

## The Life and Times of Ladislav NACHMÜLLNER – The Codex Alimentarius Austriacus

### INTRODUCTION

The creation of Pragaḡa by Ladislav Nachmüllner did not happen in a vacuum or in isolation from the cultural and scientific environment that existed in Prague between the mid-1800's and 1915.

This article examines the general state of food science in Vienna and Prague during this time and, in particular, the creation of the **Codex Alimentarius Austriacus** and the international movement that culminated in the creation of the Codex Alimentarius Commission of the World Health Organisation.

We will show how this environment of superior technology and leadership related to food science that existed in the Austro-Hungarian Empire, explains the development of Pragaḡa in Prague.

### PRAGUE CREATED PRAGANDA

By the time the master-butcher from Prague, Ladislav Nachmüllner, registered his patent for Pragaḡa, the direct use of nitrites in food was legal in the Austro-Hungarian Empire. This was not the case in Germany yet. Pragaḡa became the first commercial nitrite-based curing brine. Sodium Nitrite was by this time already used directly in curing plants around the world but done so mostly in secret. Even NACHMÜLLNER did not advertise the fact that his curing mix contained sodium nitrite. ([Ladislav NACHMÜLLNER vs The Griffith Laboratories](#))



Ladislav NACHMÜLLNER, the master-butcher from Prague and inventor of the first commercial sodium nitrite based curing mix, Praganda.

The Sydney Morning Herald (Sydney, New South Wales, Australia) published an article on 22 September 1898 about the Slavs or Czech's in Bohemia (referring to the entire Czech territory), that they are like “a young man who has come of age”; being surrounded on all sides by the industrious Germans, and they have “learned much, nay, all, from them and in all departments of culture they have kept pace with them and have now overtaken them.”

It is not surprising that the greatest food inventions came from here. Sodium Nitrite based curing brines, bone-in and boneless hams, ham presses and the cornerstone that our entire food safety system is built upon through the creation of the **Codex Alimentarius Austriacus**, all originated here. The creation of the **Codex** is by itself an amazing story, seldom told and shows how advanced the level of sophistication was in this part of the world in all matters related to food chemistry. A heritage that makes Prague in many respects the food capital of the world to this day.

### TOWARDS THE CODEX

The impetus for developing food safety legislation was in Vienna, as it was around the world, in response to the scourge of food adulteration. Food adulteration was on its part the result of the development of colourants and chemical preservatives from the coal-tar dye industry

in the mid-1800's and the chemical synthesis industry, before the invention in the 1840's of, and wide scale application towards the end of the 1800's of refrigeration ([Concerning Chemical Synthesis and Food Additives](#))

The journalist, activist and political writer, Paul Lafargue, said it well in his 1883 publication that, "Our time will be called the age of falsification". "In Brussels, *saucissons dits de Bologne* were made from the meat of horses that were sick or had died of contagious disease. This did not upset people. A French butcher replied to an angry mayor, "You don't need to worry about the health of our fellow citizens, Sir, for I am selling unwholesome meat only to the troops!" (PATRICK ZYLBERMAN, P. *Med Hist.* 2004 Jan 1; 48(1): 1–28)

The big issues of the day, flowing out of the problem of food adulteration, were food hygiene, labelling, the testing of final products in the marketplace, inspection during food production and international borders as an effective barrier against importing of animal diseases and harmful foods. These matters did not all receive equal priority early on.

At first the focus was on the use of international borders and import regulations as a way of safeguarding local populations against harmful foods and national herds against disease. Labelling was driven by consumer demand. "Throughout the nineteenth century, consumers had often lodged complaints about the absence of labels." Food was inspected only in the marketplace since provisions for controls at manufacturer's were lacking. (PATRICK ZYLBERMAN, P. *Med Hist.* 2004 Jan 1; 48(1): 1–28)

Vienna was leading the world in food safety, but this does not mean that it was not an issue around the world. In 1879, the German Food Law came into force. (*Int. J. Vitam. Nutr. Res.*, 82 (3), 2012, 223 – 227. Vojir, F., Schübl, E. and Elmadfa, I) In the USA, the Pure Food and Drug Act came into force in 1906.

A movement started to develop which called for trade regulations that would link trade and hygiene. The ideas that formed the **Codex Alimentarius** or **Food Code** was in the air during the 1870's and 1880's.

France, for example, "modeled its regulations on food on proposals emanating from several international congresses. As a consequence of international hygiene congresses in 1878, 1882 and 1887, Paul Brouardel, a French pathologist, hygienist, and member of the

Académie Nationale de Médecine, along with Bouley and others, called for national as well as international regulations. In Europe and the United States, chemists joined the ranks of those asking for inspections.” (PATRICK ZYLBERMAN, P. Med Hist. 2004 Jan 1; 48(1): 1–28)



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and member of the Académie Nationale de Médecine,  
called for national as well as international food regulations.

The 1890's saw the germination of these seeds and the creation of the **Codex Alimentarius Austriacus**. It happened as follows.

### **THE AUSTRO-HUNGARIAN STATE**

On 12 October 1891, a meeting took place at the Imperial Academy of Sciences, in Vienna, chaired by *Prof Ernst Ludwig*, of the Assembly of Food chemists and Microscopists where a suggestion was tabled for the establishment of a Scientific Commission which would develop the **Codex Alimentarius Austriacus**. *Ludwig* was the professor of applied medical Chemistry and the first head of the Institute for medicinal chemistry at the University of Vienna. (Schübl, E., Vojir, F.. 12.10.2011. 120 Jahre Codex Alimentarius Austriacus)



Prof. Ernst Ludwig chaired the meeting at the Imperial Academy of Sciences in Vienna where the idea for a Codex Alimentarius was first proposed.

This suggestion came about as follows. “At this meeting two proposals were submitted for formal voting, which can be seen as starting point in establishing a **food codex**.” (Int. J. Vitam. Nutr. Res., 82 (3), 2012, 223 – 227)

The honour for the first suggestion for the **codex** goes to Dutch scientist, Paul Francois van Hamel-Roos, who suggested that single states should prepare national codices from which would be drafted an international codex. “In addition, the Austrian, Hans Heger, proposed the creation of a commission in Austria, which should prepare the Austrian codex – the **Codex Alimentarius Austriacus**. (Int. J. Vitam. Nutr. Res., 82 (3), 2012, 223 – 227)



The Dutch scientist, Paul Francois van Hamel-Roos, who suggested that the states should prepare national codices that could be compiled in an international codex.

*Dr. Leonhard Rösler* (Head of the chemical-physiological Research Station for Viticulture and Pomology in Klosterneuburg) (Schübl, E., Vojir, F.. 12.10.2011), however, pointed out that Austria would likely have to produce a codex and then to prompt the other countries to produce similar works. In fact, the ensuing progress was very close to this prediction.” (Int. J. Vitam. Nutr. Res., 82 (3), 2012, 223 – 227)



Dr. Leonhard Rösler who correctly predicted that Austria would have to produce a codex and then prompt other countries to produce similar works.

The very next day, 13 October 1891, the Austrian commission, called the “Scientific Commission” was installed which would draft the **Codex**. Twenty-three drafts later, the work on the **Codex Alimentarius Austriacus** stopped due to various difficulties. The last meeting was held on 25 April 1898. The participating scientists worked entirely on private initiative. (Int. J. Vitam. Nutr. Res., 82 (3), 2012, 223 – 227)

The work on the **Codex** did not become an anchor for Austrian food law that was being drafted due to pressure from the economic sector. They were notably excluded from the work of the Scientific Commission. A deputy in the House of Representatives, Wilhelm Neuber, remarked that those who represent economic interest in relation to food adulteration, stood with “*one foot in the crime.*” (Schübl, E., Vojir, F.. 12.10.2011. 120 Jahre Codex Alimentarius Austriacus) The creation of the **Codex** was largely suspended till 1907.

The Austrian Food Law came into force in 1897. Problems soon arose due to discrepancies in the analysis of and the experts’ opinions on food samples. The producers

and food traders pressured the government to complete the work on the **Codex Alimentarius Austriacus** to minimize these discrepancies. In light of these pressures, in 1907, the Ministry of the Interior installed a the Codex commission in charge of preparing the **Codex Alimentarius Austriacus**. (Int. J. Vitam. Nutr. Res., 82 (3), 2012, 223 – 227)

“Based on the drafts of the “Scientific Commission,” the work for the first edition of the Austrian Codex started. Between 1911 and 1917 three volumes, consisting of 55 chapters concerning food, cosmetics, and items of practical use, e.g. kitchenware, food contact material, toys, were completed.” (Int. J. Vitam. Nutr. Res., 82 (3), 2012, 223 – 227)

“In the introductory ordinance of the Ministry of the Interior that was published with the first volume of the Austrian Codex in 1911, the intended purpose of the Codex was given as follows:

- For producers and traders it should be a source of information on the working criteria of the official control authority
- It should be a working directive for the official laboratories and control authorities
- For the judges basing their decisions on the food law, it should be an albeit non-binding source of technical information

These goals are still valid for the current version of the **Codex Alimentarius Austriacus**.” (Int. J. Vitam. Nutr. Res., 82 (3), 2012, 223 – 227)

This is how in the Austro-Hungarian state, a food code, known as the **Codex Alimentarius Austriacus** was created between 1897 and 1917, at a time when Ladislav NACHMÜLLNER was creating his Praganda cure. This undoubtedly set Prague and Vienna along cities such as Washington DC and London as center stage to the creation of our modern day food safety system which would focus in the course of its work on matters such as the direct addition of nitrite in foods.

## **THE WORLD**

A second set of conferences would now take center stage and further the initial suggestion by Paul Francois van Hamel-Roos, of and international **Codex** that would flow out of the



various regional works. The Congress of Applied Chemists would become the cradle of the idea.

The first Congress of Applied Chemists was held in Brussels in 1894. It was an initiative of Dr. H. W. Wiley. Dr. Wiley was a noted American chemist best known for his leadership in the passage of the landmark Pure Food and Drug Act of 1906 in the USA. The conference in Brussels was divided into four sections. Sugar Chemistry, Agricultural Chemistry, Food and Public Hygiene and Biological Chemistry. 2000 delegates were in attendance. (*Ind. Eng. Chem.*, 1912, 4 (10), pp 706–707)



Dr. Harvey W. Wiley, who initiated the first Congress of Applied Chemists, held in Brussels in 1894.

Known for his leadership in the passage of the landmark Pure Food and Drug Act of 1906 in the USA.

“At the second Congress of Applied Chemistry, held in Paris in 1896, an international **Codex** was proposed for coupling trade with hygiene. Successive conferences would take up this proposal with hardly any change in its wording. Belgium played an instrumental role in this process.” (PATRICK ZYLBERMAN, *P. Med Hist.* 2004 Jan 1; 48(1): 1–28)

The third Congress of Applied Chemistry was held in Vienna on 27 July 1898, the birth place of the initial **Codex**. This congress was divided into twelve sections. One of the principal

question before the Congress was the adoption of a uniform method of analysis of commercial products and raw materials. (PATRICK ZYLBERMAN, P. Med Hist. 2004 Jan 1; 48(1): 1–28)

The section for food and medicine chemistry were occupied with the drafting of the **Codex Alimentarius** (food rules) which was first proposed on 12 October 1891 by Dutch scientist, Paul Francois van Hamel-Roos in Vienna and proposed to this Congress for the first time in Paris. It would deal with the question “what is to be demanded of the ordinary articles of food.” It states the problem very simply as the fact that “competition has cheapened food, but hand in hand with this reduction in price goes, particularly in Germany, their deterioration.” The international Codex was intended to “afford the public, magistrates, and honest middle-men, a means of combating this dishonest competition.” (The Sydney Morning Herald)

“Some pundits resented France’s influence in these various international meetings. Joseph Ruau, French Minister of Agriculture (and author of the 1905 act) declared at the 1909 Paris meeting that honesty in business, hygiene, and international cooperation could be harmoniously linked. He thought all this should become part of a **Codex Alimentarius**. This did not mean that border controls (poorly organized in France at the time) were not worthwhile: after all, such a harmonization was far from being realized. Ruau was not alone in holding this opinion.” (PATRICK ZYLBERMAN, P. Med Hist. 2004 Jan 1; 48(1): 1–28)

While the ideals of an international **Codex** remained largely unfulfilled till after World War II and the creation of the World Health Organization, the development of the **Codex Alimentarius Austriacus** continued.

In Vienna, “the Codex Commission was reintroduced in 1921 by the Federal Ministry of Social Administration. The aim was to produce a second edition of the **Codex Alimentarius Austriacus** considering the latest developments in science and economy. This work was interrupted in 1939.” (Int. J. Vitam. Nutr. Res., 82 (3), 2012, 223 – 227)

“The Codex Commission was reinstated in 1946 and emerged as an institution under whose umbrella all stakeholders like producers, traders, consumers, scientists, and official authorities can discuss and resolve problems arising. The organization is flexible enough to keep the single chapters of the Codex concerning foodstuffs, cosmetics, and items of

practical use in conformance with the current technical and legal standards. Corresponding to modern technologies the actual chapters of the fourth edition can be downloaded from the home page of the responsible ministry, which at present is the Ministry of Health.” (Int. J. Vitam. Nutr. Res., 82 (3), 2012, 223 – 227)

Internationally, the problem of food-poisoning would attract more attention from international organizations following the Second World War. Between 1953 and 1958 several conferences were held around the world that advanced the possibility of an international **Codex** and sought to deal with the issue of food additives. (PATRICK ZYLBERMAN, P. Med Hist. 2004 Jan 1; 48(1): 1–28)

“In 1958 a Permanent Council of the Codex Alimentarius—an old ambition—was set up with nineteen governments represented. The name given to the commission was after the **Codex Alimentarius Austriacus** where the idea of a global food standard started to become concrete. The Joint Food and Agriculture Organization (FAO) / World Health Organization (WHO) **Codex Alimentarius Commission** organized its first meeting in Rome in June 1963: thirty countries and sixteen international organizations attended.” (PATRICK ZYLBERMAN, P. Med Hist. 2004 Jan 1; 48(1): 1–28)

The life and times of Ladislav NACHMÜLLNER took place at the time when the world was coming to grips with rules for food in an industrialised age. Vienna and Prague played a leading role in food research and developing a proper set of food standards. This highly developed thinking about food safety allowed for the direct addition of Sodium Nitrite to foods which allowed the creation of Praga.

On 1 July 1991, Dr. B. P. Dutia, Assistant Director-General Economic and Social Policy Department, World Health Organization, spoke at the opening of the Nineteenth Session of the CODEX ALIMENTARIUS COMMISSION. He said that on “October 1891, a decision was made in Vienna to establish a **Codex Alimentarius Austriacus** which would seek to protect the legitimate interests of consumers and establish uniform principles for testing and evaluating foods for safety. This idea of codified food standards was the forerunner of today’s international **Codex Alimentarius Commission**.” (Dr. B.P. Dutia, 1991)

This commission set the rules on food which are used in national legislation and industry food safety audits. This is the theater where the leading thinking on food safety and pure foods play out.

The **Codex Alimentarius Commission** of the WHO would have the final say about the direct addition of nitrites in curing brines. We deal with this matter separately.

## **CONCLUSION**

The fact that Praganda was invented in Prague is not surprising if we understand that a very sophisticated culture and advanced technology existed in the Austro-Hungarian Empire around chemistry and food between 1850 and 1915.

The competitive advantage of nations hinges on elements like the strength of the local competition as was the case in the rivalry between the Bohemians and the Germans; world leadership in related fields as was the case with food safety and the creation of the **Codex Alimentarius Austriacus**; a superior scientific environment as was the case in chemistry and nitrite chemistry in particular (the subject of another article).

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Ladislav NACHMÜLLNER: from vulgo Praganda.

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