

## **Godefroid-Charles BLAS**

Born: 7<sup>th</sup> of September 1839, Freiburg (Germany)

Died: 9<sup>th</sup> of November 1919, Leuven (Belgium)

Godefroid-Charles Blas is the son of doctor Julius Blas. He graduates as a pharmacist and doctor of sciences at the university of his birthplace. In 1865 he stays in Giessen for several months, where he translates his doctoral thesis from Latin into German and publishes in the "*Liebig Annalen*". Blas never met Justus von Liebig (1803-1873) himself, because the latter already had moved to Munich in 1852.

On the advice of professor Louis Henry (1834-1913) Blas is appointed qualified professor at the Faculty of Sciences of the University of Leuven. He lectures the analytical chemistry at the newly established Special Schools. In 1867 he becomes an associate professor and later on professor.

### **All-round and experimental teaching**

From 1867 onwards till his emeritus status he lectures analytical chemistry to the future pharmacists, engineers and doctors in the sciences, whose laboratory research he supervises. Blas teaches practical and theoretical pharmacy, which in 1891 will make up the course of pharmaceutical chemistry. From 1871 on he lectures the doctors in medicine on pharmacology, the history of the medicines and the "*matière médicale*". In 1877 these courses are combined into the curriculum pharmacognosy (the name originated in Germany in 1812) and the principles of pharmacy.

When taking up his appointment in Leuven, he finds out that the laboratory assignments, also in the faculty of pharmacy, are of a low level. Due to his limited knowledge of French he teaches at first in Latin. Through his organizational skill and perseverance he manages to give his ever raising number of students a practical schooling including the most recent developments (He is the first professor in Belgium to teach quantitative electrochemical analysis). He is considered to have been the founder of the Pharmaceutical Institute of Leuven.

### **Numerous publications**

His three-volume textbook "*Traité de Chimie Analytique*" (1886), goes through its fifth printing in 1912. The first volume deals with the dry techniques of analysis. Techniques, reagents and instruments are brought together into some kind of manual that is useful in fieldwork; the book also contains an extensive bibliography. The second volume concerns the wet techniques of analysis with a large number of practical examples and references to general chemistry. The third

part covers the quantitative analysis: gravimetry, titrimetry, colorimetry, densimetry, refractometry, organic analysis and even microscopy and electrolytic analysis, in each case expanded with practical examples taken from the industry.

Blas publishes a lot of articles in “*Les Bulletins de l’Académie Royale des Sciences, Lettres et Beaux Arts de Belgique*”, the collected reports of the High Health Commission (both of which he is a member, the latter from 1889 till 1914), the collected documents about the food composition in Belgium, the « *Liebig Annalen*”, “*Bulletin de l’Union des Ingénieurs sortis des Ecoles Spéciales de l’Université de Louvain*”, “*Journal des Sciences Médicales de Louvain*”, etc.

### **A socially engaged researcher for the good of the public health and better working conditions**

Blas postulates that chemistry must contribute to medicine and hygiene. The consumer should have healthy food and the workers must be better protected and dispose of healthy premises. In this context he targets his research at the quality of drinking-water, especially in Leuven (1884). The protocol he draws up is roughly still the same today. When judging the results he refuses to follow uncritically the severe limitations imposed by neighbouring countries: the chemist must have an insight into the circumstances, time and place of the sampling. A well near an old salting will contain more sodium chloride than the water of the vegetable and fish markets, which on the other hand will be richer in organic material. Through water analysis he traces the location of old laundries and dumping sites. Blas draws up a hydrological map of the water of Leuven and speaks up for the distribution of drinking water, for a hygienic environmental protection and a statistical follow-up of the quality of the drinking water for the whole of Belgium. This becomes real thanks to the incentive of the Minister of Agriculture Leon De Bruyn in his circular of 19<sup>th</sup> August 1893. Other consumer oriented topics deal with alcoholic beverages, the use of antimony in nozzles for sparkling water installations, the use of rubber tubing in beer halls, disinfectants used by the Belgian Railways, the use of glycyrrhizin in breweries (a sweetening product extracted from licorice, whose overdose can lead to hyperkaliury and varicose), the presence of salicylic acid as a preservative in beer (actually forbidden), regulations for the sale of game and fowl., etc.

He determines precisely the chemical and toxicological properties of murrain and thevetin, both extracts of tropical plants, known for their antipyretic properties. He traces the presence of picrotoxin in beer and rejects its use. Picrotoxin provides the bitterness of beer and decreases the need for hops. It is a neurotoxic alkaloid from a tropical plant (*Anamirta cocculus*) and used

(actually a forbidden drug) as an antidote to restore the respiration in case of a barbiturates or morphine induced coma.

His expert opinion is often called upon to take a closer look at the working conditions in the mills where feathers and duvet are cleaned and prepared, in the burlap weaving mills, dairy farms, factories of brushes, chemical plants using and processing ethyn and copper, dumping sites for beet pulp or household waste, etc.

Blas keeps a fatherly and discreet eye on his former students. He spends his rare free time to carry on with his lifelong hobby: herborizing around his abode at Oud-Heverlee.

He dies on the 9<sup>th</sup> of November 1919.