



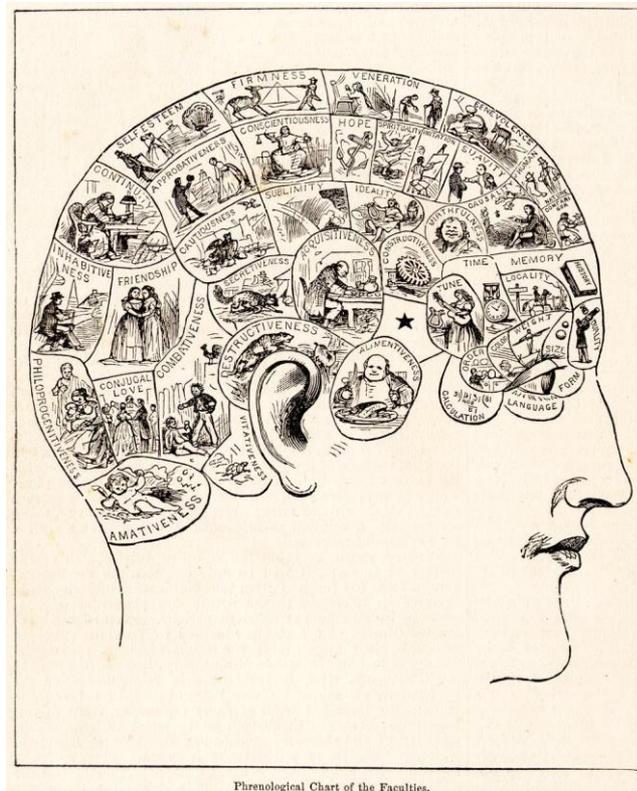
GRESHAM COLLEGE

Exploring the Body: The History of The Stomach

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In 1841, the satirical magazine Punch was enjoying making fun of phrenology, a pseudo-science that was incredibly popular in Britain (and, indeed, much of Europe) at the time. According to its main proponents – Johann Gaspar Spurzheim and Franz Joseph Gall – the brain was the organ of the mind and could be divided into Faculties.



These physical regions of the brain mapped onto a person's character. By measuring the human skull, phrenologists could determine a person's personality, talents, and mental capacities. As Punch joked: "Should any individual acquainted with the science of phrenology chance to get into what is vulgarly termed a "row", and being withal of a meek and lamb-like disposition, which prompts him rather to trust to his heels than to his fists, he has only to excite his organ of combativeness by scratching vigorously behind his ear, and he will forthwith become bold as a lion, valiant as a game-cock – in short, a very lad of whacks, ready to fight the devil if he dared him."

Punch was determined to take the "science" of phrenology much further. If it was possible to "divide the brain into distinct faculties", it joked, why not the stomach? After all, if a particular part of the brain is appropriated for the faculty of time, another for that of wit, and so on, is it not reasonable to suppose that there is a certain portion of the stomach appropriated to the faculty of roast beef, another for that of devilled kidney, and so forth? Thus, "stomachology" was founded.



PUNCH'S STOMACHOLOGY.



Punch divided the stomach into four “Faculties”. It called the first the “Sustaining Faculty”, which dealt with foods that were essential to life, such as bread, beef, and mutton. This Faculty existed in every stomach although it was most active amongst the “lower classes”. The second was the Faculty of “Affections”, which included cravings for more delicate nutrients, such as fish, game, and pastry. The third Faculty was that of “Superior Sentiments”, which directed stomachs “to the investigation of sauces, French cookery, and other abstruse subjects”. The final Faculty was “Intellectual Taste” or the faculty of reasoning and reflecting upon the abstract qualities of olives, and Italian salads, of comparing Stilton with Gruyère, and tracing the relation subsisting between turtle-punch and headache.

This was the pinnacle of all the Faculties: the venerable “metaphysics of the stomach”.

Punch contended that stomachology, like phrenology, was a practical science as much as anything else. It provided adherents with a “valuable indicator of the human character” and would be helpful for bachelors choosing their wives as well as to voters selecting their Member of Parliament. Indeed, the author looked forward to a future when every organ in the body would be “mapped out... with faculties, feelings, propensities, and powers, like a tattooed New Zealander”. Punch concluded by hailing the government for inadvertently adopting a system founded upon the principles of stomachology. The object of our rulers being to reduce the activity of the beef and mutton facility amongst the people, and to create a moral revolution in dietetics by a liberal introduction of pure air into the stomachs of the multitude.

In other words, Punch's stomachology was a satire on the failures of the government to stem the economic depression and the rising price of foodstuffs.

Punch's 1841 reflections on “stomachology” seem as a good-enough start as any to reflect on that much-ignored organ. After all, most people today don't pay attention to their stomach unless hungry or sick, although the social pain of obesity inflicts a particularly acute form of misery.

In earlier centuries, however, philosophers, physicians, and “alienists” (now called psychiatrists) took stomachs very seriously indeed. The stomach was believed to exert a formidable impact over the rest of the body, soul, and spirit. A seventeenth century translation of Ambroise Paré's Of the Anatomie of Mans Bodie described the stomach as more than simply a “receptacle of food necessarie for the whole body” but also “the seate of appetite, by reason of the nerves dispersed into its upper orifice, and so into its whole substance”. Unlike the passivity of other organs, which were said to be nourished “as plants by juice drawne from the earth”, Paré maintained that the stomach hath an exquisite sense of feeling... by reason of the nerves incompassing this orifice, with their mutuall embracings; whereby it happens that the ventricle in that part is endued with a quicke sense, that perceiving the awant and emptiness of meate, it may stirre up the creature to seeke foode.



As such, the stomach was as important in thinking as well as feeling. This view was highly influenced by Xavier Bichat's "two lives" doctrine, which distinguished between cerebral versus visceral systems. Alienists debated whether mental illness was due to lesions in the brain and central nervous systems or whether they originated in what late eighteenth century physician Philippe Pinel called the "lower regions of the body". Pinel believed that mental illness originated in the "epigastric" area of the body, from which it "radiated" throughout the body, wrecking unbelievable havoc.

What the stomach "will take, and what it will eschew" was the cause of physical as well as psychological ailments, observed The Dublin Penny Journal. In 1836, that journal informed readers that people possessed two "internal monitors": one was "seated in the mind, the other in the stomach". Indeed, the first step towards dyspepsia was not only the abuse of alcoholic beverages and the "absence of sufficient exposure to the breath of heaven" (that is, fresh air). It was also due to the "love of condiments and of recondite cookery" which accompanied a person's "blunted sensibility". The "morbid stimulus of such substances" affects the "jaded organ" (the stomach) and "the desire for food ceases to be in a relation to the necessities of the constitution". In other words, the "confinement of a town life" encouraged a "craving for more food than [could] conveniently be digested". The Dublin Penny Journal speculated that this explained why stomach ailments such as dyspepsia or indigestion were very "British" afflictions. They were exacerbated by the typical "English breakfast of tea, sugar, milk, and bread", foods that were "especially prone to undergo spontaneous fermentation" within the stomach. This was why The Dublin Penny Journal encouraged its readers to introduce some meat into their breakfast diet. The "sapid" (or full-favoured) qualities of "Dr. Baillie's breakfast bacon", for example, would "give a momentary tone to the organ, and, by hastening digestion, supersede the chemical action altogether". In order to be cured of stomach problems, The Dublin Penny Journal encouraged readers to "rise from your down bed, leave your fire-side, walk, ride, inhale the sea-breeze, fly to the mountains – do this, and you may... eat toasted cheese like a Welshman"!

As this 1836 article suggests, stomachs were particularly sensitive to modern life. It was widely reported that dyspepsia "follows in the wake of civilization". This was rumored to be due to the increased consumption of spicy foods. England's first dedicated Indian restaurant – the Hindostanee Coffee house, which also provided hookah pipes for smokers – was opened in 1809. In the words of an 1847 article entitled "A Frenchman's Account of English Soups and Stomachs", the author lamented the British love of mulligatawny. In his words, it was "a horrid importation from India, composed of all kinds of fiery ingredients, and so pungent that few of us Frenchmen could dip the tip of their finger in it with impunity. But the English, of both sexes, actually devour it like salamanders, and the police do not think of interfering to prevent them. An Englishman's stomach is endued with marvelous elasticity, and easily digests four meals a day."

Also to blame was the popular habit of drinking coffee (by the mid-17th century, there were over 300 coffee houses in London). Was it any wonder that stomach disturbances became fashionable, public commentators asked? Dyspepsia was even overtaking "nerves" in popularity. After all, dyspeptics proved by virtue of their suffering that they had the money to eat and drink to excess. This was also why there were so many jokes about the stomach, as in the 1819 comment in The New Bon Ton Magazine that the term "bilious" was simply a way of politely referring to "those who were formerly flatulent".

Digestion was a major issue for Victorians for another reason as well. Around one-fifth of both in- and out-patients in nineteenth-century hospitals were diagnosed with some kind of "digestive disease". The reasons are not surprising. Hygiene was poor in Victorian Britain: milk supplies were contaminated, foodstuffs were adulterated, and meat was often diseased. The result was high rates of morbidity and mortality from infant diarrhea, black vomit, yellow fever, cholera, and typhoid.

This turned debilitating ailments of the stomach into big business for physicians. One of the earliest British physicians to focus on the stomach ulcer was William Brinton in his important text On the Pathology, Symptoms, and Treatment of Ulcer of the Stomach (1857). He speculated that the ulcer was the result of "old age, privation, mental anxiety, and intemperance" and recommending the application of ice, opiates, and a diet of "soft pulpy" foods. Unfortunately, "quack" doctors also saw an opportunity to make a quick buck, advertising weird and wonderful products designed to calm this disruptive organ.



Despite the attention paid to the stomach, very little was actually known about this mysterious organ. By what mechanism was food digested, for example? Because surgery on the organ was very risky, ingenious methods were employed to understand the stomach and its actions. In the mid-eighteenth century, for example, René Antoine Ferchault de Réaumur carried out a series of intriguing experiments in which he used a perforated metal tube to insert pieces of meat into the stomach of a tame buzzard. When the buzzard regurgitated it, Réaumur noted that the meat had been reduced in both size and weight. He then inserted a sponge inside the tube and, by examining the juices, concluded that gastric juice was responsible for digestion. A century later, in the 1860s, Adolf Kussmaul enlisted the help of a professional sword-swallower to invent the stomach tube, further facilitating the analysis of the contents of the stomach.

The invention of x-rays and, from the 1930s, the endoscopy gave experimenters more access to the stomach. Prominent physician Walter B. Cannon focused on the movements of the esophagus and stomach. He was keen to establish the effect of emotions on those organs. As he explained “just as feelings of comfort and peace of mind are fundamental to normal digestion, so discomfort and mental discord may be fundamental to disturbed digestion”. The Second World War led to renewed interest in stomachs. Under the influence of fear, one Medical Officer explained, blood moved from the digestive tract in order to be “utilized by the muscles and brain in mobilizing the whole organism for danger”. Thus, frightened soldiers experienced chronic gastrointestinal problems or escaped into “dyspeptic invalidism”. Fear disturbed the functioning of the nervous system. In the words of the author of a 1941 article in the Edinburgh Medical Journal, when people were terrified “the normal peristaltic movement of the stomach ceases, food lies like a dead weight, the bowels are constipated, palpitation occurs, the blood pressure is raised.... Such conditions may lead to organic bodily disorders which cannot be cured by the drugs of the physician or the knife of the surgeon, unless the emotional factors are also treated.”

The link between the emotions and stomach disorders caused some physicians to speculate anew about why some people developed stomach ulcers while others seemed immune. Early and mid-twentieth century doctors believed that they were seeing an epidemic of ulcers. In 1930, Arthur Dean Bevan (founder of the American College of Surgeons) even concluded that between 10 and 12 per cent of the population was suffering from peptic ulcers. And people were dying: the death rate from peptic ulcer was 2.8 per thousand in 1900 but, by 1943, had risen to 6.8 per thousand. Was the stress of modern life responsible? This was the view of doctors like Andrew B. Rivers of the Mayo Clinic. In 1934, he propounded the racist argument that “slow-moving” African Americans were “untouched by aspirations for culture” and (despite chronically abusing alcohol and tobacco) did not suffer from peptic ulcers. In other words, ulcers were price of white, male vitality. Others believed that some people were constitutionally at risk of developing peptic ulcers: their personalities were to blame. As George Draper contended in the Annals of Internal Medicine in 1942, tall, thin men with “a well marked emphasis on the feminine component of the androgynous mosaic” were susceptible to developing ulcers. The psychoanalytical version of this – as represented by Franz Alexander – linked ulcers with feelings of guilt and repressed aggression.

As these commentators assume, not all stomachs were the same. Stomachs were ranked hierarchical in general culture as well as in medicine. When rallying her troops to fight against the invading Spanish Armada, Queen Elizabeth contended that, although she had “the body of a weak and feeble woman”, she had “the heart and stomach of a king, and a King of England, too”. The comparison was apt. After all, in early modern Britain, both the heart and the stomach were linked to ideas about “courage”. “To take stomach” meant “to take courage”. Britons in that period did not distinguish between the mind and body. As early modernist historian Jan Purnis explains, “Thought and emotion were very much grounded in the body and its physiological processes”. The stomach was regarded as “the locus of thought and feelings, particularly deep and hidden ones”, which explains expressions such as “to fish out the bottom of a person’s stomach”. The word “stomach” also signified a person’s “disposition” or “state of feeling with regard to a person”, which is why “a person might wish to know someone’s stomach or to learn if he or she were of the same stomach”. Similarly, to “do something against one’s stomach was to do something against one’s wishes”. It was also used as a verb: “stomachous, stomachful, and stomaching” were concerned with “anger and resentment” and “to stomach” meant “to be offended”.

The early modern world also emphasized the role of stomachs in the production of humours, that is, blood, phlegm, black bile (or melancholy), and yellow bile (or choler). As Purnis explains, “melancholy, which was cold and dry, made



one brooding, unsociable, and sad; phlegm, cold and moist, made one unexcitable and sluggish while blood, hot and moist, made one courageous, amorous, and hopeful. Cholera, hot and dry, made one hot-tempered and easily angered, but also daring and was believed to be decoct or “boiled” in the stomach... thus explaining why the stomach and many of its cognates refer to feelings of age or bravery.”

And these humours were gendered. Because male stomachs were believed to be hotter than female ones, women were thought to be particularly prone to stomach upsets. They had to watch their food both in terms of its nature and its quantity.

Stomachs were also raced. Take Frederick Arthur Hornibrook’s 1924 classic, The Culture of the Abdomen: The Cure of Obesity and Constipation, which went through 18 editions between its first publication and the 1960s. He believed that the stomachs of “natives” (by which he meant Africans) were superior to those of “civilized men”. Alluding to Kipling, he contended that the “loaded colon” was “actually the white man’s burden”. He was so convinced of this that he proposed eliminating middle age spread by encouraging men to dance – and not such any dance but “native” ones. He disparaged “ball room dancing”, instructing his followers to “observe the dance systems of natives”, in which “every part of the body participate[s] in outward manifestations of energy and movement”. Such dances “embrace a system of physical culture rhythmic in action and [are] far-reaching in results beyond anything discoverable in the spasmodic and jerky movements of occidental muscle training”. He contrasted the two forms of dance as “muscle rhythm versus muscle jerk”, concluding that these two movements “summed up the whole difference [and] the whole philosophy of physical culture between civilized and native man”.

Movement was only one part of the hygiene of the stomach; the other, diet. Here, the late-eighteenth and nineteenth century debates focused on the consumption of meat. Did God created animals to satiate our stomachs? English writer Soame Jenyns believed so. In his Disquisitions on Several Subjects (1782) he contended that “God has been pleased to create numberless animals intended for our sustenance; and that they are so intended, the agreeable flavour of their flesh to our palates, and the wholesome nutrient which it administers to our stomachs, are sufficient proofs.”

Of course, Jenyns was fully aware of arguments about the “disagreeable” task of slaughtering animals. Butchers, he insisted, needed to perform this bloody deed “with all the tenderness and compassion” possible. God intended this: after all, He had created animals “in such a manner that their flesh becomes rancid and unpalatable by a painful and lingering death”. It was a heaven-inspired “trick”, if you like. Jenyns’ view that meat was considered a high quality, virile food was widely shared. As the title of one book put it, The Philosophy of the Stomach; or An Exclusively Animal Diet (Without any Vegetable or Condiment Whatever) Is the Most Wholesome and Fit for Man (1856).

However, nineteenth century reformers increasingly disagreed with the pro-meat lobby. They were becoming convinced that stomachs were actually being poisoned. Surely, they contended, consuming animal flesh and blood would have a coarsening effect? In the words of the influential American dietary reformer, Sylvester Graham, “nothing is more true than that familiarity with blood always hardens man and makes him more wantonly cruel”. Writing in the 1830s, Graham warned that blood was “oppressive to the human stomach”. It “always produces a general increased excitement in the system, and tends to febrile and putrid diseases”. The moral dangers were even more worrying. Anyone who “devours blood”, Graham argued, deadens his or her moral sensibilities and sympathies. The “selfish and destructive propensities” of meat-eaters were “increased and rendered more vehement and ferocious”.

The coarsening effect of carnivorous habits was widely believed to be greater if the animal died while in a state of terror. As author George Bernard Shaw famously declared, “If I were to eat meat, my evacuations would stink”. According to him, the stench of fear exuded by an animal on approaching her death would contaminate the animal’s flesh and, therefore, the stomach and intestines of whoever subsequently consumed its carcass.

Vegetarians and people advocating a low-meat diet routinely assumed that a diet heavy in animal-meat stimulated male virility, which they believed was a bad thing. Meat eaters risked militarism and moral degeneracy, too. According to their way of thinking, pacific nations were vegetarian nations. Fantasies of “the Orient” stimulated many of these discussions. In “rice-eating Japan”, boasted one health reformer in the 1890s, “the only harsh words heard are those



spoken by the Englishman, for geniality prevails even among the children of the street”. For other commentators, proof of the link between vegetarianism and a pacific temperament could be found closer to home. As an acquaintance of the Brontë family reported, Emily and her siblings were “such good children”. She added that “I used to think them spiritless, they were so different to any children I had ever seen. In part, I set it down to a fancy Mr. Brontë had of not letting them have flesh-meat to eat. . . . They had nothing but potatoes for their dinner.”

Conversely, the proverbial “English roast” was held responsible for the “Englishman’s bad temper”. “Half-oxidised albumen products” were blamed for upsetting “mind and body, overtaxing the liver, and causing the proverbial ‘English liver’”, claimed the author of “Do We Eat Too Much Meat?”, writing in Hearth and Home in the early 1890s.

There was an even greater threat. The old adage “you are what you eat” might be literally true. Ingestion is one of the strongest forms of contagion because it involves “taking inside” of the human-body a once-sentient animal. In this way, it was believed to exert a great influence than, for example, second-level ingestion (drinking milk, for instance) or peaceable contact (petting an animal). Could eating animal-flesh turn the consumer into that “lesser” animal? In Victorian Britain, this was debated in two distinctive ways: it could magically impart the characteristics of specific animals or it could “animalize” the eater in a more general fashion.

The view that people who consumed large quantities of meat would gradually metamorphose into the animals they most enjoyed eating was satirized in Punch. In 1856, it published a report about an unnamed professor who had been a “hippophagist” (eater of horsemeat) for ten years. To the dismay of his wife and the wonderment of his neighbours, the professor gradually became horse-like. His face, a veterinary surgeon declared, is growing larger every month. The nose has fallen into a straight line with the forehead – the nostrils have expanded to an inordinate degree, and the mouth has stretched itself to more than three times its former width.

In time, the vet contended, “all traces of the human face divine will be completely obliterated” and the “melancholic patient will be walking about [resembling] a pitiable object with a pitiable horse’s head on its shoulders!” The physiognomic imaginary that I discussed in earlier lecture therefore appears in literal form.

More commonly, and in commentary that was not satire, carnivorous appetites were portrayed as “animalising” the eater in more general ways. In 1791, social critic John Oswald insisted that “animal food overpowers the faculties of the stomach, clogs the functions of the soul, and renders the mind material and gross”. In the 1830s, Graham concurred, emphasizing that the “energy and violence” of men’s “selfish propensities and passions” were enhanced by eating meat, rendering them more like animals. They were “more dull, stupid, sluggish and sensual”. In short, eating meat increased those so-called “animalistic propensities” in the consumer. “You are what you eat” was read literally.

Before concluding, I want to draw attention to some related debates. So far in this talk I have focused on the stomach and digestion. However, the stomach is also about fat. No one here needs reminding that norms have changed – from the thin ideal of the medieval period, which regarded thinness as close to sainthood, to the fleshy bulk of the body during the Renaissance, as in Rubens paintings. But at the same time that the commentators I have looked at so far were investigating the stomach, they were engaged in parallel discussions about fat and diet. Curiously, these debates were addressed to men more than to women. Plump women were typically portrayed as sexy and fertile. The “sex goddess” of the 1890s-1920s period was Lillian Russell, who weighed 90 kilos. The thin woman was feared to be consumptive (that is, suffering from tuberculosis) or simply poor. In the words of Harper’s Weekly “Leanness is not of disadvantage to men. Their strength is not affected by it, and they are even more vigorous. But leanness in the fair sex is a dreadful evil”. This only changed with women’s rights movement of the 1880s onwards.

In much of the period explored in today’s talk, fat men were stigmatized, which was why they wore corsets and stomach belts that gave their silhouette a more slender and muscular appearance (note, they also wore calf padding or false calves for the same reason). There was widespread commentary about the impact on male stomachs of cheaper and richer foods, their sedentary occupations, and the effect of suburbanization, as well as the fact that men were enjoying sport as spectators rather than participants. The slim male body was seen to demonstrate moral, economic, and political restraint. As Graham warned in a book republished a number of times in the 1830s and 1840s



and entitled “A Lecture to Young Men on Chastity”, “highly-seasoned food, rich dishes, the free use of flesh and even the excess of ailment [meaning wine]... increase the concupiscent excitability and sensibility of the genital organs”. By becoming flabby, men were being feminised. National efficiency was thought to be dependent on reducing the sagging abdomens of British men. Most famously, the first best-selling book on dieting to be published in English was William Banting’s A Letter on Corpulence in 1863. Within four decades, it had gone through 12 editions and sold some 60-70,000 copies (the equivalent of half a million today). Banting was primarily concerned about fat men, not women. For him, fat was “the parasite of barnacles on a ship”. It was extraneous to the self; weighing it down, and not adaptive to the speedy word of modernity. Reducing weight was not so much about cutting calories (of which many people had little knowledge) but about mastication (the popularity of chew-chew diets, for example), physical exercise, and regular evacuation of the bowels.

Today, fat is regarded as a public health problem, similar to smoking and alcoholism. Obesity increases the risk of type 2 diabetes, hypertension, heart disease, stroke, osteoarthritis, sleep apnea, and certain types of cancers. Death is another side-effect. In a study of 890,000 people, each five-point increase in body mass index (kg/m-squared) over 25 was associated with a 30 per cent increase in overall mortality. Because of stigmatization, obesity also leads to psychological unhappiness. Is it any wonder that many seek surgery such as gastric bypass, sleeve gastrectomy, and gastric banding? But: over 80 per cent of those seeking bariatric surgery are female, 60 per cent are white, and 78 per cent have private insurance (suggesting that they are well-off). The procedure, while carrying significant risks does help. Patients typically lose half of their excess weight. In conclusion. I have argued in today’s lecture that we need to take stomachs seriously. They reveal a great deal about societal norms and practices. The point to where the physiological ends and the social begins. They create, solidify, and then undermine social hierarchies. Perhaps it is time to resuscitate stomachology, or the “metaphysics of the stomach”.

Further Reading:

- Joanna Bourke, What It Means To Be Human (London: Virago, 2011)
Frederick Kaufman, A Short History of the American Stomach (London: Harcourt, 2008)
Ian Miller, Modern History of the Stomach (London: Routledge, 2015)
Jan Purnis, “The Stomach and Early Modern Emotion”, University of Toronto Quarterly, 79.2 (Spring 2010)
Ina Zweiniger-Bargielowska, “The Culture of the Abdomen: Obesity and Reducing in Britain, Circa 1900-1939”, Journal of British Studies, 44.2 (April 2005)

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<http://www.bbk.ac.uk/history/our-staff/full-time-academic-staff/Joanna>

See the website for Sexual Harms and Medical Encounters (SH+ME): <https://shame.bbk.ac.uk>

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