

A Company in
History
Solvay, 1863–2013

KENNETH BERTRAMS

Fonds National de la Recherche Scientifique, Belgium

Université Libre de Bruxelles



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FOREWORD

Solvay is a company in which Science is highly respected. Therefore I suggested to Solvay S.A. that professional historians should write a book at the time of the company's 150th anniversary.

The present volume, as well as the scholarly book *Solvay: History of a Multinational Family Firm*, published at the same time,¹ are the result of an exciting research project that took place over five years. The challenge was taken up by a remarkable team of international historians (Kenneth Bertrams, Nicolas Coupain, and Ernst Homburg, acting under the outstanding and discreet leadership of Ginette Kurgan-van Hentenryk). These historians benefited from the insights provided by an "Industrial Committee" (Aloïis Michielsens, Jean-Marie Solvay, Jacques Lévy-Morelle, and me), as well as by many present and past Solvay managers. We thank them wholeheartedly.

Besides our respect for historical science, we were interested to show the determining influence of History on the life of Solvay between 1863 and 2013.

May Solvay employees and shareholders, as well as any interested readers worldwide, enjoy this lively and scientific historical book.

Daniel Janssen
Honorary Chairman Solvay S.A.

¹ Kenneth Bertrams, Nicolas Coupain, and Ernst Homburg. *Solvay: History of a Multinational Family Firm*. Cambridge: Cambridge University Press, 2013.

Introduction

A Company in History: Solvay, 1863–2013 deals with the history of the Solvay company from a broad perspective. It intends to show how, and to what extent, the history of a multinational family company was rooted in and a product of 150 years of world history.

If students were asked to write an assignment on “Solvay” in 2012, they would immediately start their research on Wikipedia, the most popular online encyclopedia of the time. Redirected to the “disambiguation page,” which lists different articles with the same title, the students would have to choose between seven headings:

- Solvay (company): an international chemicals and plastics company
- the Solvay process
- Ernest Solvay, its inventor
- Solvay Conference
- The Solvay Business School
- Solvay, New York
- Solvay Hut, on the Matterhorn in the Alps

Yet this list would be valid for English-speaking researchers only. In German, several headings would be missing, but two new items would appear: “Solvay GmbH,” as the German chemical company part of the Solvay group and, surprisingly, “Solvay (7537)” – an asteroid discovered by the Belgian astronomer Eric W. Elst at the La Silla Observatory in Chile in 1996. Italian (and Slovene) students would also be aware of the asteroid, but they could also learn that

the town “Rosignano Solvay” owes its name to the soda plant set up by Solvay & Cie in the vicinity of Rosignano Marittimo in 1913 (although contributors failed to mention that the name “Solvay” was added by local authorities in the 1920s). A well-illustrated article explains the history and style of the factory’s model village – “Villaggio Solvay” – described as a fine and rare example of a garden city in Italy. Finally, French-speaking students would not be able to find out about the Solvay refuge in the Alps, nor about the asteroid. Instead, their artistic curiosity might expand from learning about the Hôtel Solvay designed by architect Victor Horta and a hallmark of the Art Nouveau style on the Avenue Louise of Brussels. A further heading could also lead them to an article on the Solvay Library at the Parc Léopold in Brussels, originally built as Ernest Solvay’s Institute of Sociology in 1902.

One name thus refers to many people, places, and things. Nevertheless, before being a village, an asteroid, or even a chain of mountains of the Antarctic Peninsula, a setting that Wikipedia failed to mention, Solvay was the name of a family, a family whose legacy derives from one of its outstanding members – Ernest Solvay. Following his early experiments in manufacturing soda with ammonia, the chemical company he founded in 1863 with his brother Alfred and with the help of several partners became a remarkable achievement in the world chemical industry. The reader interested in understanding the unfolding of the company’s successive “lives,” from its origins through the celebration of its 150th anniversary, will find thorough information in another book published at the same time as the current volume.¹ As already noted, this book’s ambition consists in recasting the company’s history in broader terms. Of course, this utopian goal would be unrealistic unless the author made some major choices in what to include; that is, much had to be left out. Therefore, special emphasis is placed on adopting a general comparative stance as a means to single out Solvay’s peculiarities but also its common tendencies in a global environment. Last but not least, it should be stressed that these pages, which address

¹ Kenneth Bertrams, Nicolas Coupain, and Ernst Homburg, *Solvay: History of a Multinational Family Firm*, Cambridge: Cambridge University Press, 2013. Hereinafter, *Solvay*.

many issues already familiar to scholars and students of history, have been written for a general readership curious about what is currently associated with the word *Solvay*, be it a world-famous scientific conference, a multinational company, or that company's founder. To some extent, this essay will have achieved its task if it succeeds in bringing out the common meaning of all things bearing the name Solvay, assuming a part of the answer lies in their convergence in modern history. And this also applies to the asteroid #7537.

This book owes its very existence to the research carried out by my colleagues Nicolas Coupain and Ernst Homburg. They not only have improved previous versions of the manuscript, but they also allowed me to literally plunder their findings. Words fail to express my gratitude and friendship. I am sincerely grateful to my estimate colleague Ginette Kurgan-van Hentenryk, as well as to the members of the Industrial Committee – Daniel Janssen, Aloïs Michielsen, Jean-Marie Solvay, and Jacques Lévy-Morelle – for their tireless efforts in making this book accessible to a wider audience. Speaking of form improvement, I thank Shana Meyer and her team for their expert polishing of my English in the final draft of the book. I am particularly indebted to Nicolas Coupain for the selection of figures and the writing of captions. Finally, my last and special thanks go to Flavia and Mathias – *al tempo che abbiamo perso e a quello che recupereremo*. This book is dedicated to the past and present workers of the Solvay company.

K. B.

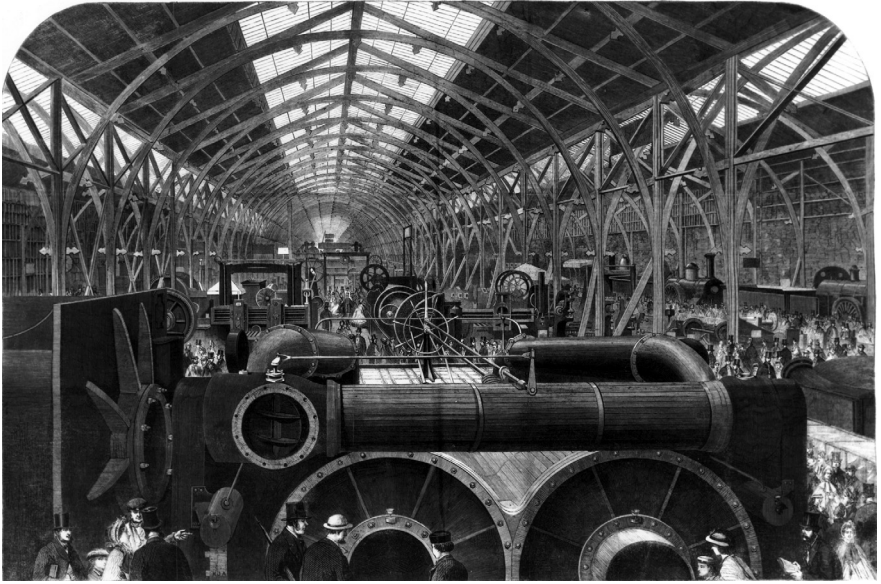


Figure 1.1. Machinery in Motion court, International Exhibition, London, 1862. Millions of visitors could discover there the latest industrial progress coming from participating Nations. (Science Museum/Science & Society Picture Library.)

I

The Golden Age of Progress

– *My dear Sir, that's the whole question. There is the only difficulty that science need now seek to overcome. The problem is not how to guide the balloon, but how to take it up and down without expending the gas which is its strength, its life-blood, its soul, if I may use the expression.*

– *You are right, my dear doctor; but this problem is not yet solved; this means has not yet been discovered.*

– *I beg your pardon, it has been discovered.*

– *By whom?*

– *By me!*

– *By you?*

Jules Verne

Five Weeks in a Balloon, 1863

OPENING: DOCTOR FERGUSON, MISTER SOLVAY

Jules Verne's novel *Five Weeks in a Balloon* tells the story of an ingenious English scholar, Dr. Samuel Ferguson, intending to travel across the still mysterious continent of Africa in a hot air balloon. A device of his invention, a mechanism of five receptacles allowing for the combustion of hydrogen gas at different temperatures, enables him to stay in the air for a long time without the need to release gas or drop ballast to control the balloon's altitude. Traveling westward from Zanzibar to Senegal, Ferguson and his two companions fly over unfamiliar regions of Africa and face many dangers. After an epic odyssey, they ultimately manage to return

to England where they establish, “in the most precise manner, the facts and geographical surveys” reported by previous explorers.

The account, filled with suspense, exoticism, and a dash of technology, is typical of the adventure novels that would bring international fame to their author. More than (science) fiction, however, Verne’s story is an invaluable testimony of his time and of his contemporaries – at least a small fraction of them. In 1863, the world was in expansion; Verne’s readers admired the industrial development, technological improvements, and scientific advances of the day, as well as the conquest of civilization over “uncivilized” peoples. The lay prophets of this religion called progress were scientists, inventors, and explorers – no wonder the main character of Verne’s novel combined all these highly esteemed vocations. Members of society’s upper strata would rush to public lectures to learn of these innovators’ research and findings, presented at prestigious scholarly societies (such as the famous Royal Geographic Society, founded in 1830). Examples of the achievements of these visionaries were revealed at international exhibitions, which attracted tens of thousands of spectators from London (in 1851 and 1862) to Paris (1855 and 1867) up to the huge Philadelphia Centennial of 1876. Despite their differences, these scientists, inventors, and explorers shared the belief that existing knowledge could be challenged and, it was hoped, improved (or even proven wrong). In this sense, they performed an act of rebellion. “In every town, nay almost every village, there are learned persons running to and fro with electrical machines, galvanic through-holes, retorts, crucibles, and geologist hammers,” observed an Englishman as early as 1828.¹ For many candidates, however – perhaps for the bulk of them – the attempt to challenge what existed would eventually lead to failure and renunciation. Success was scarce and therefore extremely appealing to creative spirits.

Ernest Solvay was one of these creative spirits. He certainly belonged to the category of “enthusiasts, [who were] realists and dreamers at the same time” (to use his own words).² Had he not been so restrictive in the use of his spare time, he might have been

¹ Ian Inkster, *Science and Technology in History: An Approach to Industrial Development*, New Brunswick, NJ, Rutgers University Press, 1991, 287.

² Ernest Solvay, “Industrie et science (Biogénie et sociologie),” *Revue scientifique*, XLVIII (2nd semestre), 1910, 705–11 (at p. 705).

reading *Five Weeks in a Balloon* when it came out in 1863. However, for some time, Ernest Solvay had decided to devote the rare hours of his time off at his uncle Florimond Semet's factory to undertake chemical experiments. Supervising production at a gas works was not the most pleasant activity available on the job market (nor was it the worst, to be frank), but it had unsuspected advantages for an amateur chemist: It was a place where a product like ammonia was easily obtainable, even wasted as by-product, in coal distillation. As a result, Semet's factory, located in the vicinity of Brussels, became Ernest Solvay's research laboratory as much as it was his playground – the setting of his experiments as a gifted and inspired tinkerer.

The rest of the story could unfold as a traditional, fairy tale-like success story: Solvay would have discovered the ammonia-soda process, set up the thriving company to exploit and commercialize the product that resulted from it, and become a wealthy tycoon reigning at the top of his industrial empire. History, however, is far from being a continuous flow of successes, let alone fairy tales. Solvay's is a true story full of failures, nuance, and blind spots. What is striking in the early stages of Solvay's enterprise is that the story evolves like Jules Verne's account of the balloon flying above Africa: upward with cheerful enthusiasm, then downward nearing total collapse, and then up into the sky again.

The company Ernest Solvay and his partners built (for Ernest was not alone in this endeavor) was finally established after many failed attempts. For years, Solvay & Cie, where *Cie* stands for *Compagnie* (Company), was a small-scale start-up on the brink of bankruptcy. Capital was lacking, industrial output was dragging, and business partners were nagging. More important, Solvay did not discover the soda-ammonia process; he *rediscovered* it yet thought for long that he was the first to make it happen. Besides, although he eventually became rich, Ernest Solvay was much more than a mere businessman; he devoted his time and energy to countless initiatives, many of which lay beyond the sphere of industry.

SETTING THE STAGE: THE TRIUMPH OF INDUSTRIAL CAPITALISM

What kind of world, what kind of society, unfolded before Ernest Solvay's eyes as he started his professional life at his uncle's