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The Dietary Physiologies of Sylvester Graham and John H. Kellogg

Sylvester Graham and John Harvey Kellogg are two of the most influential thinkers on diet and health in American history. These dietary reformers, often portrayed with some amusement by historians as (at best) fringe proponents of bizarre but innocuous “fad diets” or (at worst) nuts and medical quacks, were critical to the development of American popular health ideologies. But dietary reformers, for all the oddities and eccentricities that may be assigned in hindsight, provide an interesting window on the anxieties of an age and a people’s physical, emotional, and mental relationship with that vital element to human survival: food; it is therefore a subject that is worthy of serious historical investigation.

The notion of popular health—as opposed to more formal methods of learned, degreed medicine—is a centuries-old western tradition that today survives as the “holistic health” movement; vegetarianism, veganism, and other off-center dietary regimens; and even the cult of physical fitness currently thriving in present-day America. In the United States, the popular health movement of the nineteenth century is also often noted for its role in the creation of the ready-to-eat breakfast cereal industry, a cultural and economic institution particular to this nation. Popular health often rests on the concept that society in general is plagued by maladies, diseases, and psychological ills caused by improper habits, and that the individual—not the trained physician—possesses the remedies necessary to stay on the right track. Sylvester Graham, lecturing and writing in the 1830s and 1840s, is perceived as the founding father of the popular health movement in America, the one who, borrowing scientific ideas from contemporary British and French doctors (and semi-doctors), first developed a systematic cure

for the neurological and physiological ills that plagued a wayward nation. Kellogg's career bloomed in the 1880s, and he is arguably the most widely-recognized of the American dietary reformers, largely because of his famous name (it was his younger brother, Will, who started the cereal company) and because of popular culture's fictional examination of his ideas and practices in the T. C. Boyle novel and subsequent Alan Parker film *The Road to Wellville* (1993 and 1994, respectively).

Although their careers were separated by 50 or more years, Graham and Kellogg shared much in terms of their theories of diet. The two reformers shared common concerns as to what ailed the human body; they also came to similar conclusions regarding solutions for dietary salvation, and, to a lesser degree, the basic physiological science that informed their respective programs. This essay offers a brief comparison of the physiological theories of Sylvester Graham and John Kellogg, as posited in Graham's 1840 publication, *Lectures to Young Men on Chastity* and in Kellogg's 1896 book *The Stomach: Its Disorders, and How to Cure Them*.¹ Their similarity should come as no great surprise, as Kellogg was likely to have been widely read in Graham's influential theories, though he does not specifically reference his predecessor in the text reviewed here, save to acknowledge the nutritive superiority of whole-grain (also known as "graham") bread, by which Graham made a name for himself in the early 1830s for his ardent support. However, medical knowledge (even that of the popular variety) often develops rapidly, and the passage of a half-century with little substantive change is interesting. Indeed, one remarkable difference between the two reformers' ideas is the appearance in Kellogg's writing of

¹Sylvester Graham, *A Lecture to Young Men on Chastity*, Boston: George W. Light, 1840; J. H. Kellogg, *The Stomach: Its Disorders, and How to Cure Them*, Battle Creek, Michigan: Modern Medicine Publishing Company, 1896. The class assignment to which this paper responds was to conduct research entirely on the Internet. Both publications were collected via a "Google books" search. It should be noted that, were this assignment not restricted to Web research, another book would be more suitable than *A Lecture to Young Men* for studying Graham's dietary program: his 1839 *Lectures on the Science of Human Life*. This book was not available for viewing via the Internet. Additional research on the reformers' background was conducted via wikipedia.org.

“germs” and “microbes,” which were just making their way into widespread scientific knowledge during Graham’s time.

One of the most basic similarities between Graham’s and Kellogg’s perceived physiological systems is their insistence on the centrality of digestion, the stomach, and good nutrition for maintaining the health and wellbeing of the entire body, and, accordingly, of the psyche as well. From a present-day perspective, there is much about their respective physiological theories that seem peculiar, and this is much more the case for Graham than for Kellogg. The latter reformer benefited not only from several decades of productive research in the field of medicine and human physiology, but from the fact that he was trained as a physician, earning his degree at Bellevue Hospital Medical College in New York, now a part of NYU. Graham, a Presbyterian minister, never received formal training, and indeed came from a Jacksonian populist tradition that held much distrust and contempt for the “book-learned” experts in most realms of society, including medicine. Kellogg throughout his career remained committed to what we would today call popular medicine and shunned the use of pills and other unnatural chemical products as remedies. Instead, patients at his Battle Creek Sanitarium in south-central Michigan were treated to a program that included “proper regulation of diet,” hydropathic cures, Swedish gymnastics, massage, and “the employment of electricity.”² In his introductory remarks to *The Stomach*, however, Kellogg affirmed the viability of his medical colleagues, stating that those seeking help for their digestive ailments should read the book with or without the assistance of a trained doctor, but “if possible, the services of a skilled physician should be employed,” with the aiding physician using the book as guidance.

To overcome his lack of formal training, Graham appears to have been well-read in contemporary medicine, and his own theories were at least informed by accepted notions.

² Kellogg, 4.

Graham's dietary theory distilled the bulk of human physiology into two processes, nutrition and reproduction—"the grand function[s] of man's system"—whereby humans were able to survive. In nutrition, Graham conceived of an all-encompassing system in which external material (food, liquid, and air) were consumed and processed; nutrition therefore included "digestion, absorption, circulation, respiration, secretion, excretion, &c." Aiding in this complex process were the body's nerves, of which there were two classes: "brain and spinal marrow" nerves and "ganglions and plexuses." The former was in charge of an individual's "animal life" or the cognitive processes that combine to form a person's self-awareness: "sensation, perception, intellection, and volition." These were centered in the brain. The ganglions and plexuses, on the other hand, were in charge of "organic life," or the unconscious processes of "vital chemistry" that take place in the internal organs. "The stomach, heart, arteries, veins, lungs, liver, [and] kidneys," wrote Graham, "depend principally or entirely on the nerves of organic life, for their functional power. Hence the general function of nutrition is under the dominion of the nerves of organic life."³

Kellogg's notion of human nutrition is a little more recognizable to today's reader than Graham's dichotomous system of nerves. Kellogg asserted that "the body is constantly sustaining losses in consequence of the vital work performed by its various organs," and that foods are necessary to "make good [the body's] natural wastes and losses, and furnish proper materials for the repair of tissues, or for carrying on its vital processes." Food is consumed in three formats, as "organized matter," liquid, and oxygen—equally important for sustaining human life. Solid food, in turn is divided into six types of food: starch (insoluble, tasteless vegetable matter), sugar ("through the mysterious chemistry of plant life" starch is converted to sweet and soluble sugars), albumen (egg whites being pure albumen, but other animal and

³ Graham, 35, 41.

vegetable foods containing similar substances), fats, salts (inorganic material in animal and plant material), and indigestible elements (cellulose in plants, connective tissue in animals).⁴

The Stomach provided readers with a detailed account of the digestive system—from mouth to colon—including the various organs, fluids, and processes involved with converting these varieties of human food into useful matter for human life. Sugar, starch, and fat, in Kellogg’s system, played a role in creating every form of tissue, as well as in producing the “heat and force” that energized the body. Albumen mainly served to nourish the brain, muscles, nerves, glands, and other “highly active” tissues, while salts nourished the bones, and indigestible elements gave “necessary bulk” to foods, despite their lack of nutritive qualities. “Gastric juice” was the lynchpin of Kellogg’s physiology, as it broke down the food delivered to the stomach and helped expel it into the subsequent realms of the digestive system, maintaining a neat and tidy stomach when finished. Dietary decisions and proper regimentation were the keys to digestive health, as generating an adequate amount and quality of gastric juice depended on consuming the correct balance of nutritive elements, properly chewing one’s food, and eating at regular, prescribed intervals.⁵

Because of its crucial function in the individual’s relationship with the nutritive materials and processes that served to sustain life, the stomach, according to Graham, was the “great center of the nerves of organic life.” Kellogg also believed in the stomach’s centrality, and the organ in both of these reformers’ writing seems to take on a life of its own. Just as Graham perceived of the interrelationship between the nutritive and cognitive aspects of human physiology, Kellogg noted “the close relationship between the condition of the stomach and that of the mind,” even asserting that “most primitive nations” held such beliefs. Moreover, the stomach was the “seat

⁴ Kellogg, 31, 32.

⁵ Kellogg, 40, 57.

of the soul.” But the very organ that could lead to health and bliss was also a very complicated and delicate entity, and, accordingly, was capable of wreaking much havoc on the human body and mind if thrown off its naturally intended track. Here lies the focus of these two reformers’ dietary programs. Both saw major debility plaguing their fellow men—whether by disease, immorality, or unhappiness—and saw the improper maintenance of the digestive system as the root of these physical and social ills. Kellogg wrote that because the stomach was “the center of the nutritive processes of the body,...any derangement of its functions must therefore result in entire disorder of the organism.” “Derangement of the digestive process” led to the “vast majority” of human ailments, especially “the numerous disorders commonly included under the general term, ‘dyspepsia.’” Indeed, stomach-related disorders were not merely confined to the stomach, and dietary maladies often masked themselves as ailments elsewhere in the body.

Potential ills included:

headache, backache, bladder and kidney disorders, sleeplessness, depression of spirits, weakness, lack of energy, coldness of the extremities, nervous sensations of various sorts, even hysteria, epilepsy, and insanity, may exist as the result of indigestion without any suffering in the stomach.⁶

His predecessor agreed whole-heartedly on the stomach’s potential for debilitating the human body. Graham believed that for those who do not practice proper dietary behavior, unless another organ is predisposed to ill health in a particular individual’s body “as to relieve the stomach from a morbid concentration of the irritations, [the stomach] will inevitably become seriously disordered, and soon exhibit symptoms of painful disease.”⁷

A proper dietary regimen, then, could solve people’s problems and keep them on track for healthy and fulfilling lives. While the physiologies of the two reformers differed slightly, both men came to an agreement that indigestion (and, accordingly, a host of physical, social,

⁶ Graham, 102; Kellogg, 3, 4, 20.

⁷ Graham, 102-103.

moral, and spiritual ills) could be remedied by temperance in food portion; abstinence from stimulating spices, condiments, and alcohol; proper balance of nutritive materials; strictly scheduled meals; a routine of mild physical exercise; and, most important for the development of the cereal industry, whole-grain bread products. In the words of John Harvey Kellogg, when we eat “for the physical good of our bodies, and of our species,...we fulfil [sic] the purposes of our bodily functions with pleasure and satisfaction, and secure our permanent welfare and our highest good.”⁸ For both Kellogg and Graham, diet—so important to the proper workings of the body’s complex physiological processes—was not only an issue of physical health, but also of morality.

⁸ Kellogg, 68.