

The Kitchen Dispute: The Reception of the ‘Calorie’ in Belgium, 1890–1913

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Since the early nineteenth century, a couple of chemists and physicians, both in and outside the laboratory, revolutionized nutritional knowledge. The culmination of this in the late nineteenth century was the coining of the word, and its underlying concept (nutritional) ‘calorie’ and in the early twentieth century of ‘vitamin’.¹ The names of prominent scientists such as Atwater, von Voit, Funk, Rubner and Eijkman — winners of, or nominees for, the Nobel prize — are all associated with these discoveries. Both concepts were rapidly diffused within circles of nutritionists *avant la lettre*, physicians, chemists and pharmacists, and applied in food recommendations. The history of the calorie and the vitamin is well known (Apple 2004; Nestle and Nestheim 2012; Price 2016; Scrinis 2013). However, far less is known about the diffusion, reception, and usage of both concepts among teachers, cooks, decision makers, culinary writers, civil servants, journalists, country doctors and housewives, i.e., the wider audience and the general public. Some authors have studied the history of food advice (e.g., Bernabeu-Mestre 2011; Segers 2005; Thoms 2005), but no author has exclusively focussed on the introduction of *new* concepts in food counselling. Yet, the matter of wide diffusion and application of nutritional concepts is crucial if we wish to understand fully the effect on the daily diet. Questions that may come to mind include the description, the significance and the impact of ‘calorie’ or ‘vitamin’ when these concepts initially appeared.

In this paper, I will investigate the way the senders of messages constructed authority. ‘Authority’ is not used in a Weberian sense, i.e., mainly political, as in ‘the authorities’, but in a broad cultural sense that involves credibility, claim-making, and expertise, and that is constantly constructed as well as disputed (Furedi 2015). Undoubtedly, ‘authority’ is decisive when explaining the (in)effective diffusion and reception of new scientific concepts. I thus address power relations related to everyday cooking when scientists interfered with the know-how and practice of cooks and diners with own and clear (or obstinate) opinions on cuisine. Put within a broader frame, I wish to contribute to the complex and debated position of science within society (Topham 2009).

Sources and Method, Place and Period

In previous research I studied the popularisation of the nutritional calorie in Belgium during the First World War (Scholliers, forthcoming). Now, I propose to extend my research into the late nineteenth century, so as to trace the

very roots of the appearance of ‘calorie’ and, especially, the way this new concept was presented to the general public. For my previous research, I used newspapers and magazines that appear to be the appropriate source of information to learn about the popularisation of scientific concepts: by the 1880s, these media were immensely popular, widely read, and addressing diverse social layers, ideologies, and specific groups. Moreover, they include advertisements: the use of ‘calorie’ in advertisements may reveal the mode of its diffusion. Newspapers, thus, reflect much of what is going on in a society, but also introduce ideas or debates, although they do not cover all possible themes (Bingham 2012).

Newspapers are an *open* medium in which not only professional journalists write but also experts and readers (via ‘Letters to the Editor’). I address issues that construct ‘culinary authority’, expecting to find answers by asking whether the article is signed or not, and if so, by whom. Further questions include whether the author actually refers to science and scientists, and if so, to local or to international scientists; were statistics used; was the reader addressed in a familiar, neutral or militant way? I will limit myself in this paper to a Figure with the frequency of the appearance of articles on ‘calorie’ in Belgian newspapers prior to 1914, focussing on *what* has been written about the nutritional calories, and, particularly, *how* it has been written about, in order to learn about techniques of establishing ‘power in cooking’ (Brummett 2010).

I used two data banks: *Belgicapress*, the newspaper databank of the Brussels Royal Library (www.kbr.be/belgicapress) that contains 85 national and local Belgian newspapers, and that of *Het Archief* (www.hetarchief.be) that contains virtually all newspapers and magazines related to Belgium between 1914 and 1918. Using ‘calorie’ within a nutritional context, this search yielded 259 articles of varied size: 118 between 1890 and 1913 (5.1 per year) and 142 between 1914 and 1918 (35.5 per year). I selected Belgium and the period of the Great War because this country was in the middle of the war’s upheaval with highly inadequate production, import and distribution of food, which led to huge shortages, price inflation, impoverishment and social inequality. All this caused great attention to be focussed on food by the general public, health services (e.g., the Red Cross) and various authorities in and outside the country. With regard to the latter, ‘calorie’ came to play an essential role in food aid that was internationally organised (Cullather 2007: 347). Belgium during the Great War offers a very specific case that cannot be considered as representative. However, when comparing the interest in ‘calorie’ in Belgian, Dutch and French media

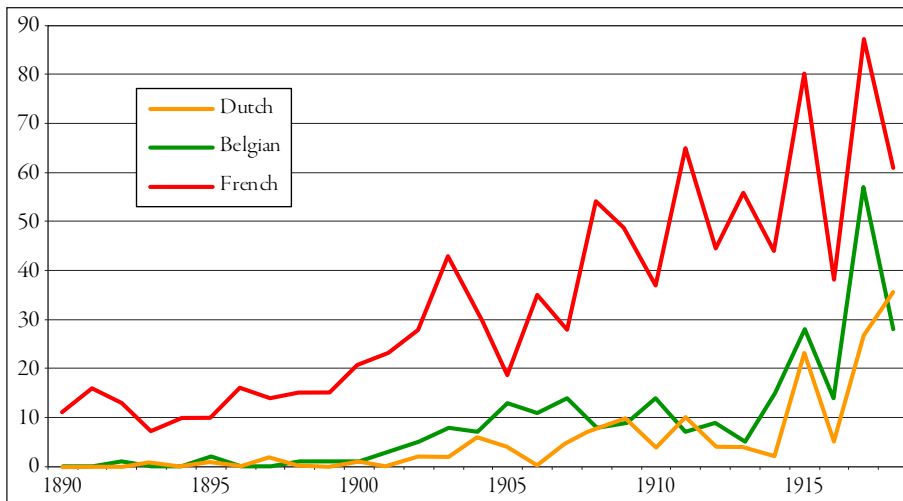


Figure 1. Mentions of (nutritional) 'calorie' in Belgian, Dutch and French newspapers, 1890–1918 (Scholliers, forthcoming).

between 1890 and 1918, a quite similar curve of attention surfaces, especially in Belgium and the Netherlands (Figure 1).

Discovering the Calorie

During the Great War, the Belgian press had published dozens of (very) short and (very) long pieces (articles and few advertisements) containing 'calorie' in a nutritional context (Scholliers forthcoming). This concept had become very familiar to both authors and readers during those years. Therefore, 'calorie' is not to be viewed as new in the press of those years, and it could not be used to obtain a position of authority in the culinary domain. Subsequently, the question arises about the pre-war years when 'calorie' was a novel nutritional concept. Figure 2 duplicates the information of Figure 1, but without including French and Dutch newspapers or the war years, thus accentuating Belgium prior to 1914. This shows a couple of years in which attention to 'calorie' in Belgian newspapers was higher than in other years. No linear growth appeared (similar to the Netherlands, but unlike France), and an Alpine-style *étape* of the *Tour de France* shows between 1890 and 1913, with a flat part (1890–1900), a sudden climb up to 1903 followed by two steep peaks, one in 1907 and the other in 1910, and then a descent to 1913, but still on a higher level than the starting point. The 1910 peak (14 mentions) is caused by the fact that an advertisement appeared eight times in several newspapers in that year: discounting the advertisements, 1907 would be the only peak (Figure 2).

All in all, the Belgian newspapers had published a total of 118 pieces on the nutritional calorie up to 1913,

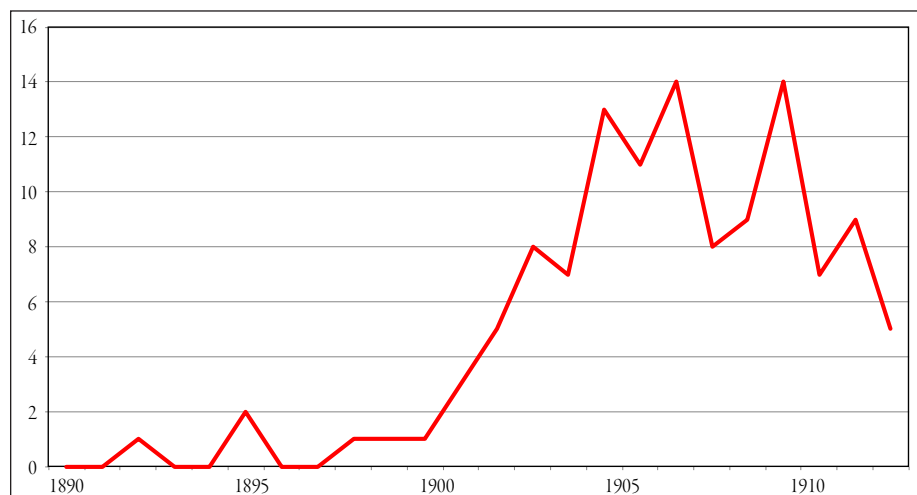


Figure 2. Mention of 'calorie' within nutritional context in Belgian newspapers, 1890–1913

a number which cannot be seen as overwhelming, or indicating widespread enthusiasm about 'calorie'. Moreover, articles on 'calorie' appeared only in eleven of the 85 newspapers of the databank, with one newspaper, *La Meuse*, providing almost 30 per cent of the 118 articles. Admittedly, the Royal Library's databank does not provide a full picture of the way 'calorie' appeared in *all* newspapers, magazines and journals in Belgium prior to 1913, although the number of Belgian articles was quite similar to that of the Netherlands, for which the databank is much more complete. Yet, I am satisfied with

the 118 articles, and consider them to be sufficient for investigating the way the articles framed 'calorie' prior to 1914. The eleven newspapers were all in French and revealed various ideologies; they were published in Brussels (liberal *Indépendance belge* [1831], catholic *Journal de Bruxelles* [1850], social-democrat *Le Peuple* [1885], popular *Le Soir* [1887], catholic *Le XXe Siècle* [1895], and liberal *Dernière Heure* [1906]), and in Wallonia (catholic, business-oriented *Courrier de l'Escaut* [1829], social-democrat *Journal de Charleroi* [1838], business-oriented *La Meuse* [1856], liberal *Gazette de Charleroi* [1868], and catholic *Avenir du Luxembourg* [1894]). Note that Flemish newspapers or papers published in Flanders (in French) did not pay attention to 'calorie' according to the Library's databank (unlike during the Great War).

Pioneers

The first article on the nutritional calorie in a Belgian newspaper appeared in *Journal de Bruxelles* ('Le meilleur régime

alimentaire', unsigned, 3 July 1892, p. 6). This long article summarises a lecture at the Parisian *Académie Nationale de Médecine* on 28 June, where Dr Sée had presented the newest findings in nutritional research. One may assume that a correspondent of the newspaper attended the meeting.² Was the author of the article a physician? And why was it not mentioned that he had attended a prestigious meeting? Other elements contributed to the creation of authority, though. Referring to Berthelot and von Voit,³ the author wrote that, 'Food has finally obtained its real significance, and should be properly defined', i.e. expressed in calories. Other *fait important et nouveau* was that foodstuffs are substitutable, since bread, pulses, meat or dairy products all supply calories, albeit in different quantities. So, there was no need to consume a large amount of (expensive) meat.⁴ Finally, the newspaper concluded that digestibility and taste should not be ignored. The long article uses jargon such as albumin, azote, mucin, lecithin, etc. It is quite technical — referring to amounts of kilocalories for proteins, fat and carbohydrates — and strongly opposes earlier nutritional views. This article was very close to the state-of-the-art research on calories, which had entered a new phase since the late 1880s (Levine 2017; Nestle and Nestheim 2012). It is an authoritative piece that, rather surprisingly, did not lead to reactions in the press.

Three years later, *Le Peuple* published a long piece ('L'alimentation', 28 September 1895, p. 1). The author, Georges Delbastée (1864–1944), was a medical doctor and member of the Brussels municipal council (1894–1912) for the Social-democrat party. The article's context differed totally from the 1892 piece, in that it attacked new taxes on bread, meat, butter and margarine, which augmented the cost of living. The author discarded customary arguments (e.g., miserable living conditions or health problems of the working classes), but utilised recent nutritional knowledge. He reasoned that food provides proteins, carbohydrates and fats, which are present in meat, butter and bread. 'Calorie' appears as a decisive argument for an overall wage increase: food produces heat, heat is energy, and the more energy one has, the more work can be done. Delbastée expounded the concept of calorie by defining it,⁵ explaining which nutrients provided most calories, and emphasizing that lack of calories will lead to inferior work. This reference to dietetics was thoroughly innovative in the Belgian social-political discourse on living standards of those days, but it did not impress: other newspapers did not refer to Delbastée's arguments.

Indépendance belge printed a lengthy article ('Le sucre comme aliment', 28 March 1898, p. 2) in its *Chronique scientifique*, a weekly section of the newspaper, that referred to 'calorie' in a way that implied that the concept was quite familiar. The piece was unsigned, but, as in 1892, it seems that the journalist was very well informed (a medical doctor?) and probably had attended the talk by Dr Chauveau at the French Academy of Sciences.⁶ Chauveau had lectured on the importance of sugar as

aliment, or rather, as supplier of energy. Chauveau was relatively famous for the launching of the metaphor of the human body as a motor (Rabinbach 1992: 127). His main point was that, thanks to new reliable measurements (i.e., the calorie), it was possible to assess the energy supply of foodstuffs. 100 g of sugar provided almost the same amount of calories as 100 g of fat or meat, with, moreover, the fast transformation of sugar into energy. So, consumption of sugar should be increased to the benefit of the working classes. This article addressed a specialised audience, using jargon (e.g. dynamogène, thermogène, glycogène), quoting from Chauveau's lecture, and referring to other experts (Berthelot and Kingsford).⁷ Evidently, the journalist was well informed, but did not define 'calorie' in any obvious way in his piece.

On 26 October 1899, a Dr Fafner published 'Hygiène alimentaire. Les fromages' in *Gazette de Charleroi* (p. 5), an accessible, medium-length piece on the many qualities of cheese.⁸ His starting point was the fact that cheese was frequently adulterated. He welcomed the new royal decree that regulated the cheese trade. The author listed the content of proteins and fats of diverse cheeses, compared prices, and concluded, referring to the supply of calories, that cheese is a relatively cheap provider of albumin, fat and energy. In terms of forging culinary authority, Fafner demonstrated himself as not only a cheese connoisseur, but also proved to be familiar with recent nutritional knowledge. *En passant*, he dropped the names of Munk, Ewald, Moleschot and Muller.⁹

The above four articles show common features: they were, most probably, written by medical doctors, they categorically highlighted the novelty of 'calorie', they underscored its significance within dietary knowledge, and they introduced 'calorie' within very different contexts. They did so by deploying clear authority in referring to experts and using jargon. Assessing the articles' impact on readers is impossible, but judging by the very feeble resonance in the Belgian press, this probably was but moderate.

Contestants

In 1895, *Le soir* ('Chroniques parisiennes, 28 May 1895, p. 5) published an unsigned article about scientific experiments on human beings. An example of extreme experiments on humans was Atwater's calorimeter, which the article described in detail and compared to torture (the person in the calorimeter being called a 'victim'). 'Calorie' and nutritional research as such were not criticized, though. In the early 1900s, a negative tone regarding new nutritional knowledge appeared in the newspapers. This was somewhat ambivalent in that the concept of calorie was not necessarily questioned, but rather the authority of nutritional science and ensuing practical recommendations. 'Nous mangeons trop' appeared in *Journal de Bruxelles* (20 January 1901, p. 1), in which the author (using 'J.S.' as a penname) criticized the latest nutritional insights. His

starting point was a study of Dr Bardet,¹⁰ who claimed that people, in general, eat far too much. J.S. ridiculed the basis of the study, claiming that it overstated the experiment (based on one person), which is where the 'calorie' enters the argument: this person consumed the double of the ideal 2,200 calories per day. This information is provided taking 'calorie' for granted. The article ends by satirizing Bardet's plea to start estimating one's own daily caloric intake, which absolutely disregards the daily practice of most humans. The author concluded, 'Doctors have never convinced anybody'. One year later, a doctor Ox repeated this criticism,¹¹ referring to Bardet's concept of 'albumisme' or the overconsumption of proteins and, particularly, of meat (*XXe Siècle*, 21 December 1902, p. 1). Dr Ox equally ridiculed the very low intake of calories proposed by Bardet ('This menu is horribly Spartan and anchoritic'), but he extensively explained the notion of 'calorie', without questioning it, and thus made a more elaborate and persuasive argument.

Docteur Ox published more pieces similar to this (propensity is more to do with behaviour) in the 1900s, but radicalised his views. In 'L'art de manger' (*Journal de Bruxelles* 2 December 1903, p. 6; *La Meuse*, 4 December 1903, p. 3) he bluntly attacked 'science' that, according to him, had replaced 'art' in cooking and eating. He wrote, 'Eating has become an issue of supporting the machine', 'Chemistry has reduced cuisine to an atomic formulae', and 'Science has taken over cuisine'. The author vehemently deplored all this. 'Calorie', here, is seen as a primordial accomplice in science's assault on the kitchen. He continues by criticizing chemistry, physiology and nutritionists who defend the principle of extensive chewing (he refers to Hufeland) or who are in favour of radical dietary reforms (he refers to Pascualt).¹² The tone of the piece is satirical and sharp, and aggressively in defence of the *bonne fourchette*.

Also in 1903, Dr Ox wrote about the question whether alcohol (wine, cider, liquor,...) has nutritional value (*La Meuse*, 21 January 1903, p. 3). 'Yes' was his answer, but he warned about overconsumption. Yet, he used this issue to criticize nutritional research by Atwater. The latter had stated that alcohol provided calories, but Dr Ox highlighted that energy of alcohol does not equal the nutritional value of other foodstuffs. Hence, the virtues of the calorimeter should be questioned: it provides a too simple approach to diet. A very similar critique appeared in *Courrier de l'Escaut* (1 March 1903, p. 2) by Dr Cabanès.¹³ He, too, fulminated about some chemists' claim that alcohol was indeed a valuable nutrient that provides a lot of calories. Cabanès comprehensively explained the way the calorimeter operates, but then fiercely opposed Atwater's conclusions by referring to the *bon sens* and the common knowledge of the hygienists. He quoted, 'To this common sense, too much science can harm'. The calorific content of alcohol appeared in other newspapers too, among others, in *Le Peuple* (11 June 1904, p. 1), in a long, well-documented article by D. De Paepe.¹⁴ This author referred to no less

than twenty scientists (e.g., Atwater, Duclaux, Coupin, Neumann, and Schüle), used jargon and few statistics, with the implicit assumption that this underlined his definite expertise. He concluded that moderate consumption of wine, beer and cider is harmless, but that viewing alcohol as a nutrient, as proposed by some scientists, is wrong.

Docteur Ox published 'Les oeufs sont-ils toxiques?' (*Journal de Bruxelles*, 21 December 1905, p. 6), a long piece in which he pointed at allergies that come with consuming eggs and condemned the way modern egg producers and traders commit fraud. An avalanche of familiar and uncommon names appeared in his article (Linossier, Loisel, MacKenzie, Capitan, von Voit, Cornare, Brillat-Savarin), and many examples of cases of allergies were given. The piece ended by the reassuring inventory of the many positive qualities of eggs, in which calories were a prominent argument. In this piece, 'calorie' was uncontested. *Docteur Ox* published regularly also in other Belgian newspapers (*Le Soir* [1902 and 1903], *Journal de Charleroi* [1910], *Avenir du Luxembourg* [1912]) about nutrition and cuisine, but without necessarily referring to 'calorie'.

In the early 1900s, other authors added to this critical viewpoint, to different degrees, on recent nutritional knowledge. A doctor Vidi signed a piece 'Gastrologie' in *Gazette de Charleroi* (19 November 1904, p. 3).¹⁵ He surveyed the new 'science of the belly', criticizing the emergence of the many dietary regimes that had become inescapable, preventing a person from eating normally or enjoying a meal. But how to advise the right quantity and quality of food, he asked, when people have different tastes, body shapes and needs? 'Calorie' appeared in the margin, and uncritically. The article ended by reminding his readers of the wise old saying (however unscientific): 'let's keep our feet warm, our head cool, and our guts empty.'

Criticism of 'calorie' had appeared from various sides. Some doctors (real ones or not) doubted the usefulness of the new scientific experiments and their results, claiming that the focus on energy was too one-sided. Linked to this, an even more general assessment appeared, namely, that cuisine should remain the domain of the cook and the diner, and not be influenced by science. Arguments for this stance were to be found in 'common sense' and traditions.

Supporters

The above articles provide examples of critical views on nutritional science and, as a consequence, on its latest finding, the calorie. Nevertheless, other newspaper articles continued the interest of the pioneering articles of the 1890s, and acclaimed the new nutritional concept. For example, Henri de Parville addressed Doctor Bardet's findings (*La Meuse*, 16 December 1902, p. 3), not to ridicule them as did J.S. or Dr Ox (see above), but to expose the usefulness of a more controlled diet that limits meat consumption.¹⁶ 'Calorie' was prominent in his argument. In 'Ce que nous devons manger' (*La Meuse*, 6 July 1906,

p. 3) the same author welcomed enthusiastically the new nutritional insights (i.e., the rational diet), claiming that these 'not only learn how to compute our calorie intake, but also reveal how to lower our household expenditures', i.e. 'Atwater's ideal'. 'Calorie' takes a prominent role in de Parville's argument, referring to doctors Landouzy and Labbé.¹⁷

With 14 articles in the press, the year 1907 may provide some kind of synthesis of the way 'calorie' was perceived in Belgium in that period. There were abundant references to scientists by all the authors, and the tone with regard to 'calorie' was positive in eight of the 14 pieces, with three neutral and three disapproving. The latter continued the critical trend of the early 1900s. In *Dernière Heure* (3 June 1907, p. 3) an unsigned article appeared in the weekly section *Variétés scientifiques*, with the cheeky opening phrase, 'Recently, the tribe of the therapists and hygienists restrained itself somewhat in its eternal fight against the pleasures of human life'. However, deplored the article, new enthusiasm for fighting such pleasures had emerged with the coming of the calorimeter and the measurement of the nutritional value of foodstuffs. Chanteflor was even sharper in 'A propos des calories' (*XXe Siècle*, 24 January 1907, page 1),¹⁸ when writing that 'We owe to science some good things, but also many nuisances. Among the latter we see the worries of many people with regard to calories'. And further, 'In conclusion, best is that you and me leave the calories to the doctors and the scientists'. Nonetheless, he listed a large number of foodstuffs with their caloric value. Later that year, Chanteflor continued his negative view when welcoming the fruit season ('Confitures et calories', *XXe Siècle*, 2 August 1907, p. 1). Sarcastically, he wrote, 'We now eat in a rational and scientific way and do so in full knowledge, but I know that this does not make you happier, nor even healthier'. He referred to Collière, Viaud-Bruart and some others, to stress the virtues of fruit in matters of health, digestion and taste (no need to count calories!).¹⁹

Three articles that mentioned 'calorie' in the set of 1907 articles were very brief and did not comment on the concept. They reported on a study that compared the caloric cost of labour by men, animals and machines, to conclude that the 'human calorie' was the most expensive (e.g., 'Moteur humain', *Journal de Charleroi*, 19 May 1907, p. 5). However, the tone of most articles that paid attention to 'calorie' in 1907 was positive, in that 'calorie' was welcomed as an asset to compute and advise on human nutrition. For example, 'Fruitarisme' (in analogy of *végétarisme*) appeared in *Journal de Bruxelles* (signed by 'X', 12 July 1907, p. 2) and in *La Meuse* (de Parville, 12 July 1907, p. 2), with a slightly different text. It was a long piece that referred very positively to calorie that allowed to highlighting the virtues of fruit. Some of the same authors as referred to by Chanteflor (see above), were listed in both newspapers (Viaud-Bruart and Collière, e.g.), but others were added, such as Pavlov, Landouzy, and the brothers Labbé.²⁰ Pavlov was quoted in other newspapers too, for

instance in *Gazette de Charleroi* ('Art de manger', unsigned, 16 January 1907, p. 3), where he was praised for his claim regarding eating slowly and with pleasure. The name of the 'Great Masticator' (H. Fletcher) appeared in this context, together with that of Chittenden, famous for his appeals to reduce protein consumption, in which Atwater's calorie experiments were basic.²¹ A 'Dr B.' published a piece that also was titled 'L'art de manger' in *Indépendance belge* (29 March 1907, p. 3). Here, too, scientists were mentioned who had pleaded for slow eating and tasty food, which would lead to lower energy intake and, therefore, savings on food spending. Name-dropping was impressive: Brillat-Savarin, Fletcher, Pavlov, and Chittenden were familiar in this context, but Petenkoffer, Forster, Musso, Kronecker, Zuntz, Héger, Welch and many others were not. 'Calorie' is presented as decisive in the chain of arguments.

A last article of significance of the 1907 set was authored by Dr Neufonts (*La Meuse*, 30 August 1907, p. 3).²² It was on cheese ('Nos principaux fromages. Leurs diverses valeurs alimentaires'). The author showed himself to be a genuine connoisseur of very diverse cheeses, listing 21 of them with their caloric content. This differed importantly (454 calories for Chester, 172 for goat cheese), which surprised the doctor. This was the first time a coherent table with the calorie content appeared in a newspaper. Dr Neufonts did not mention where he obtained this information, nor did he refer to scientists. He was a fervent supporter of the usage of calorie, concluding his article with, 'Isn't it evident that we all need to have at home a table with caloric values of our principal foodstuffs as well as a reliable balance to wisely measure our portions?'.

The tone of the newspaper articles on 'calorie' in 1907 was generally positive, while the critical and even mocking appraisals faded. In terms of forging authority, many names of scientists still appeared, but less jargon was used, while the publishing of statistics was new.

Devotees

Around 1910, the scientification of the kitchen persevered, at least in the media. This related to the idea that most people ate badly, whether not enough or too much. This was based on investigations by Landouzy and Labbé who had continued their research on the diet (e.g., Landouzy 1908). 'La nourriture rationnelle' (*Avenir du Luxembourg*, 10 October 1908, p. 2, unsigned) illustrated this quest for dietary rationality, with the recommendation of eating less meat (and, for young women, less salad because of the exuberant price per calorie), and more pulses, bread, sugar, and potatoes. During three consecutive weeks, *Journal de Charleroi* also devoted great attention to rational eating ('Alimentation journalière' 23 February, 1 and 8 March 1908, p. 3, C. Antoine).²³ The author referred to a long line of experts (Rubner, Dopter, Linossier,...),²⁴ pleading for lowering meat consumption, and proposing practical meals

with lots of bread, dairy products, pulses and potatoes, and a maximum of 120 grams of meat (for adult men).

A radical view in favour of calories appeared in *La Meuse*, with the telling title 'Mangeons des calories' (22 June 1909, p. 1, P. Schuind).²⁵ The author deplored the fact that professional and amateur cooks ignore the word 'calorie' and thus fail to mention the amount of calories to the diners. He referred to professor Ide,²⁶ published a table with statistics, was in favour of less meat consumption, and concluded that we all would benefit from the general usage of the notion of calorie. Schuind published several pieces in favour of 'calorie' in *La Meuse* in those years. An identical point of view appeared in two pieces of *Dernière Heure*: 'Apprenons à manger' (4 January 1912, p. 1, R. Bovet)²⁷ and 'Bien manger' (26 July 1912, p. 1, L. Delattre). The first put that, 'We cannot eat! Our ignorance is lamentable! How can we learn about our needs, according to which principle?', which was followed by the announcement that scientists have proposed to use 'calorie' to learn (educate about?) exactly how much and what to eat (again: less meat, more pulses). Louis Delattre (see above) used the metaphor of the stove to explain human nutrition, and concluded that, 'Let us learn to eat the exact aliments we need', welcoming the 'calorie'.

Perhaps the best illustration of the 'victory' of the pro-calorie camp just before the Great War, is the article that Chanteflor wrote, 'Sur une réunion de fermières et quelques calories', a quite remarkable title (*XXe Siècle*, 14 October 1910, p. 1). Chanteflor had been one of the most fervent critics of 'calorie' in the early 1900s (see above), but now he used a meeting of the association of farmers' wives to stress that *we* not only do not know what to eat, but also how to cook. He based the latter on his evaluation of the Belgian habit of boiling vegetables, stews, pasta and potatoes for far too long. He also referred to professor Ide to demonstrate the general lack of knowledge about the quality of foodstuffs, and showed enthusiasm about 'calorie'. How he explained his turn taking, is telling. He wrote, 'Yet our ignorance until now can be excused, because the calorie isn't a very old acquaintance to us. What is more, lots of our ideas about the exact nutritional value of many things have been shaken up'. His enthusiasm led him to plead for the general introduction of nutritional concepts, and particularly of 'calorie', in programmes of household schools throughout the country.

Between 1908 and 1913, only one article appeared with a more or less critical view on nutritional calories. 'Si nous apprenions à manger' appeared in *La Meuse* (5 March 1912, p. 6). The author reacted to a talk by Dr Hemmerdinger,²⁸ but failed to do so convincingly, in that the language was complicated, the arguments were vague, the tone was sarcastic, and the conclusion ambivalent. The journalist attacked Hemmerdinger, and was satisfied that the doctor had not subjected his audience with long lists of calories. 'Apprendre à manger', according to *La Meuse*, was not using calories, but using 'biology' to support one's culinary taste.

Conclusions

Assuming that newspapers more or less adequately reflect a society's opinion, I may conclude that a dispute about the daily diet occurred in Belgium from the 1890s onward. The origin of this dispute was the new scientific view on food, in which the nutritional calorie played the central role. Its appearance led to a modest acclamation in the 1890s, which turned into general approval by 1914. 'Calorie' had the charm of novelty, was relatively easy to comprehend and seemed to include the promise of targeted eating, while it was cast in various frames, not only normative and controlling but also emancipating (about the latter, see Neswald, Smith & Thoms 2017: 19–20). Counterarguments appealed to common sense and *la bonne fourchette*, while the incongruity of 'calorie' was demonstrated by, for example, discussing the supply of calories from alcohol ingestion.

The calorie-dispute was not only about arguments, but also about *how* these were phrased. Pro-calorie authors of newspaper articles referred frequently to scientists, and some journalists published extensive lists of names. The addition of 'professor', 'eminent scientist' or the name of a research institution was another technique to construct authority. The same goes for the usage of jargon, which was particularly important up to 1905, when a more accessible language appeared. Using tables with lots of data could also have impressed the reader. Finally, 'we', 'us' and 'our' were often used to include the audience in one's view. Opponents to 'calorie' used the latter too, and perhaps more extensively, since concepts such as 'common sense' or 'custom' permitted the author to easily do so. Alongside this, they wrote with humour or even sarcasm to criticize the calorie. Yet, in those days, what and how the opponents thought about the calorie could not resist the grip of science on culinary matters. 'Calorie' had started the dispute between scientists and artists about cooking and eating, which continues today.

About the author

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Notes

1. Throughout the text, I use 'calorie' as was customary in the late nineteenth and early twentieth centuries (opposed to today's 'kilocalorie').
2. Dr Germain Sée (1818–1896) practiced in Hôtel-Dieu hospital, specialising in diet of the ill (his lecture: Sée 1892).
3. Particularly Carl von Voit (1831–1908) played an important role in nutritional research. He had built the first calorimeter in the 1860s, and W. Atwater was one of his students.
4. This idea was key to Atwater's motivation: lower the cost of food for workers and, ultimately, of wages.
5. 'On appelle calorie la quantité de chaleur nécessaire pour élever la température d'un kilogramme d'eau de 0 à 1 degré'.
6. On Auguste Chauveau (1827–1917): <http://cths.fr/an/savant.php?id=652#> (accessed : 18.01.2018).
7. Referring to French chemist Pierre Berthelot (1827–1907) in this context was common, but referring to English theosophist Anna Kingsford (1846–1888), a strict vegetarian, was special.
8. Fafner was not a penname (after a character in Wagner's Siegfried), since 'Docteur Fafner' was referred to in other newspapers in a medical context; I found no information on this author.
9. Dr Immanuel Munk (1852–1903) and Dr Carl Ewald (1846–1915) made their reputation with *Ernährung des gesunden und kranken Menschen* (1896), Dr Jacob Moleschot (1822–1893) was nutritionist avant la lettre, and went on to become professor at Rome's La Sapienza university, and Dutch chemist Gerrit Mulder (1802–1880) studied albumin.
10. Most likely referring to doctor and chemist Godefroy Bardet (1852–1923), president of the Société hydraulique.
11. 'Docteur Ox' was one of Jules Verne's heroes, so most likely this is a penname. I could not find information about a Dr Ox, save the fact that 'un mystérieux compère, le docteur Ox' published on the history of chemistry in the *Annales coopératives pharmaceutiques* in the 1930s.
12. Dr Wilhelm Hufeland (1762–1836) was in favour of macrobiotics to prolong human life; Dr Louis Pascault (?–?) published food recommendations (e.g., *Précis d'alimentation rationnelle* [1910]).
13. Auguste Cabanès (1862–1928) was a French medical doctor with an interest in history and journalism, founder and member of diverse scientific associations.
14. Désiré De Paepe (1874–1919) was a doctor of natural sciences and professor at the Université Libre de Bruxelles.
15. There is no clue as to who this author may be: 'Docteur Vidi' has been used as a penname since the 18th century.
16. Henri de Parville was the penname of mining engineer François Peudefer (1838–1909), who aimed at popularising science; he was editor of *La Nature*.
17. Louis Landouzy (1845–1917) was professor of neurology (Paris); together with Henri Labbé (1874–?) and Marcel Labbé (1870–1939), he published *Enquête sur l'alimentation d'une centaine d'ouvriers et d'employés parisiens* (Paris, 1905).
18. I could not find information on this author. 'Chanteflor' published irregularly in *Le XXe Siècle* on very different themes.
19. Henri Collière (?–?) published on vegetarianism; Gabriël Viaud-Bruant (1868–1948), horticulturist, published on agriculture.
20. Ivan Pavlov (1849–1936) was a Russian physiologist and a Nobel Prize winner (1904).
21. Horace Fletcher (1849–1919) emphasized the need to chew food extensively, and only eat when hungry; Russel Chittenden (1856–1943) was a physiologist, who specialised in the chemistry of nutrition.
22. There is no information on Dr D. Neufonts; according to Belgicapress he published only this one article.
23. There is no information on this author. According to Belgicapress, he did not publish in newspapers subsequently.
24. Prof. Max Rubner (1854–1932) specialized in metabolism and was famous for his isodynamic law of calories ('a calorie is a calorie'); Prof. Georges Linossier (1857–1923) studied the role of meat and fruits in the diet; Dr Charles Dopter (1873–1950) was army doctor, and studied the diet in general.
25. Dr Pierre Schuind was a general doctor who later taught at Liège university.
26. Dr Manille Ide (1866–1945) taught physiology at the university of Leuven, and specialized in pharmacodynamics.
27. No information on R. Bovet. According to Belgicapress he published this one article.
28. Dr Armand Hemmerdinger (1879–1946) specialized in children's diet; he published on the *energétomètre* (1906); the talk was read at a meeting of the Société Scientifique d'Hygiène in Paris.

Works cited

- Apple, R. (1996) *Vitamania. Vitamins in American Culture*. New Brunswick (NJ): Rutgers University Press.
- Bernabeu-Mestre, J. et al. (2011) 'La divulgación radiofónica de la alimentación y la higiene infantil en la España de la Segunda República (1933–1935)'. *Salud Colectiva*, 7, supplement no. 1, 49–60.
- Bingham, A. (2012) 'Reading Newspapers', *History Compass* 10:2, 140–150.
- Brummett, B. (2010) *Techniques of Close Reading*. London: Sage.
- Cullather, N. (2007) 'The Foreign Policy of the Calorie', *The American Historical Review*, 112, no. 2, 337–364.
- Furedi, F. (2015) 'Bringing Historical Dimensions into the Study of Social Problems: the Social Construction of Authority', *Qualitative Sociology Review*, XI, 2, 94–108.
- Landouzy, L. (1908) *L'alimentation rationnelle: conférence*. Paris: Masson.

- Levine, D. (2017) 'The Curious History of the Calorie in U.S. policy', *American Journal of Preventive Medicine*, 52: 1, 125–129.
- Nestle, M. and M. Nestheim (2012) *Why Calories Count: from Science to Politics*. Berkeley: University of California Press.
- Neswald, E., Simth, D. & Thoms, U. (2017) 'Introduction'. In: Neswald, E., Simth, D. & Thoms, U. (eds). *Setting nutritional standards*. Rochester (NY): University of Rochester Press, 1–28.
- Price, C. (2016) *Vitamina: How Vitamins Revolutionized the Way We Think About Food*. London: Penguin.
- Rabinbach, A. (1992) *The human motor*. Berkeley: University of California Press.
- Scholliers, P. (forthcoming) 'The Popularization of a New Nutritional Concept: the Calorie in Belgium, 1914–1918', in Gentilcore D., Smith, M. (eds.) *Dietary Innovations and Disease*. London: Bloomsbury.
- Scrinis, G. (2013) *Nutritionism. The Science and Politics of Nutritional Advice*. New York: Columbia University Press.
- Sée, G. (1892) 'Le nouveau régime alimentaire pour l'individu sain et pour le dyspeptique', *Bulletin de l'Académie nationale de médecine*, xxvii, pp. 897–916 (<http://gallica.bnf.fr/ark:/12148/cb34348109k/date1892>).
- Segers, Y. (2005) 'Food Recommendations, Tradition and Change in a Flemish Cookbook: *Ons Kookboek, 1920–2000*' *Appetite*, 45:1, 4–14.
- Thoms, U. (2005) 'From Cooking to Consultation: the Professionalization of Dietary Assistants in Germany, 1890–1980', in Oddy, D. & Petranova, L. (eds). *The Diffusion of Food Culture in Europe from the Late 18th Century to the Present Day*. Prague: Academia, 107–18.
- Topham, J. (2009) 'Rethinking the History of Science Popularization / Popular Science', in Papanelopoulou, F. et al (eds). *Popularizing Science and Technology in the European Periphery, 1800–2000*. Farnham & Burlington: Ashgate, 1–20.
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