

## Marie Sklodowska Curie and the Year of Chemistry

István Hargittai

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**Abstract** Madame Curie was awarded her second Nobel Prize in 1911 and on this occasion it was in chemistry. Honoring the centennial of this event, the world celebrates chemistry in 2011. Chemistry serves the world every minute every year and the world reciprocates with paying attention to this often cursed but uniquely useful science during this particular year.

**Keywords** Marie Curie · Chemistry · Year of chemistry · Nobel Prize

Marie Sklodowska (Fig. 1) was born in Warsaw, which was part of czarist Russia at the time and is the capital of Poland today. She left her homeland for France to study; married the physicist Pierre Curie; and together they made seminal discoveries for which in 1903 they shared one of the first Nobel Prizes in Physics. The prize was divided, and one half was given to Antoine Henri Becquerel “in recognition of the extraordinary services he has rendered by his discovery of spontaneous radioactivity.” The other half was given jointly to Pierre Curie and Marie Curie (Fig. 2), “in recognition of the extraordinary services they have rendered by their joint researches on the radiation phenomena discovered by Professor Henri Becquerel.”

Marie Curie became a widow very early; she carried on, raised their two daughters, and did seminal research on her own. She received a second Nobel Prize in 1911, this time



**Fig. 1** Marie Sklodowska Curie (George Grantham Bain Collection, Library of Congress, Washington, DC, LC-DIG-ggbain-06354)

in chemistry, and this time it was an unshared prize. The motivation stated that she was awarded “in recognition of her services to the advancement of chemistry by the discovery of the elements radium and polonium, by the isolation of radium and the study of the nature and compounds of this remarkable element.”

She was fiercely attacked by many for the independent demeanor in her life, but she prevailed and became

I. Hargittai (✉)

Materials Structure and Modeling Research Group of the Hungarian Academy of Sciences, Budapest University of Technology and Economics, PO Box 91, 1521 Budapest, Hungary  
e-mail: istvan.hargittai@gmail.com



**Fig. 2** Bust of Marie and Pierre Curie in Paris (photograph and © by the author)

a heroine. Wherever she is presented in talks and movies, children become fascinated with science and especially girls decide to seek a career in science. Not many have the stamina of these early converts to carry it through, but a few do, and it is like a chain reaction, they often become the nuclei of additional converts for science. To give additional luster to the celebration of the centennial of Marie Curie's second Nobel Prize by naming the year 2011 the Year of Chemistry was a marvelous decision.

Marie Curie belongs to a special group even among Nobel laureates. Very few recipients have been awarded two Nobel Prizes, very few women have received Nobel Prizes, very few Nobel laureates' children have also received Nobel Prizes, only one person beside Marie Curie received Nobel Prizes in two different categories (Linus Pauling, chemistry and peace), and what is absolutely unique for Marie Curie that she is the only recipient who has received two Nobel Prizes in *two different science categories* (physics and chemistry).

It was a fortunate choice to connect the international year of chemistry with Marie Curie, a legendary scientist. This connection may throw some additional warmth onto

chemistry. There could not be too much effort and too many opportunities to try to make chemistry appear friendlier than it is often projected to and perceived by the great majority of the population. The problems start with the pedagogy through which children more often than not get alienated from chemistry. When they become adults, they propagate this alienation to their children. I learned to love chemistry from a book. Had it been left to my first chemistry teachers, I might have learned to hate it or at least become indifferent to it.

The second source of the negative attitude of the great majority of the population toward chemistry is the blame placed on chemistry for pollution. The blame should be placed where it belongs, the polluters, but somehow the whole of chemistry is usually portrayed as the polluter forgetting even the fact that chemistry more than any other branch of science saves us from the consequences of pollution.

Structural chemistry in a way is exempt from the scorn that usually engulfs chemistry, mostly because structural work usually does not spill chemicals onto the floor or elsewhere, and so on. But this should not make us lay back and observe the fate of the rest of chemistry with indifference. Also, in structural chemistry we can observe how easy it is to expropriate beautiful and useful chemical discoveries by other branches of science, like—with some exaggeration—the discovery of the double-helix structure of DNA by biology.

Sweden has issued stamps commemorating Marie Curie's two Nobel Prizes among the series of stamps devoted to all Nobel Prizes. Other countries have also issued stamps honoring her, notably, Poland and France, the two countries that she counted as her own and vice versa. An example of each is presented in Fig. 3. There has been a call for issuing stamps to commemorate Marie Curie and the year of chemistry. At the time of writing this Editorial, we know of three countries, viz., Indonesia, Slovakia, and Spain that have declared plans of issuing such stamps, and other countries may eventually augment the list.

**Fig. 3** Marie Skłodowska Curie on Polish, French, and Swedish stamps

