esprits plus purs et plus déliés."[73] In response to these claims the *Journal de Trévoux* conceded that dishes prepared in the latest fashion might undergo "une digestion anticipée" and thus "entre plus aisément dans le sang et dans les vaisseaux."[74] Mercier fully agreed that cooks had effectively seized control over the process of digestion, arguing that their refined cooking "ne laisse point de graisse dans les fluides, et ses épices mêlées artistement donnent du ton à l'estomac et en facilitent les fonctions, suivant que les denrées sont plus ou moins

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[68] Marin, *Les Dons de Comus*, p. xxiii-xxiv. "then what is the driving purpose of the cook if not to facilitate digestion by the preparation and cooking of meats? To aid the stomach's functions by exciting its faculties and often to change solid food into a sort of artificial chyle, like we see in extracts and restoratives."

[69] F. Marin, *La Suite des dons de Comus*, Paris, La veuve Pissot, 1742, p. xviii. "If it is not to detach these juices from their natural viscosity or the particles that envelop them by cooking, baths, and extracts so that they pass into the blood with less difficulty? If it is not to help the stomach's digestive faculties by mixture of the mildest or most active juices, according to need? If it is not also to thin the salts that render these juices corrosive and to correct their acids with appropriate ingredients?"

[70] Ibid., p. xviii-xix.

[71] Ibid., p. viii. "He has neither the beak, the claws, nor the teeth appropriate for this type of carnivorous lifestyle, and unlike wolves, his stomach is not hot enough to digest."

[72] "Lettre d'un pâtissier anglois, au nouveau cuisinier françois," in *Le Cuisinier gascon*, Amsterdam, 1747, 196-231.

[73] Menon, *La Science du maître d'hôtel cuisinier*, p. xxii. "subtilizes the crude parts of food" "it perfects, purifies, and in some way spiritualizes juices." "must therefore carry into the blood a great abundance of purer and finer spirits."

[74] "La Science du Maître d'Hôtel Cuisinier avec des Observations sur la connoissance et les propriétés des Alimens. A Paris, au Palais, chez Paulus Dumesnil, Imprimeur Libraire Grand Salle au Pilier des Consultations, au Lion d'or 1749," *Journal de Trévoux, ou mémoires pour servir à l'histoire des sciences et des arts* XLIX, (1749): 1987-1996. "an anticipated digestion", and "enter more easily into the blood and vessels."

aisées à être digérées."[75] Cooks thus convincingly externalized and appropriated the process of digestion.

But if cooks could argue that their kitchen "chemistry" could facilitate digestion, why did they not make similar claims regarding the heating or other mechanical manipulation of foods when analogous digestive models were current? I would suggest that cooks seized on chemical models because chemistry, unlike corpuscular mechanics, involved a key, new intellectual element. And it was this intellectual element that cooks truly coveted, since it was central to Enlightenment notions of professional expertise, of the joining of theory (where cooks had quite a lot to prove) with practice (where they had a great deal of experience). "La Cuisine moderne est une espece de Chymie," announced *Les Dons de Comus* in 1739.[76] *La Suite des dons de Comus*, added, "Cette espece d'Analise chymique est en effet tout l'objet de notre art."[77] Cooks' assertion that cooking now constituted a chemistry rapidly gained currency, and by mid-century few challenged the claim.[78] In his article "Encyclopédie," Diderot agreed, noting, ""quant à notre cuisine, […] on ne peut lui disputer d'être une branche importante de la Chimie."[79] Venel's *Encyclopédie* article on chemistry included a discussion of cooking, noting that "Le *panificium* est certainement du ressort de la *Chimie*; la cuisine est une espece de *Chimie* domestique."[80] The argument that cooking had entered the world of science convinced the organizer of a 1771 estate sale to list four recent cookbooks under the heading "Arts and Sciences. Medicine. Chemistry."[81]

The fact that cooks laid claim to chemistry is all the more remarkable given the unique importance ascribed to the emerging science. For medical practitioners, knowledge of chemistry operated as a sign of expertise. One surgeon seeking employment declared that he was "up to date on chemistry."[82] A surgery student claimed that he had practiced chemistry for a "long time" and "worked in the laboratories of the most famous chemists."[83] Around the same time, pharmacists began to use a

[75] Mercier, *Tableau de Paris*, vol. 11, p. 231. "leaves no fat at all in its fluids, and its artfully mixed spices tone the stomach and facilitate its function so that foods are more or less easy to digest."
[76] Marin, *Les Dons de Comus*, p. xx. "*La cuisine moderne* is a form of chemistry."
[77] Marin, *La Suite des dons de Comus*, p. xx-xxi. "In effect this chemical analysis is the whole object of our art."
[78] Londa Schiebinger describes a rather different situation in England, where she argues chemistry actually *disappeared* from cookbooks by the 1750s. Schiebinger, *The Mind Has No Sex?*, p. 115. French cookbooks, in contrast did not begin to embrace chemistry until the 1730s and continued to do so through the eighteenth century.
[79] D. Diderot, "Encyclopédie." "as for our cuisine, it cannot be disputed that it is an important branch of chemistry."
[80] G. Venel, "Chymie ou chimie," in *Encyclopédie, ou Dictionnaire raisonné des sciences, des arts et des métiers*, D. Diderot and J.L.R. d'Alembert, Paris, Briasson, 1751, http://artfl.uchicago.edu/cgi-bin/philologic31/getobject.pl?c.19:210.encyclopedie0507. "*Panificium* [breadmaking] is certainly in the domain of *chemistry*: cooking is a type of domestic *chemistry*."
[81] *Catalogue des livres de feu M. Crosat, Baron de Thiers, Brigadier des Armées du Roi, Lieutenant Général pour Sa Majesté de la Province de Champagne au Département de Reims, et Commandant en ladite Province*, Paris, Saillant et Nyon, 1771, p. 50. Indeed, today the Bibliothèque nationale de France categorizes gastronomy along with astronomy, chemistry, engineering, and medicine.
[82] *Petites affiches*, 4 January 1787.
[83] *Petites affiches*, 30 January 1791.

working knowledge of chemistry to elevate themselves above ordinary *apothicaires*/*epiciers*; pharmacists themselves were then further divided when self-proclaimed "chemists" eschewed pharmacy.[84] Chemistry was regarded as the quintessentially intellectual pursuit of the eighteenth century, what physics had been to the seventeenth century. The appelation of "chemist" conveyed novel scientific authority: one doctor labeled himself as a "physician-chemist."[85] By claiming to harness chemical processes, cooks thus exploited the growing popular appeal of chemistry. When a new edition of *La Chimie du goût et de l'odorat* ("The Chemistry of Taste and Smell") appeared in 1774, a review declared the work "attractive by its subject."[86] Apothecaries and other self-styled scientists carried out public demonstrations of chemical cooking in order to drum up business. One advertisement for such an event promised experiments on eggs and milk, blurring the line between cooking and chemistry, while Guillaume-François Rouelle, apothecary and member of the Académie royale des sciences, offered a chemistry course featuring "an analysis of vegetable, animal, and mineral substances."[87]

Even kitchen utensils increasingly overlapped with the tools of chemistry and medicine. One merchant promised that at his shop one could find "everything concerning cooking, pastrymaking, and chemistry."[88] Likewise, a certain Delaporte sold "chemistry vessels" along with porcelain, ceramics, glass bottles, and corks.[89] As early as 1682, the physicist Denis Papin introduced his "Machine", essentially a pressure cooker which could render "la Vache la plus vieille & la plus dure […] aussi tendre & d'aussi bon goust que la viande la mieux choisie."[90] A century later, cooks, not physicists, were offering their own scientific stoves. In 1781 a certain Nivert designed his own contraption based on the principles of "cuisine chimique," promising that it would give "une idée de l'action de l'eau combinée avec le feu sur les alimens"[91] The cook highlighted his device's lineage, remarking that "Si cet appareil étoit hermétiquement fermé, ce seroit la machine de Papin."[92] Cooks' newfound facility with transformative cooking alarmed some observers, with Louis-Sébastien

[84] J. Simon, *Chemistry, Pharmacy and Revolution in France, 1777-1809*, Aldershot, England, Ashgate Pub. Co, 2005.
[85] *Petites affiches*, 21 January 1787.
[86] *Affiches de Province*, 1 June 1774.
[87] *Petites affiches*, 8 November 1751 and 2 January 1755.
[88] *Petites affiches*, 13 December 1773.
[89] BNF MSS Joly de Fleury 2490, p. 187 (1772).
[90] Papin, *La Maniere d'amolir les os, et de faire cuire toute sortes de viandes en fort peu de temps, et à peu de frais. Avec un description de la machine dont il se faut servir pour cét effet, ses proprietez et ses usages, confirmez par plusieurs experiences*, Paris, 1682, "Préface.". "the oldest and toughest cow [...] as tender and good-tasting as the best chosen meat." The *Encyclopédie* dubbed Papin's device a *digesteur*. D. Diderot and J.L.R. d'Alembert, ed., "Digesteur," in *Encyclopédie, ou Dictionnaire raisonné des sciences, des arts et des métiers*, Paris, Briasson, 1751, http://artfl.uchicago.edu/cgi-bin/philologic31/getobject.pl?c.31:16.encyclopedie0507.
[91] L. Nivert, *Nouveau fourneaux économiques et portatifs, extrait de la Gazette de santé, du dimanche 1er octobre 1780, no. 40.*, Paris, Veuve Ballard et fils, 1781. Nivert also advertised his device in the provinces. See *Affiches du Dauphiné*, 10 November 1780. Nivert's "chemical cooking" would provide "an idea of the action of water and fire on foods."
[92] "If this device were hermetically sealed, it would be Papin's machine."

Mercier recounting the tale of a cook serving his own leather hose to his master "après l'avoir fait bouillir et macérer dans les coulis les plus appétissans."[93]

If doctors had once described digestion as a sort of cooking, now cooks claimed that their culinary efforts constituted a form of digestion. Cooks effectively twisted medical discourse in their favor, arguing that they could improve diners' health through scientifically informed cooking. By exploiting contemporary fascination with the body, cooks encouraged an entirely new way of viewing taste and digestion as extended bodily functions that began in the kitchen and that depended heavily on the cook's labors, for better or worse. In particular, they gravitated toward digestive science's more intellectual elements, which served the larger project of reinventing cooking as an occupation of the mind, not just the hands. More important, the case of cooks shows that the medicalized body was not just an elite pursuit. Indeed, cooks opened a significant new space for non-elites to assert expert authority over the body.

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[93] Mercier, *Tableau de Paris*, vol. 5, p. 82-83. "after boiling and macerating them in the most appetizing sauces."