

A cup o' controversy: coffee and health in 19th century Rio de Janeiro

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Abstract

Due to the local favorable climate and soil, availability of slave manpower and technical simplicity, the coffee exports soon surpassed the traditional Brazilian crops. By mid-19th century, Brazil had become the first world coffee producer, which fact had a major role in the early development of industry in the country. Given such high status and increasing consumption by the local population, coffee also awakened the interest of the Brazilian doctors, as reflected in the theses defended at the School of Medicine of Rio de Janeiro between 1850 and 1880. In the present article we analyze the perceptions of Brazilian doctors on the properties of coffee, mainly its power as a nutrient and use for the treatment of diseases. Coffee also earned a place in the contemporary books of etiquette and cookbooks published in Brazil and abroad, as we address briefly. In either case, coffee represents a valuable element to understand the relationship between nutrition and health in 19th-century Brazil.

Keywords

Coffee; Medicine; Nutrition; Brazil; 19th century

Controvérsias na xícara: café é saúde no Rio de Janeiro oitocentista

Resumo

Em função do clima e solo favoráveis, a disponibilidade mão de obra escrava e a simplicidade da técnica, a exportação de café logo ultrapassou aquela das culturas brasileiras tradicionais. Para a metade do século XIX, Brasil tinha-se tornado o primeiro produtor mundial, o que teve grande papel no desenvolvimento da indústria. Dada a posição de privilégio e consumo crescente pela população brasileira, o café despertou também o interesse dos médicos brasileiros, tal como se reflete nas teses defendidas na Faculdade de Medicina do Rio de Janeiro entre 1850 e 1880. No presente artigo, são analisadas as percepções dos médicos brasileiros acerca das propriedades do café, principalmente seu poder como nutriente e uso no tratamento de doenças. Ao mesmo tempo, ganhou lugar nos livros de etiqueta e de cozinha publicados no país e no exterior. Em ambos os casos, o café representa um substrato relevante para a compreensão da relação entre nutrição e saúde no Brasil do século XIX.

Palavras-chave

Café; Medicina; Nutrição; Brasil; Século XIX

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Introduction

The unique properties of coffee awoke much interest and debates among European doctors, naturalists and other scholars ever since this exotic beverage, widely consumed by the Turks, began to spread across the Old World in the 17th century.¹ By the early 1700s, the French doctor and chemist Louis Lémery (1677-1743), for instance, asserted that coffee was useful to treat headaches,² thus reinforcing views put forward fifty years earlier by the English apothecary John Parkinson (1567-1650) in his work *Theatrum botanicum* (1640), who also believed that coffee made the stomach stronger and thus contributed to improve digestion.³

In Brazil, coffee was first grown in the northern provinces to arrive to Rio de Janeiro about 1760 and then quickly spread across the provinces of São Paulo and Minas Gerais in the following decades.⁴ Due to the local favorable climate and soil, availability of slave manpower and technical simplicity, the coffee exports soon surpassed the traditional crops, like sugar, tobacco and cotton. By 1854 Brazil had become the first world coffee producer; as result a large part of the Brazilian economy centered on the production and trade of coffee, which thus played a major role in the early development of industry in the country.⁵

Given such high status and increasing consumption by the local population, naturally coffee also awakened the interest of the Brazilian doctors, as reflected in the theses defended at the School of Medicine of Rio de Janeiro between 1850 and 1880. While medical theses are a rich source to investigate the interests of medical communities in different times and places, the ones presented to and defended at School of Medicine of Rio de Janeiro had been little explored in the literature.⁶ Therefore, in the present article we analyze the perceptions of Brazilian doctors on the properties of coffee as expressed in medical theses. As it is shown, coffee was a considerable topic of interest in the period from 1850 to 1880 and mostly in regard to two main issues: its power as a nutrient and use for the treatment of diseases. On those same grounds, coffee also earned a place in the contemporary books of etiquette and cookbooks published in Brazil and abroad, as we address briefly.

¹ Brian Cowan, *The Social Life of Coffee: The Emergence of the British Coffeehouse* (New Haven: Yale University Press, 2005), 15.

² Louis Lémery, *Traité des alimens*, 2e. ed. (Paris: chez Pierre Witte, 1705), 536.

³ Cowan, 22.

⁴ Ana L. Martins, *História do Café* (São Paulo: Contexto, 2008), 45-6.

⁵ *Ibid.*, 60; 277.

⁶ See Cristiana L. de M. Couto, "Alimentação no Brasil Imperial: Elementos para um Estudo de Questões Dietéticas, Químico-médicas e da Fisiologia do Gosto" (doctoral dissertation, Pontifical Catholic University of São Paulo, 2011), 29-31; and Couto, *Alimentação no Brasil Imperial* (São Paulo: Educ, 2015), 40-3.

A late arrival

The older Medical-Surgical Academy of Rio de Janeiro was raised to the level of a proper School of Medicine in 1832;⁷ the earliest medical theses were consequently defended in 1834. Nevertheless, the first such writing dealing with coffee dates only from 1858. Such apparent delay might be due to the fact that coffee did not become a staple among the local elites in the first decades of the 19th century. Indeed, upon analyzing the diet of the Carioca upper classes in his thesis from 1850, the physician Joze Luciano Pereira Junior observes, “Tea and coffee were not a part of the diet”⁸.

By mid-century, however, doctors were enthusiastic in their description of the transformation of the local dietary habits. Thus, for instance, in his thesis defended in 1852, José Maria Rodrigues Regadas observes, “After dinner, our upper classes, or the residents of Rio de Janeiro as a whole, have the habit of drinking coffee”⁹. And in 1858 Braz Martins dos Guimarães Bilac wrote, “The use of coffee has become so widely spread, that certainly not a soul does not have some knowledge of its use and preparation”¹⁰.

Such use, indeed, had become so popular, that thirty years later, in his thesis “On the Use and Abuse of Coffee”, Carlos Buarque de Macedo thus emphasized the wide spread of coffee among the local population: “The increasing expansion of the growth of this plant species among us [is such], that it became the main product of our industry,

⁷ On the institutionalization of medicine in Brazil, see, e.g. Jaime L. Benchimol, “A Institucionalização da Microbiologia e a História da Saúde Pública no Brasil,” *Ciência e Saúde Coletiva* 5, no. 1 (2000): 265-92; Flávio C. Edler, “A Medicina no Brasil Imperial: Fundamentos de Autoridade Profissional e da Legitimidade Científica,” *Anuário de Estudos Americanos* 60, no. 1 (2003): 139-56

⁸ Joze L. Pereira Junior, “Algumas considerações sobre quaes são as causas de morte subita, e qual deve ser a nossa legislação relativa aos mortos. Das molestias dos maxillares superiores em geral, e em particular das degenerações destes ossos e seu tratamento. Do regimen das classes abastadas da cidade do Rio de Janeiro em seos alimentos e bebidas. Mudança que nelle se tem operado nos ultimos 40 annos: effeito dessas mudanças. Influencia sobre a saude publica do regimen actual dessas classes em seos alimentos e bebidas” (doctoral dissertation, School of Medicine of Rio de Janeiro, 1850), 25.

⁹ José M.R. Regadas, “Dos corpos de delicto sobre ferimento. como se devem considerar as feridas envenenadas? Pertecem ao fôro da pathologia externa ou interna? No caso porém de pertencerem exclusivamente a uma dellas, qual a que de prompto póde ministrar mais seguros meios de salvação? Do regimen das classes abastadas do Rio de Janeiro em seus alimentos e bebidas. Mudanças que nelle se tem operado nos ultimos quarenta annos. effeitos do regimen antigo: influencia do actual” (doctoral dissertation, School of Medicine of Rio de Janeiro, 1852), 23.

¹⁰ Braz M. dos G. Bilac, “Do uso do chá e do café em condições análogas à da cidade e provincia do Rio de Janeiro. Dão-se em taes codições ciscumstancias em que possa ser útil o uso, ainda que abundante, destas bebidas? Quaes são ellas, e que regras se devem observar? Hemostasia cirurgica. Do esporão do centeio e suas preparações mais empregadas em medicina. Apreço filosofico de sua acção em relação as causas, symptomas, séde e lesões pathologicas das molestias em que sua applicação é reclamada. Da responsabilidade dos medicos, pharmaceuticos e parteiras no exercicio de suas profissões” (doctoral dissertation, School of Medicine of Rio de Janeiro, 1858), 16.

the main source of public wealth, which fact, we assert, should seriously call the attention of all Brazilians”¹¹.

Nevertheless, more than a simple custom, coffee was considered by the Carioca doctors as a “hygienic modifier” of civilized man.¹² Thus, according to Eduardo Augusto Ribeiro Guimarães: “Few topics on hygiene have called as much the attention of and [stimulated] studies among doctors in the past centuries as the value of the use of coffee in man’s diet”¹³.

The ages-old concern with hygiene was now impregnated by new ideals arisen from the development of experimental physiology and chemistry, which from the 1700s onward shaped the scientific conceptions on nutrition.¹⁴ In the specific case of coffee, the Brazilian diplomat, Paulo Porto-Alegre (b. 1842), who had studied chemistry in Heidelberg, wrote in 1879:

“As early as in the past century, chymists and physicians concerned themselves with the study of the nature and physiological effects of coffee in the state of infusion on the human frame. Nevertheless, neither the experiences nor the studies then [performed] yielded satisfactory results, because the contemporary chymistry and physiology were still [much] limited.”¹⁵

This is the contextual and theoretical framework that should circumscribe our attempts at understanding the debates among the Carioca doctors relative to the physiological action of coffee in the human body, and consequently its relevance as ‘hygienic modifier of civilized man’.

To be sure, the tonic and excitant properties of coffee were no cause for doubt or controversy among the Carioca doctors, to the point that it became known as an “intellectual beverage”¹⁶. In the words of the aforementioned Dr. Bilac,

¹¹ Carlos B. de Macedo, “Do uso e abuso do café. Do opio. Das lesões vitais da orbita. Cancro do estomago” (doctoral dissertation, School of Medicine of Rio de Janeiro, 1882), 1.

¹² Eduardo A.R. Guimarães, “Sobre o Uso e Abuso do Café” (doctoral dissertation, School of Medicine of Rio de Janeiro, 1882), 32.

¹³ *Ibid.*, 10.

¹⁴ On the relationship between physiology and chemistry and the application of the latter’s notions, methods and instruments to the study of nutrition, see Karina M.O. dos Santos, *O Desenvolvimento Histórico da Ciência da Nutrição em Relação ao de Outras Ciências* (Campinas: CLE/UNICAMP, 1989).

¹⁵ Paulo Porto-Alegre, *Monographia do Café: Historia, Cultura e Produção* (Lisboa: Viúva Bertrand & Ca./Successores Carvalho & Ca., 1879), 31.5

¹⁶ Cesario da S.C. Rangel, “Do uso e abuso do chá e do café, e de sua influencia sobre a saúde. Diagnostico da febre amarella e seu tratamento. Das modificações produzidas pela prenhez no útero e seus anexos” (doctoral dissertation, School of Medicine of Rio de Janeiro, 1872), 20-1; see also Macedo, 13-8; Guimarães, 29.

“This liquid [...] exerts its special action in the brain, exciting the functions of this organ and exalting its intellectual and sensory functions, thence the huge benefits that the ones who live rather [based on their] intelligence, and once in a while require some beneficial excitant to awaken and revivify them, obtain from this beverage. Such [an agent] is coffee and such are the reasons that will raise it to the level of a social beverage.”¹⁷

An alternative for the cure of fevers

Nevertheless, what seems to have called most the attention of the 19th century Brazilian doctors was the controversies in Europe around the nutritional value of coffee and its alleged therapeutic properties. “Its highly energetic properties notwithstanding, coffee is habitually used as an agreeable beverage only, and despite its many years the therapeutics of this substance [still] affords us very little; these facts are reasons for much surprise”, commented Dr. Bilac. According to him, “the disdain for such a substance which could be very advantageous for the cure of some diseases” represented a sorry state of affairs.¹⁸

Disease was a very serious problem for the Carioca doctors, mainly due to the countless epidemic outbreaks and pandemics that afflicted the Imperial capital city.¹⁹ In Bilac’s times, outbreaks of yellow fever (1849) and cholera (1855) led to the creation of a Public Hygiene Central Board to deal in an integrated manner with public health problems, which previously had been addressed by municipal agencies separately.²⁰ On those grounds, apparently different issues, like the nutritional value of foodstuffs, the atmospheric temperature and the occurrence of various diseases were interweaved within the broad scope of the hygiene sciences, which were believed to be likely to provide reliable and safe resources “for both the preservation of health and the cure of disease”²¹.

In addition to its benefits for the spirit, coffee also seemed to afford a powerful cure for several diseases, including the malarial intermittent fevers. Their intermittent nature and bodily location being controversial, such conditions were usually defined as a “febrile affection characterized by more or less regular episodes”²² in between

¹⁷ Bilac, 17.

¹⁸ Ibid., 23-4.

¹⁹ Brazil was an empire from 1822 to 1889, having Rio de Janeiro as its capital.

²⁰ Tânia S. Pimenta, “O Exercício das Artes de Curar no Rio de Janeiro (1828 a 1855)” (doctoral dissertation, State University of Campinas, 2003), 44.

²¹ Bernardino A.A. Machado, “Breves Considerações sobre a Elephantíase dos Gregos” (doctoral dissertation, School of Medicine of Rio de Janeiro, 1846), 9.

²² José F. Corrêa Filho, “Algumas Proposições sobre as Febres Intermittentes por Intoxicação Paludosa” (doctoral dissertation, School of Medicine of Rio de Janeiro, 1843), 1.

symptom-free intervals.²³ Endemic in 19th-century Brazil, the intermittent fevers were a subject of special attention for the Carioca doctors.

As it was traditional, treatment involved changes in the diet and medications, being Peruvian bark and derivatives like quinine sulfate the most widely prescribed.²⁴ Yet also other febrifuges were considered, including raw or toasted coffee. Quoting from European doctors, Dr. Bilac, for instance, suggested replacing the all-powerful Peruvian bark by coffee:

“Countless observation bear witness to the great efficacy of coffee in the cure of malarial intermittent fevers. Dr. Grindel, in Russia, and Dr. Pouqueville, in Moréa, assert in their writings that it is such a powerful antidote for these fevers, that it can replace Peruvian bark and its preparations perfectly well.”²⁵

Also based on European experiences, Bilac further states that coffee had “unquestionable efficacy” in the ordinary treatment of typhoid fevers and was “fairly useful” for cholera.²⁶ These ideas were still advocated fifteen years later, as shown by Cesario da Silva Coelho Rangel in his thesis “On the Use and Abuse of Tea and Coffee”, from 1872. Yet Rangel paid more attention to coffee as a foodstuff than as a therapeutic agent. Further on, two theses defended in the 1880s dealt largely with the hygienic value of coffee as a function of its nutritional properties, as revealed by experimental physiology and more particularly, by the new chemistry.

²³ José M. de N. Feital, “Duas Palavras sobre as Febres Intermittentes Paludosas e seu Antagonismo com a Phthisica Pulmonar” (doctoral dissertation, School of Medicine of Rio de Janeiro, 1852), 1.

²⁴ On 18th-century studies on Peruvian bark, see Márcia H.M. Ferraz, “Los estudios sobre las quinas en la literatura química-médica portuguesa de los inicios del siglo XIX”, in *Farmacia, historia natural y química intercontinentales*, ed. Patricia A. Pastrana (México DF: Universidad Autónoma Metropolitana, 1996), 189-201; Silvia Waisse-Priven, *Hahnemann: Um Médico de Seu Tempo* (São Paulo: EDUC/FAPESP, 2005), ch. 2 and the references quoted there. Among the medical dissertations defended at School of Medicine of Rio de Janeiro in the 19th century, see: Feital, 26; Luiz d’A. Brandão, “Considerações sobre a Febre em Geral, e as Perniciosas em Particular (doctoral dissertation, School of Medicine of Rio de Janeiro, 1846, 42-3); Tristão C. Mayer, “Considerações sobre as Febres Intermittentes, Particularmente sobre a Intermittente Benigna” (doctoral dissertation, School of Medicine of Rio de Janeiro, 1839), 17; Miguel E. Nogueira, “Das Febres Intermittentes” (doctoral dissertation, School of Medicine of Rio de Janeiro, 1834), 20-7; and Luiz P. de Queiroz, “Considerações Geraes sobre as Febres Intermittentes” (doctoral dissertation, School of Medicine of Rio de Janeiro, 1835), 49-53.

²⁵ Bilac, 24.

²⁶ *Ibid.*, 25,

Inquiries into the nutritional properties of coffee

Indeed, starting at the end of the 1700s chemistry began to make giant steps into the explanation of the use and production of foodstuffs.²⁷ The initial trigger seems to have been the identification by the Italian chemist Jacopo Bartolomeo Beccari (1682-1766) of a jelly-like matter in wheat, the so-called gluten, which rather than fermenting as plant matter was assumed to do, underwent putrefaction, a trait characteristically attributed to animal matter.²⁸ In the 1780s, experiments conducted by the French chemists Antoine Lavoisier (1743-1794), Claude-Louis Berthollet (1748-1822) and Antoine-François de Fourcroy (1755-1809) introduced new knowledge into the chemistry of animal matter.²⁹ As a result the idea arose that nitrogen – then known in French as azote – was an essential nutritional element. First identified at the end of the 18th century, nitrogen was found in other jelly-like matters, but not in other types of nutritional substances, such as fat and sugars.³⁰

As with all dietary products, also the chemical composition of coffee became a subject of inquiry so as to establish its nutritional value. Such studies are mentioned in the first Carioca medical thesis devoted to coffee. Without entering in much detail, Bilac, its author, mentions the “recent” chemical analyses of coffee performed by the French chemist Anselme Payen (1795-1878), who had allegedly demonstrated “the prominently nutritional properties of coffee”, which “are born from a crystallizing organic principle named by Payen as double chloroginate of caffeine and potash”.³¹

The ‘modern’ idea that coffee could have nutritional value partially depended on its nitrogen content. This is why, as mentioned above, Rangel chose to describe coffee as a foodstuff rather than as a medicine: “Coffee should be considered a foodstuff; it has the property of maintaining and producing, for some time, the effects of nutrition. [...]; and since the excitant principle is accompanied by abundant azoted matter, from that point of view it plays the role of a nutritional substance”³². Visibly enthusiastic with the nutritional aspects of coffee, Rangel mentions a report that seemingly awakened much interest at that time. We allude to the work conducted by the French agriculturist Adrien Étienne, Count Gasparin (1783-1862) with Belgian miners from Charleroi in 1850:

“Upon reading Mr. Gasparin’s observation of the Belgian miners’ diet, one gets a proof for the nutritional properties of coffee. That skilled chymist, in an interesting treatise read at the academy of sciences of Paris, presents curious documents that demonstrate the relevance coffee should have for nutrition.”³³

²⁷ Emma C. Spary, *Feeding France: New Sciences of Food* (Cambridge: Cambridge University Press, 2014), 55.

²⁸ Kenneth J. Carpenter, “The History of Enthusiasm for Protein,” *The Journal of Nutrition* 116, no. 7 (1986): 1364-1370, on 1346.

²⁹ Santos, 16.

³⁰ Carpenter, “History of Enthusiasm”, 638.

³¹ Bilac, 16.

³² Rangel, 29.

³³ *Ibid.*, 30.

In essence, Gasparin's observations indicated that despite the miners' nitrogen intake was half the one rated adequate, they were in good health thanks to their regular consumption of coffee. His conclusions thus emphasized the action of coffee on the human economy, which in last instance represented one further benefit, as: "Under such circumstances [...], coffee is not nutritive, but hinders the development of malnutrition [...] thus reducing the need to introduce repairing elements in the body only so often".³⁴ That action of coffee on the human economy was described by Rangel in full detail:

"As a foodstuff, that substance moderates the economy's expenses and reduces its losses, suppresses appetite, extinguishes the all-important feeling of hunger, conserves heat, thus reducing the skin secretion, affording tolerance to abstinence and fasting, and finally strengthening the nervous system and masking the weakness of the organs it is not able to repair."³⁵

The nutritional properties of coffee still called the attention ten years later, as shown by two theses defended in 1882 and devoted to this subject, albeit with opposite conclusions. Even more enthusiastic than Rangel, the aforementioned Macedo wrote long on the contemporary ideas about the nutritional role of coffee:

"Let us discuss the all-important issue about whether coffee is a foodstuff in strict sense [...]. Fossangrives believes so. The nutritional properties of coffee, says he, have probably been exaggerated in recent times, yet they are real. [...] Would it be unreasonable to assume that it not only does restore the economy by providing it its materials, but also stimulates the stomach, which under its influence elaborates and employs the other foodstuffs entrusted to it better?"³⁶

To then continue: "Professor Gubler says that coffee and like substances [...] provide force to the innervation systems and temporarily replace the foodstuffs [used in] respiratory combustion. [...] Liebig rates it not only an excitant, but also a tonic and a foodstuff [...]", while for Payen, "coffee impeded malnutrition".³⁷

Macedo strongly criticized any opinion contrary to the use of coffee: "[...] we will further try and combat some exaggerations resulting from a too vivid imagination or a poor assessment of facts that seek to attack the reputation of a beverage that doubtlessly has very healthy effects"³⁸. In his view, "the absorption of coffee leads to sedation of hunger or, alternatively, allows for the intake of less substantial foodstuffs"³⁹. In addition, its nutritional value could be calculated as follows: "one hundred grams of

³⁴ Ibid.

³⁵ Ibid., 29.

³⁶ Macedo, 11.

³⁷ Ibid., 12.

³⁸ Ibid., 2.

³⁹ Ibid., 13.

coffee prepared in one liter of water result in twenty grams of nutritional substance per liter of infusion, on average”, being thus “twice [the amount of] azoted organic substance found in an equal volume of tea infusion”.⁴⁰

Therefore, according to Macedo, either as an hindrance to malnutrition or as a proper nutritional substance, due to its nitrogen content, coffee made a decisive contribution to human nutrition: “Its hygienic value, thus, and its undeniable medicinal properties satisfactorily account for the fashionable use of the beverage in question”⁴¹. Coffee was “extremely useful”⁴², and its use was pretty much democratic: “It is fit for both poor and rich, workers, learned men, wise men; it activates the spirit, strengthens reason; it lights the imagination; [in the case of] workers, it repairs the strength weakened by an insufficient, poorly azoted diet”⁴³.

Yet, this was not at all the idea advocated by Eduardo Augusto Ribeiro Guimarães in his “Dissertation on the Use and Abuse of Coffee”, defended on that very same year. Indeed, with the same degree of vehemence Guimarães denies all nutritional value of coffee: “[...] the bio-chemical value of coffee as a foodstuff is fully dismissible, almost inexistent, and cannot be adduced to account for its beneficial action on man”⁴⁴.

As a typical man of his time, Guimarães held that coffee was then undergoing “serious examination” for the very first time, followed by a “truly scientific discussion”:⁴⁵ “Leaving now the sterile field of theory, let us enter the domain of true science and let us see what positive, well-inquired and definitively acquired facts let us learn about the physiological action of coffee and the role it plays as a hygienic modifier of man”⁴⁶.

According to Guimarães, there were three main views in that regard: coffee was a true foodstuff, a medicine (“dynamophore or dynamizing”) or a “saving foodstuff” (*aliment d'épargne*) or moderator of deassimilation, thus impeding malnutrition. The latter, namely the theory put forward by Gasparin, mentioned by Rangel and upheld by Macedo, is the main focus of Guimarães’ attention. According to him, “To make a judgment on its wide acceptance by the scientific world, it suffices to state that its most eminent adepts include: Böcker, Lehmann, Frölich (from Breslau), Rabuteau, Eustratiades, Trousseau, Pidoux, [...] Levy, Angel Marvaud, Küss and Porto Alegre”⁴⁷.

Following a long explanation, which includes excerpts transcribed from Gasparin’s writings, descriptions of chemical analyses performed by other European men of science (based on the excretion of urea) that corroborated Gasparin’s theory and the controversies arising from them, Guimarães is ready to refute all three theories based

⁴⁰ Macedo, 15-6.

⁴¹ Ibid., 16.

⁴² Ibid., 18.

⁴³ Ibid., 19.

⁴⁴ Guimarães, 31.

⁴⁵ Ibid., 14.

⁴⁶ Ibid., 32.

⁴⁷ Ibid., 16.

on his own experiments conducted together with a colleague, Juvenal Raposo, at the Physiology Laboratory of the School of Medicine of Rio de Janeiro. According to him, such experiments performed with dogs “proved” that “against the opinion of the most eminent contemporary authorities in physiology and hygiene”, coffee was “very far from being a saving foodstuff”. Rather it was an “agent of organic expenditure”, since “far from moderating food combustion and deassimilation by the body, it activates and facilitates both.”⁴⁸ Thus, when used with moderation, coffee “stimulates the nervous system, [...] accelerates the circulation and respiration, elevates the blood pressure, raises the body temperature and accelerates the nutritional movement, thus increasing the intensity of the interstitial combustions”⁴⁹. Therefore, notwithstanding the lack of nutritional value, Guimarães, as all his colleagues, widely supported the use of coffee, since “it favorably modifies the human economy, as if it satisfied a natural need of civilized man”⁵⁰.

Why to drink coffee?

Our analysis up to this point shows that despite the disputes as to the nutritional value of coffee and independently from its loss of relevance as a therapeutic agent, the hygienic role attributed to coffee remained prevalent among the Carioca doctors. However, not within the contemporary scope of chemical inquiry, focused on the nutritional aspects of coffee, but based on the centuries-old relationship among diet, health, climatic factors and temperament.⁵¹ Thus, for instance, the aforementioned Guimarães warned:

“It does not suffice for the physician and the hygienist to have a general knowledge of the usefulness of the use of coffee and the mechanism of its good effects, but they must judge properly its importance as a function of the various circumstances that influence man. Among them, they must pay special attention to age, sex, temperament, climate and occupation.”⁵²

According to the common belief, coffee agreed with individuals of the so-called lymphatic temperament, because it strengthened the stomach and accelerated their “tepid and apathetic” circulation, as well with the ones with sanguine temperament, as it “dissipated the brain congestion”.⁵³ By the same token, it was not suitable for “impressionable and excessively nervous” people.⁵⁴

⁴⁸ Ibid., 48; 69.

⁴⁹ Ibid., 69.

⁵⁰ Ibid., 13-4.

⁵¹ On the long survival of this ancient conception in Brazilian medicine, see Edler.

⁵² Guimarães, 70-1.

⁵³ Bilac, 22.

⁵⁴ Rangel, 25.

Yet, climate was the most relevant factor, being that coffee was considered to be particularly convenient for the population of tropical areas, like Rio de Janeiro: “Coffee is widely used, and even necessary in warm countries”, observed Rangel.⁵⁵ According to him, in such countries the production of animal heat was low, perspiration increased and the body functions decreased, whereby nothing could be better than an excitant, such as coffee: “[...] it is easy to understand why such individuals ask for a substantial and stimulating diet; thus, under such conditions, it is believed that coffee, which nourishes without overexciting them, facilitates digestion, activates the kidneys’ secretion and moderates the skin perspiration”⁵⁶. That line of reasoning had been upheld twenty years earlier by the aforementioned Dr. Regadas:

“Coffee drank after dinner, by favoring the digestion of the foodstuffs then eaten, is doubtlessly suitable in our country, where as a function of the influence of the climate, our digestive power must be naturally weak; therefore, by adhering to that habit, our wealthier classes, or better, the full population of Rio de Janeiro, do not do wrong.”⁵⁷

In addition, the idea of coffee as an “intellectual beverage”⁵⁸ remained a powerful reason for it to be mentioned in books of etiquette and included in cookbooks. Thus, for instance, in his *Manuel de physiologie de la bonne compagnie*, published in France by mid-century, the French naturalist Pierre Boitard (1789-1856) observed:

“Coffee infusion is a rather energetic excitant when one is not yet accustomed to it. Its action is commonly exerted on the brain, however, for some people it seems to act more especially on other organs. Not rarely, for instance, one sees it act as a diuretic and even as a purgative. [...] this is how this beverage, which is currently widely spread, was first introduced in France, where it became a basic essential.”⁵⁹

In his *Código do Bom Tom*, a book of etiquette published by the same time in Portugal, J.I. Roquette describes how coffee should be served, showing that it was a staple, however, without any mention of nutritional or hygienic properties:

“Since large diner parties are cumbersome, the lady of the house should avoid prolonging them [...] for that reason, once she notices all the guests have finished, she should make a signal for all to rise, which all

⁵⁵ Ibid., 26.

⁵⁶ Ibid.

⁵⁷ Regadas, 25.

⁵⁸ Manoel R.L. Oiticica, “Sobre o Regimen Alimentar do Homem no Estado de Saude” (doctoral dissertation, School of Medicine of Rio de Janeiro, 1844), 23.

⁵⁹ Pierre Boitard, *Manuel-physiologie de la bonne compagnie, du bon ton et de la politesse* (Paris: Passard, 1863), 294.

promptly do, and offering the arm to the ladies, return to the hall exactly as they did before upon their arrival, where coffee and liqueurs are already waiting; because one only drinks coffee at the table in the case of informal diners.”⁶⁰

Similarly, for the anonymous author of the Brazilian cookbook, *Doceiro Nacional* (1895), coffee “is doubtless the most popular and best-appreciated beverage worldwide; it helps digestion, is a tonic and a stimulant, therefore it should be used with moderation be nervous people [...]”⁶¹.

The nutritional aspects of coffee were explicitly addressed in a German cookbook that bore the name of the new and exciting science, chemistry, in its title and was translated into Portuguese as *Chimica na Cozinha* (Chemistry in the kitchen) in the 1880s. According to its author, the otherwise unknown Dr. Klench, “gluten and caffeine are the nutritional parts of coffee”, which different than “many believe, is not a mere luxurious beverage, but a plastic foodstuff in the true meaning of this word.”⁶²

Term ‘plastic’ alludes to (an also controversial) theory put forward by mid-19th century by the respected German chemist Justus Liebig (1803-1873). In his celebrated Animal Chemistry (*Die Thierchemie, oder die organische Chemie in ihrer Anwendung auf Physiologie und Pathologie*, 1842), Liebig reinforced the notion of nitrogen as a fundamental nutritional element and on those grounds, he classified foodstuffs as plastic, namely, the ones containing nitrogen (later on identified as proteins) or respiratory (without nitrogen). The former comprised nitrogen-containing animal or plant substances, which were transformed into animal tissues and fluids, while the latter, including starch, sugars and fat, underwent oxidation in the blood, resulting in the production of heat.⁶³

⁶⁰ J.I. Roquette, *Código do Bom Tom ou Regras de Civilidade e de Bem Viver no XIX^o século* (Paris: J.P. Aillaud, Guillard & Ca., 1867), 129.

⁶¹ *Doceiro Nacional ou arte de fazer toda a qualidade de doces. Obra contendo 1200 receitas conhecidas e inéditas de confeitos, empadas, pudins, tortas, biscoitos, bolos bolachas, broas, babás, savarins, vinhos, licquores, xaropes, limonadas, sorvetes e gelados; acompanhada de diversos processos usados para a depuração e extracção do assucar contido nas plantas saccharinas*. 4^a ed. (Rio de Janeiro: B.L. Garnier; Livreiro-Editor; H. Garnier, Successor, 1895), 298.

⁶² Klench, *A Chimica na Cozinha Dedicada ás Boas Donas de Casa*. Transl. Elisa de Noronha (Lisboa: David Corazzi, [s.d.]), 211.

⁶³ Santos, 65; Kenneth J. Carpenter, *Protein and Energy: A Study of Changing Ideas in Nutrition* (Cambridge: Cambridge University Press, 1994), xi; and Karl Y. Guggenheim, *Basic Issues of the History of Nutrition* (Jerusalem: Akademia University Press, 1990), 18.

Final remarks

Our study shows that coffee provides an excellent case illustrating how the ancient notions of temperament and of the influence of the climate on health were not discarded in the face of the new knowledge afforded by chemistry and experimental physiology. Rather, the older views were reshaped so as to fit within a novel and rather complex theoretical framework, in turn not free from controversy, which based on the 'new sciences' sought to make sense of the phenomena related to nutrition in the 19th century. In addition, during the 1800s chemistry contributed to enlarge the scope of the medical views on health and on the nutritional value of food.

In either case, one might conclude, coffee represents a valuable element for the understanding of the relationship between nutrition and health in 19th-century Brazil.