

MARIE CURIE AND HER DAUGHTERS

THE PRIVATE LIVES OF SCIENCE'S
FIRST FAMILY

SHELLEY EMLING



Praise for *Marie Curie and Her Daughters*

“A must-read for every woman and every female teenager. In accessible prose, Emling enlightens the world about this enigmatic scientist, and, with the help of personal letters shared by Curie's granddaughter, Emling has woven a story of a woman full of grace and of the daughters who loved her without fail. I loved this book.”

—*Mary H. Manhein, author of The Bone Lady and Trail of Bones*

“Shelley Emling's dazzling chronicle of the three Curies and their world-famous accomplishments surpassed only by her account of how each stretched her era's concept of the possibilities for women. A tour de force!”

—*Megan McKinney, author of The Magnificent Medals*

“Ms. Emling's riveting new biography reveals in page-turning prose the life-balance struggles of a true genius. It's a tip of the hat to the private Marie, the single working mother, whose many accomplishments include her two amazing daughters.”

—*Lisa Verge Higgins, New York Journal of Books*

“Shelley Emling's excellent joint biography of Marie, her daughters (and a granddaughter, too) is an exhilarating story that couples scientific discovery and motherhood. A book that should propel young women into science for the sheer fun of it, it's also a rich tale of war and peace, family commitment, friendship, and medical progress.”

—*Adele Glimm, author of Gene Hunter and Rachel Carson*

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This book is dedicated with love to my son Chris, who is so much more than I was at his age.

It is also dedicated to girls and women everywhere who are studying—or are already succeeding in—the fields of math and science.

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ACKNOWLEDGMENTS

The first time I ever heard from H el ene Langevin-Joliot was via email on January 3, 2011. Opening up my inbox, I did a double take as I glanced down and noticed the name of the granddaughter of one of the most famous women who ever lived. She was writing to say that she'd be available to meet with me the week of April 18. I was over the moon. When I did finally meet with her at the Marie Curie Institute in Paris that week, I was as starstruck as if I were meeting the president. She was as kind and helpful and gracious as she possibly could have been. She made sure I knew that her grandmother never sought to succeed in a male-dominated arena; rather, she simply loved science above everything else. I want to thank her for sharing her insights about her family and also about America's impact on her grandmother. She referred me to a selection of more than two hundred letters, in French, exchanged between Marie Curie and her daughters as well as to other papers and documents including eighty-eight pages of Irene Curie's own remembrances, also in French. Langevin-Joliot has had those letters published in France in a book titled *Marie-Curie et ses filles: Lettres*.

I also want to thank Renaud Huynh, director of the Curie Institute, for offering his own insights and for answering all my pesky questions. And thanks to Jocelyn Wilk and other employees for their assistance at the Columbia University Archives.

Personally I'd like to thank my agent, the indefatigable Agnes Birnbaum. Thank you to my incredible editor at Palgrave Macmillan, Luba Ostashevsky, who patiently helped me better grasp the art of narrative history. Also thanks to Laura Lancaster, Victoria Wallis, and Georgia Maas, and other staff at Palgrave for all their hard work on my behalf.

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Thank you also to my bosses at AOL Patch for granting me a leave of absence.

Over the years, the Curies have garnered the attention of countless writers who have meticulously researched the lives of the various family members. Without them, it would be impossible for someone like me to tell my own story of the Curie women in my own way. They include Denis Briard, Barbara Goldsmith, Sarah Dry, Robert Reid, Naomi E. Pasachoff, Susan Quinn, Rosalynn Pflaum, Michel Pinault, Maurice Goldsmith and, of course, Eve Curie, who wrote a wonderful biography of her mother and also an astonishing book about her adventures as a World War II correspondent. Alan E. Waltar wrote a fascinating book on radiation and modern life. And Marie Curie wrote a biography of her husband that included a short autobiography.

I am indebted to my husband, Scott, for reading every chapter. His intelligence never ceases to amaze me. My appreciation also goes to my three gorgeous children, Chris, Ben, and Olivia, who always showed an interest in the book's progress. I promised them I would thank Pepper—my constant companion—as well. Thanks to my girlfriends who bring me such joy. And a special thank you to my mother, Lois Ruth. She was, every day of her life, my greatest cheerleader.

Finally, I drew so much inspiration from five women—Marie Curie, Irene Curie, Eve Curie, Miss Meloney, and H el ene Langevin-Joliot—who had and have many wonderful qualities. But the quality I love most is that none of them ever—ever—waited for something to happen to them. They made things happen for themselves. My hope is that girls and women everywhere will do the same.

America

A Fresh Point of Departure for the World's Greatest Scientist

The faint outline of New York City emerged through a haze of warm weather on the morning of May 11, 1921, as the RMS *Olympic* steamed its way into New York Harbor, the last leg of its weeks-long journey across the Atlantic. On board was the world's most famous scientist, Madame Marie Curie, accompanied by an unlikely companion, a feisty American journalist named Missy Meloney. Meloney had warned Marie that a mob of reporters and photographers would be gathered on the landing pier anxiously awaiting the arrival of the one they dubbed the "benefactress of the human race." Marie, frail and mortified by publicity, took her time making an appearance before a crowd that had already been waiting a good five hours. Finally, Meloney managed to set her up comfortably in a giant armchair—like a queen on a throne—on the boat deck of the ship.

From a menacingly close distance, hordes of photographers began snapping away with abandon. "Look this way, Madame Curie! Turn your head to the right! Lift your head! Look this way! This way! This way!" The incessant clicking of machines created a cacophony of chaos that assaulted the senses of the astonished fifty-three-year-old physicist traveling outside Europe for the first time in her life. Looking on and acting as bodyguards were Marie's two daughters, Irene and Eve, aged twenty-three and sixteen at the time. The three Curie women traveled with only one trunk of clothing.

Following a hasty press conference, Marie no doubt was relieved to finally enjoy a reprieve from the noise at Meloney's New York City apartment, which she and her daughters used as a base during their busy lineup of speeches, luncheons, and ceremonies over the next seven weeks. Everywhere they went another honor, medal, degree, or superlative was bestowed upon her. As Eve Curie later wrote, "Americans had surrounded Mme Curie with an almost religious devotion and had placed her in the first rank of living men and women." Each day was more stimulating than the one before. Innumerable strangers stared at Marie, with everyone jostling each other to get a better view. At one stage, a fan shook Marie's hand so enthusiastically that she later had to have her arm bandaged. Simply put, America couldn't get enough of her.

But it would all be worth it.

Nine days after arriving in America, at exactly 4 P.M. on May 20, 1921, the double doors to the East Room, the largest room in the White House, opened slowly, signaling the start of a grand entrance. Leading the way was First Lady Florence Harding alongside Jules Jusserand, the French ambassador, followed by Madame Curie on the arm of President Warren Harding. Finally, there was Missy Meloney, next to Irene and Eve Curie and trailed by the many American ladies of the Marie Curie Radium Committee.

Marie was about to get what she had come for—a single gram of the precious radium she had discovered in 1898, purchased with the enthusiastic help of women and young girls from all across America. Less obvious was that the plainly dressed woman, who had never been fully appreciated in Europe, also was about to get a new sense of self, one that would carry her into the final chapter of her life. So momentous was Marie's trip to America that its success continued in one incarnation or another for the remainder of her days on earth—with many, many highlights to come. As Eve Curie

put it, a veil fell away during the journey, allowing her and her sister to see what their “sweet Marie” actually meant to the world.

In the United States, the post–World War I recession was easing up and the country was entering a time of prosperity. The newspapers were touting Harding’s motto: “Less government in business and more business in government.” Women were feeling powerful after gaining the right to vote in 1920.

Whether they liked it or not, America’s vitality was already rubbing off on the Curie family. Marie was seen as the embodiment of the people’s own hopes and dreams—a brilliant career woman and a devoted mother who was being celebrated, at long last, in the most elaborate way possible.

Like so many others, I learned about Madame Curie when I was a young student—about how she had risen from a modest Polish family to study at the Sorbonne. And about how she had become the first person to be honored with two Nobel Prizes, an achievement especially extraordinary for a woman of her time. I’m sure someone must have told me she discovered not one but two new elements—both radium and polonium—and that she was the first to use the word “radioactivity.” Although known primarily for her discovery of radium, her true gift to science, according to biographer Roger M. Macklis, was the realization that this radioactivity is an intrinsic atomic property of matter rather than the result of more superficial chemical processes. Under her personal direction, the world’s first experiments in treating neoplasms—or tumors—with radioactive isotopes were completed. With the possible exception of Albert Einstein, she remains, arguably, the most famous scientist in history. Her life reflected loyalty, generosity, dogged determination, an unwavering focus on work, and a strong belief in the benefits of pure science—all traits especially admired in America. Most amazing to me was that, as a young woman, she had faith that there was something to be found even when she didn’t know what she was looking for. After hypothesizing about the existence of radioactive substances, she spent years seeking out these substances by sifting through—literally—tons of a discarded uranium ore called pitchblende, working in a leaky wooden shed under hazardous conditions. Indeed, according to writer Denise Ham, Marie—with her fingertips burned and cracked—was able to extract only four decigrams of radium chloride (about the weight of four postage stamps) from one ton of pitchblende.

Marie is also a tragic figure, having been widowed at the age of thirty-eight when her scientific husband, Pierre Curie, died after being run over by a horse-drawn wagon in Paris in 1906.

But little has been taught or written about Marie’s friendship with the American journalist Mrs. William B. Meloney, nicknamed Missy, who was the editor of a famous magazine called *The Delineator*. That friendship turned around the lives of both Marie and Meloney and led to a nationwide fundraiser by American women to buy radium for Marie’s research. Meloney was everything Marie was not—a fireball and known talker who was packed with charisma. And she had the persistence to match Marie’s own. Woe to anyone who stood in her way. Meloney not only was close to Marie; she also adored Marie’s two daughters, who were both notoriously protective of the famous mother.

It was thanks to Meloney’s tutelage that Marie was, to a large extent, able to overcome her aversion to publicity in order to gain access to the financial and scientific resources of the United States when, as Eve Curie put it, “Nothing is impossible.” At the time, the scientific centers in the United States together had about fifty times as much radium as the single gram she—the scientist who had discovered the element—safeguarded in her inadequate laboratory in France.

During her journey through America, orchestrated by Meloney, Marie was able to realize for the first time how her celebrity status could empower her to have an impact on the causes she favored. In the years to come, she would speak before large crowds at meetings and conferences throughout the world, gradually becoming more comfortable in the spotlight. Marie discovered that people were very willing to support her work, and she went on to enjoy great success as a fundraiser for the Radium Institute she had founded in Paris in 1914 and then for her Radium Institute in Warsaw. Later, she also

lent her name to the cause for world peace by working for the League of Nations. It was in large part thanks to Meloney's influence. Before meeting the journalist, Marie had abhorred any kind of publicity. "[Curie], who handles daily a particle of radium more dangerous than lightning, was afraid when confronted by the necessity of appearing before the public," a French newspaper editor once remarked.

Following many lengthy periods apart, Marie's trek through America also allowed her some real quality time with her girls. They would both turn out to be extraordinary women, with Irene going on to win her own Nobel Prize and Eve becoming a celebrated author and war correspondent. Eve, a French national, became an American citizen in 1958 after marrying the American politician and diplomat Henry Richardson Labouisse Jr. in November 1954. She spent her last years in New York City, where she died at the age of 102 in 2007.

Many books on Madame Curie tell the stories of her humble childhood and her extraordinary collaboration with her husband. Indeed, her years as a teenager working as a governess while staying up nights to study math and science are the stuff of legend. However, even the weightiest tomes often tidily wrap up the story of her life around 1911, when Marie received her second Nobel Prize. But America's love affair with Marie Curie—and Marie's trips to the United States (she was to return in 1929)—were momentous occasions, not only for Marie and her daughters, but also for the American people. Marie had found a patron while America had found a woman role model and, equally important, a cause to rally around. The hospitality and generosity showered on the three Curie women wherever they found themselves in as they crisscrossed the country from Boston to Flagstaff were evidence of just how passionate America was about this foreigner and her family. As soon as Meloney spread the word that Marie needed radium, countless Americans—from prominent doctors to modest students—got behind a fund-raising campaign in a tangible manner. The movement was not unlike the similarly monumental fund-raising drive that had unfolded in the late 1800s when Americans sought to build a base for the Statue of Liberty, a gift presented by the people of France. At that time, too, much of the country was swept up in raising money. Marie's second American tour in 1929 also proved bountiful, successfully equipping the Warsaw Radium Institute founded by Marie in 1925 with her sister Bronya as director.

There seemed to be so much more to learn about Madame Curie's life. I ventured to write another biography about a person who's been written about so many times before in order to look at the woman, mother, and friend behind the pioneering scientist. Much of the research for this biography was made possible through the generosity of Marie's only granddaughter, Hélène Langevin-Joliot, at the Marie Curie Institute in Paris. The octogenarian nuclear physicist gave me eighty-eight pages of remembrances written by her mother Irene about her grandmother. She also led me to a collection of more than two hundred letters in French exchanged between Marie and her two daughters from 1906 to 1934. A few years ago, Langevin-Joliot also made public many boxes of archives relating to both her mother and her father. Combined, this new information opens a window into what Marie was like as a mother and how she walked a tightrope between family and career. Marie's absorption with work meant an inordinate amount of time spent away from home but it never prevented her from being intimately involved in the development of her daughters. At one point, Eve Curie wrote, Marie was so depressed she was suicidal. But she never lost sight of her goals for her children.

Letters show that the three often swapped the most trivial of details. In one, the health of a goldfish is discussed; in another, the height of waves at the beach. Yet they also reveal a mother who was always apologizing for missing her children's birthdays but who was so dead set on developing their minds that she constantly sent them complicated math problems to solve.

Langevin-Joliot's own insights were also extremely helpful.

"My grandmother wasn't the same person when she came back from America . . . the trip changed

her forever,” the distinguished woman told me. Sitting among stacks of papers in a small office at the Marie Curie Institute, she explained how most books covered her grandmother’s life from childhood to World War I as though “she suddenly died after that and nothing else ever happened.” She made point of emphasizing how, at first, her grandmother had been known only as the wife of a great scientist and then later only as the humble Polish girl who endured great trials to become a renowned scientist. “But there was a lot more to her than that . . . she was a mother, a peacemaker, humanitarian,” she said.

The other person who confirmed the validity of my mission was Renaud Huynh, the director of the Curie Institute in Paris, who agreed that the last twenty years of Curie’s life were extremely important—but have generally been overlooked. “Writers often forget that the life of Marie Curie does not stop at the end of World War I and that the Radium Institute she helped create quickly became a place of international reputation which continues to this day,” he said. “The end of her life—from 1918 to 1935—is largely unknown to readers.” Langevin-Joliot nodded in agreement, adding that “I think the idea of writing about the last twenty years of her life and beyond is something that is never done.”

And, with those words, let’s head back to that day in May 1921 when the East Room of the White House was teeming with more than one hundred of the world’s most distinguished scientists and diplomats from Poland, France, and the United States. Overseeing them all was the affable President Harding who, having suffered multiple scandals during his administration, was relishing the distraction of the pleasant afternoon ceremony.

To enthusiastic applause, the president presented Marie with a golden key inscribed “From the Women of America to Madame Marie Curie.” Later Marie would open a lead-lined casket containing her single gram of radium. Harding paid homage to Marie, to her adopted nation, France, and to the newly re-created nation and land of her birth, Poland, which had finally become an independent country again after World War I:

“As a nation whose womanhood has been exalted to fullest participation in citizenship, we are proud to honor in you a woman whose work has earned universal acclaim and attested woman’s equality in every intellectual and spiritual activity.”

After his speech, Marie stood to respond:

“I cannot express to you the emotion which fills my heart in this moment. You, the chief of the great Republic of the United States, honor me as no woman has ever been honored in America before. I accept this rare gift, Mr. President, with the hope that I may make it serve mankind. I thank you and my countrywomen in the name of France. I thank them in the name of humanity, which we all wish so much to make happier. I love you all, my American friends, very much.”

Realizing that Madame Curie was in frail health, Mrs. Harding guided the scientist to a chair where she could rest before sending the gathering of dignitaries over to Irene and Eve. The two mingled with the guests, comfortably conversing with them in English, French, or Polish, or a mixture of all three. The young ladies had been carefully raised with the confidence to speak on their mother’s behalf when necessary.

All told, this brief time at the White House marked the high point of Marie’s triumphal but physically and emotionally draining journey through America. It was particularly noteworthy that Marie even chose to end her autobiography—written at Meloney’s urging—with a description of the 1921 trip. In Marie’s own words:

“I got back to France with a feeling of gratitude for the precious gift of the American women, and with a feeling of affection for their great country tied with ours by mutual sympathy which gives confidence for a peaceful future for humanity.”

And so it was a new beginning for Marie, just when many believed her life had reached its culmination. And, most importantly, the 1921 trip marked a dramatic comeback for a hero who

unbeknownst to many today, had hit rock bottom just ten years before.

An Absolutely Miserable Year

Madame Marie Skłodowska Curie had come to Brussels in the first few days of November 1911 to talk physics with her peers—and also to escape. She was the only woman among twenty-three men attending a gathering of some of the world's greatest minds that included Albert Einstein and Max Planck. When they weren't debating the challenge to modern physics presented by the discovery of radioactivity, the scientists surely talked among themselves about the rumors of illicit romances swirling around the forty-three-year-old widow. In one photograph of the delegation, Marie can be seen sitting at a table in the front, with her head down over some paperwork, while her former professor, the great mathematician and physicist Henri Poincaré, looks on. Behind them stands her married lover, Paul Langevin, thirty-eight, a dashing father of four and an expert on molecular and kinetic theory.

The wealthy industrialist and philanthropist Ernest Solvay had organized the all-expenses-paid week-long conference to focus on “the theory of radiation and quanta.” He had invited Marie and the others in June—just as her life was starting to unravel. Indeed, his invitation couldn't have come at a better time. After all she had discovered, after all she had achieved, Marie's presence was no longer welcomed in France even by some who had once been among her greatest admirers. Photographs resembling mug shots appeared in newspapers in an anti-Semitic broadside. Adversaries showed up at her home, hurling rocks at the windows. Fellow professors at the Sorbonne wanted the university's first female teacher out. The mother of two was close to a nervous breakdown, on the brink of madness. The Solvay Conference was a welcome diversion.

Almost all of those invited had played a prominent part in the advancement of major scientific theories. And perhaps no one more so than Marie, who had discovered two important elements, polonium and radium. A few, such as the prominent Sorbonne professor Jean Perrin, Marie had known quite well and for many years. Others, such as Einstein, she was meeting for the first time.

Complaining of nagging headaches, she walked out of several committee meetings before they were over. But her obvious distress didn't stop her from discussing with other scientists the creation of an international standard—called the Curie, in memory of Pierre Curie—that could be used to compare radium preparations from different countries. Preparation of the radium standard, which is still in use today, had been assigned to Marie, who argued in the face of some opposition that a Curie must correspond to more than just an infinitesimal amount of radium.

Worn down with worry, Marie was handed a telegram midway through the conference. The modest woman who hated attention was almost afraid to open it. But the news was not what she expected: “Nobel Prize for chemistry awarded to you. Letter follows.” It could just as easily have been talking about the weather for all its simplicity. But this message from Carl Aurivillius, head of the Swedish Committee on Prizes, confirmed her place in history. Marie was about to become the first person—man or woman—to be awarded two Nobel Prizes. To this day she remains the only person to have been awarded two Nobel science prizes in different subjects. (Linus Pauling is the only person to have been awarded two unshared Nobel Prizes—the 1954 Nobel Prize in Chemistry and the 1962 Nobel Peace Prize.)

As news of the second Nobel Prize circulated, some at the meeting grumbled to themselves that, in essence, Marie had been awarded the same prize twice, since both were related to her work on radioactivity. But praise for her years of research also flowed forth, and many of the gentlemen in attendance were gracious enough to offer their heartfelt congratulations. And yet the realization remained that despite being awarded a second Nobel Prize—an unprecedented feat for anyone but especially for a woman in a field that remained the bastion of men—1911 was a year of humiliation, depression, and defeat for Marie. Despite so many accomplishments, her star had been falling fast during the last several months and she'd become a woman on the edge, close to losing it all.

Her life's downward spiral had begun almost a year before when, in December 1910, she had decided to emulate her late husband, Pierre, by competing for a single open seat in the French Academy of Sciences, an institution that held sway over the support and direction of French science. Although the prestigious organization boasted only 68 members, the idea of a woman trying to break into the male stronghold sparked so much attention that all 163 members of the French Institute—the umbrella organization representing five different academies—showed up to have their say. Despite the ringing endorsement of the respected newspaper *Le Figaro* which had named her the nation's most famous physicist the election on January 24, 1911 did not go as Marie had hoped. There were all sorts of reasons for this, but not one of them made sense. Driven by the country's growing xenophobia, some members circulated a bizarre charge that Marie's application for membership had actually been contrived by a Jewish cabal to block the honor from going to an equally talented but more Catholic candidate. Next, a conservative periodical fanned the flames by claiming that, with her Polish heritage and a maiden name like Skłodowska, Marie almost certainly was a Jew herself. (She wasn't: her mother was Catholic and her father an atheist.) Another publication splashed two photos of her on its cover that looked like police mug shots, making it seem as though she were a criminal on the run. In the weeks leading up to the vote, an all-out smear campaign took on a life of its own while willfully ignoring Marie's impeccable résumé. No doubt sexism was a major culprit. In the end, Marie lost by only two votes to radio pioneer Édouard Branly, an inventor who had been honored by the pope and backed by French Catholics. The vote was so close that the academy held a second vote as to whether women in general should ever be admitted. That vote was 90 to 52 against the idea. Indeed, the academy wouldn't admit a woman until 1979.

But that was only the beginning. The worst was still to come.

A short time after the vote, in the spring of 1911, Henri Bourgeois—a newspaper editor as well as the brother-in-law of a woman named Jeanne Langevin, the wife of Marie's lover Paul Langevin—called on Marie with some disturbing news. Jeanne had discovered a trove of intimate correspondence between Marie and Paul Langevin—and she had no qualms about making the letters public.

From most accounts, the revelation was true. Somewhere along the way Marie's close friendship and working relationship with Langevin had blossomed into a full-blown love affair, as their letters attested. In one particularly affectionate note, published by biographer Susan Quinn among others, Marie wrote him that, "It would be so good to gain the freedom to see each other as much as our various occupations permit, to work together, to walk or to travel together, when conditions let themselves. What couldn't come out of this feeling? I believe that we could derive everything from a good work in common, a good solid friendship, courage for life, and even beautiful children of love—the most beautiful meaning of the word."

When Langevin in turn poured out his heart about his marital difficulties, Marie shot off a sharp reply displaying an uncharacteristic possessiveness: "But when I know that you are with her, my nights are atrocious, I can't sleep, I manage with great difficulty to sleep two or three hours; I wake up with a sensation of fever and can't work." At least a few circulated letters were even more dramatic. In one, a distraught Marie intimated she might commit suicide if their relationship didn't work out.

Irene and Eve “could become orphans between one day and the next if we don’t arrive at a stable solution,” she wrote. In another, Marie closed by saying, “My Paul, I embrace you with all my tenderness. . . . I will try to return to work even though it is difficult, when the nervous system is so strongly stirred up.” When it came to letters written by Paul, fewer exist, although Langevin once wrote that he was drawn to Marie “as to a light . . . and I began to seek from her a little of the tenderness which I missed at home.”

It’s no surprise that the two were attracted to each other. Langevin had been one of Pierre Curie’s star students, and admired the man enormously. Building on Pierre’s early work with crystals, Langevin later would develop an invention that used sonar signals to help Allied military forces detect submerged submarines during World War I. In addition, Marie and Paul had both taught at the Sèvres school for women teachers-in-training. It also hadn’t hurt that Langevin, five years her junior, was both handsome and charming.

In scientific circles, it was well known that Paul’s marriage to Jeanne Langevin was an unhappy union. Fights between the two were legendary and often involved her abusing him physically. One day he turned up at his lab with bruises; he told his concerned coworkers that his wife, mother-in-law, and sister-in-law had attacked him. On various occasions, Langevin had promised his wife that he would stop seeing Marie. But now Jeanne Langevin possessed the letters proving that their romance was only deepening. And so the warning from Jeanne’s brother-in-law was clear: Jeanne was capable of anything, which meant that Marie’s life was in danger.

With that, the year turned into one of histrionics, with Jeanne Langevin flying into rages and vowing to rid her family of Marie, whatever it took. One night, when the two women bumped into each other on the street, Jeanne told Marie she’d murder her if she didn’t leave France—now. Marie’s friend Henriette Perrin later said she’d never forget the image of this illustrious researcher “wandering like a beast being hunted.” Yet there were more letters back and forth between the two scientists. By the summer of 1911, Marie and Paul, unable to part ways, were meeting in the Paris apartment Langevin had rented the year before. By this point, he had made a habit of escaping the family home and staying in the apartment for weeks at a time. Eventually he always returned for the sake of the children. The days brought more brawls between Paul and his wife with Jeanne eventually filing charges of abandonment. Soon enough, the French press had gotten hold of intimate letters—or forgeries based on them—and many were published.

Although Marie’s daughter Eve, at age six, was too young to understand what was going on, the drama was starting to take its toll on thirteen-year-old Irene, so Marie sent both girls to Poland for the summer. It was their first visit to Marie’s homeland. As she had hoped, they loved it. For all the trouble Marie had going on in her personal and professional life, the writings of Marie and her girls released by Hélène Langevin-Joliot reveal no abdication of her parental duties. No matter how tumultuous the times, Marie always took a few moments to record observations about her daughters’ development in her notebook. She recorded when Irene first got her period, stating that “she doesn’t lose much blood and scarcely suffers.” She recorded personality traits as well. When it came to little Eve, Marie described her as a very sensitive child in tune with the feelings of others, recalling how once when she had “reproached Irene for I don’t know what. . . . Eve dissolved into tears.” In her letters to her girls, Marie was no gushing mother. But even when the turmoil was at its worst, Marie never lowered the high standards she set for her children. And she always kept a watchful eye. In August 1911, when both girls were in Poland staying with Marie’s sister Bronya, Marie wrote to express worry that she hadn’t heard from them for a few days. She asked that they write her immediately. In conjunction with her sister, Marie made certain that they enjoyed a lot of time outdoors and also that their intellectual progress was closely monitored. Irene was assigned a half-hour German lesson as well as trigonometry lessons every day of her holiday. Their academic training was evidently rigorous.

There's a letter from a defensive Irene even pushing back after being criticized by Marie for her handwriting: "Furthermore, I find that my writing is prettier straight than slanted."

But no matter how busy they were kept, the girls longed for their mother. They often ended their letters to Marie with tender farewells such as: "I kiss you with all my heart on your beautiful tireless forehead." Once that summer, when Irene wasn't feeling well, she wrote her mother: "Oh, how I would have liked to have you here while I was sick."

Fortunately, by September, Marie was able to join her daughters in Poland for a happy hiatus—taking the girls on long hiking trips through the mountains—before she had to head off to Brussels for the Solvay Conference in late October.

Almost immediately after receiving that first telegram with news of the Nobel Prize, a second telegram showed up at the conference confirming what Marie had heard earlier. Jeanne Langevin was prepared to release letters to the press proving that her husband was having an affair with Marie. In a politically charged atmosphere that was increasingly intolerant of foreigners—the national election in 1910 had resulted in a considerable shift to the right in France's Chamber of Deputies—right-wing newspapers stepped up their attacks on Marie even more, tearing apart the legend they had helped create only a few years before. Indeed, many publications took notice of Marie's second Nobel Prize with only a few words on an inside page. As time went on, newspaper after newspaper kept hammering away at the story of Marie's affair but none more so than the ultra-nationalistic *La Libre Presse*, with its chauvinistic catchphrase "France for the French."

Most egregious in the collective mind of the French press was Marie's warning to Langevin in one particularly emotional letter that he not get his wife pregnant during a time of reconciliation. Despite the hardened persona she had always cultivated, Marie showed off her insecurities by telling Langevin that if he resumed sexual relations with his wife—and if she then became pregnant—"it would mean definite separation between us. . . . I can risk my life and my position for you, but I could not accept this dishonor." Many in France found this tantamount to treason at a time when the country needed all the offspring it could get to ward off a German threat. As one newspaper worded it, nobody in France should be concerned that Marie might leave the country because of the scandal, but rather everybody should be worried for the "French mother, who . . . wants only to keep her children. . . . It is with the mother, not with the foreign woman, that the public sympathizes. . . . All French mothers are on the side of the victim and against her persecutors."

A humiliated Marie left the Solvay Conference early and returned to France, where by now the public's animosity toward her was palpable. What should have been a glorious moment—the winning of a second Nobel Prize—had come at one of the worst periods of her life. For the hardworking scientist, the love affair had stymied any celebration and had led, by November 1911, to a quick but ignominious toppling from grace for the world's most famous woman.

Most hurtful was her arrival back at her house near Paris, where she came face-to-face with an angry mob hurling stones at her windows amid shouts of "Go home to Poland," which spoke to the intensity of the public's malice toward her. Marie had no choice but to sweep up her two horrified daughters and seek refuge at the home of her good friends Marguerite and Emile Borel. Earlier, the young Irene, who so idolized her mother, was at school when a friend pointed to a newspaper headline about the Langevin affair. The stunned girl skimmed the story and reportedly burst into tears.

As Eve later wrote in her biography of her mother, people began referring to Marie as a Russian, a German, a Pole, a Jew, or some combination of all four. Mostly, though, she was simply called the "foreign woman" who had come to Paris like a usurper to conquer a high position improperly. Ironically, in earlier years, it was the same scurrilous right-wing tabloid press that had done Marie an inadvertent favor by promoting and thus elevating the public's view of the Nobel Prize, which previously had been scarcely noticed in the field of science. But now, despite their failure to verify the

innuendos, hungry reporters seemed determined to topple the icon they had helped build up.

Rather than duck the issue, a protective Paul Langevin challenged Gustave Tery, the editor of a particularly vitriolic newspaper, to a public duel with pistols. Wearing bowler hats and dark suits, the two men faced each other some twenty-five paces apart. Although dueling was still popular, the practices were—by 1911—more of a ritual than anything else, with participants rarely injured. And in this case, too, no one fired a weapon and no one was hurt. After having called Langevin a boor and a coward hiding behind a woman's skirt, Tery ultimately admitted he couldn't raise his weapon against a man who was undoubtedly one of France's greatest scientists. The *Los Angeles Times* thought the event highly amusing, headlining its report: "Pistol Duel Pantomine: Principals Let Seconds Dot. Shooting and No Blood Is Let."

Throughout the whole ordeal, Albert Einstein remained supportive of both Langevin and Marie, writing Marie of his admiration for her spirit and energy. (He also admitted to a friend that he didn't believe Marie "attractive enough to become dangerous for anyone.") Pierre's brother Jacques also remained extremely sympathetic and protective. "Doesn't one have the right to sue newspapers for damages?" he asked her. Marie apparently offered no evidence to counter the accusations, although she did at one point issue a statement to the press calling intrusions into her private life "abominable" and vowing to fight for damages. Without providing proof, Paul later charged that the letters had been altered and that certain parts had been omitted. But, for whatever reason, no action against the press from Marie came to pass.

At the same time, Marie also received letters of support from fans in America including the dancer Loie Fuller, who had become acquainted with both Marie and Pierre years before when she contacted them about incorporating luminous radium into her costumes and stage sets. After hearing about the scandal, Fuller wrote Marie: "I love you. I take your two hands in mine and I love you. Pay no attention to the lies, c'est la vie."

But while many friends and colleagues stuck with Curie, some of the most important people in her life did not. One of them was Paul Appell—who had been an extremely close friend and one of her first professors at the Sorbonne. Appell, as dean of the faculty at the Sorbonne, went so far as to start organizing a group of university professors to collectively demand that Marie leave France. When Appell found out that his own daughter, Marguerite Borel, had taken Marie and her daughters in to live with her for a while, he immediately summoned her to his home. Borel found him seething. "What mix in this affair which doesn't concern you?" he demanded, chucking a shoe against the wall. He told her that the very next day he planned to see Marie so that he could insist, in person, that she move out of the country. In fact, he had already arranged a chair for her in Poland. "Her situation is impossible in Paris. . . . I can't hold back the sea which is drowning her," he said, pushing for a move that Marie never would have wanted.

By her own account, written many years later, Marguerite Borel vowed never to speak to her father again if he yielded to this "idiotic nationalistic movement." Under this threat, Appell caved in and agreed to put off his decision. Borel noted that none of this would have happened if Marie were a man.

By the end of 1911, Eve wrote that her mother had sunk into a debilitating depression. Already she had lost a sister, a mother, a husband, and a father. Three years before Pierre's death, in August 1903, she had also suffered a miscarriage. And now she was about to lose her reputation. There came a point when Marie no longer felt strong enough even to make the journey from work to the house she loved with the large garden in Sceaux, even though it was only about three miles south of Paris. She decided to sell the beloved retreat—located near where Pierre and his mother were buried. It was a place she found hard to part with. But for the sake of her health she bought a flat at 36, quai de Béthune on the fashionable Île Saint-Louis, overlooking the Seine and within easy walking distance of the Sorbonne, a quiet place where she and her daughters intended to live from January 1912.

If things in France weren't good, in Stockholm—where she was due to receive her second Nobel Prize in December 1911—they weren't much better. After news of the love affair broke, a member of the Swedish Academy of Sciences tried to dissuade Marie from traveling to Stockholm to receive her prize in person so that the Swedish king wouldn't have to shake hands with an adulteress. In a letter dated December 1, he cited her published love letters and “the ridiculous duel of M. Langevin” and pointed out in a stinging rebuke that, “If the Academy had believed the letters . . . might be authentic it would not, in all probability, have given you the Prize.”

With this, Marie's fighting spirit returned. In an angry letter, she snapped back: “In fact the Prize has been awarded for discovery of Radium and Polonium. I believe that there is no connection between my scientific work and the facts of private life. . . . I cannot accept the idea in principle that the appreciation of the value of scientific work should be influenced by libel and slander concerning private life.”

Upon hearing of the exchange, Langevin couldn't stay quiet either. He wrote directly to Svante Arrhenius, one of the men who had nominated Marie: “One cannot judge . . . the correspondence which is reproduced in a distorted fashion—by alterations and omissions . . . if one does not know the condition in which I lived for thirteen years, nor from what kind of people these attacks came.”

And so a determined Marie endured a forty-eight-hour train journey to attend the Nobel ceremony scheduled December 10, accompanied by her fourteen-year-old daughter Irene and her sister Bronya. As planned, King Gustaf V bestowed the prize on her. Although a German newspaper distributed in Sweden had published a report on “The Letters of Marie Curie,” she enjoyed a dignified reception from the sophisticated Swedes, especially from the women. In Marie's acceptance speech she acknowledged other scientists who had contributed to the field of radioactivity, but soundly reasserted her claim to be the first to discover its properties. Taking full credit for her accomplishments, she reminded the committee that “isolating radium as a pure salt was undertaken by me alone.”

Later, at a formal banquet with King Gustaf, she described radioactivity as “an infant that I saw being born, which I have contributed to raising with all my strength. The child has grown. It has become beautiful.”

In her autobiography, Marie wrote nothing of the Langevin scandal, but recorded that the Nobel Prize was a very exceptional honor recognizing her achievements.

The celebration in Stockholm gave way to the ugly reality of Paris. Upon her return, another vicious article deplored the invasion of foreigners at the Sorbonne, charging that the female students were there only to land husbands. In her characteristic way, a strong-willed Marie immediately went back to lecturing at the Sorbonne and working in her small Paris laboratory. But the calm of her routine was about to be shattered again. Less than two weeks after the ceremony, on December 19, 1911, she was buckled over by acute stomach pain and rushed to the hospital on a stretcher with what was thought to be a kidney infection. She recovered from the initial attack, but some old lesions pressing on her kidney—possibly the result of exposure to radiation—required an operation. Marie asked that the surgery not take place before March so that she could attend a meeting of physicists at the end of February.

Although her surgery went better than anyone could have hoped, Marie's health was poor throughout 1912. She grew abnormally thin and often was so weak and feverish that she struggled even to get out of bed. Some thought she suffered from tuberculosis. Others blamed cancer. Secrecy about her illness backfired and sparked a flurry of malicious rumors. The hospital's manager and its Mother Superior warned her of one published article that claimed she was in the hospital about to give birth to Langevin's child. Normally, patient medical records were inviolable, but the pair was so incensed by this libelous charge that they offered to open up her records to the public. Marie agreed. Newspapers revealed her doctor's diagnosis—kidney infection—which mostly stopped the spread of rumors. B

what was not mentioned was that she had experienced a nervous breakdown that was the by-product of the deepest, darkest depression of her life, more stubborn than episodes in previous years. Eve later wrote that her mother had grown suicidal. She refused to eat, and her weight dropped from 123 pounds to 103.

After becoming ill, Marie placed her daughters under the care of a Polish governess in early 1909 and barely saw them during the following year and a half, except when they visited her briefly at her house in Brunoy, about thirteen miles from Paris, which she had rented under her sister's name Bronya Dłuski. A bucolic village, Brunoy was the perfect spot for someone seeking to recover from a traumatic episode. Only a very few close friends and colleagues were told where she was staying. Letters between Marie and her daughters during those first few months show a parent distracted by her own health concerns—but not inattentive. In one, Marie asked Irene if she'd become a bit careless about her cycling excursions. "I'm glad you are starting to become independent, but I do not want us to pay too much for that evolution," she wrote. In another, Marie commented on Irene's grammar, urging her to be more diligent when it came to punctuation. Irene's letters usually included some kind of difficult math equation, which she would have solved perfectly. Marie also wrote often of her concerns over Eve's health after the girl suffered from a variety of mysterious maladies in 1912. In May, she wrote that Eve had a "slight fever climbing to 100 . . . in the evening without other symptoms." By the end of 1912, one of the family's closest friends, the scientist André Debierne, told Marie that her absence was taking a serious toll on Eve's health. Marie managed to pull herself together enough to spend Christmas in Lausanne, Switzerland, with her daughters while Eve recovered.

Marie's seclusion and time away meant she wasn't around to fully appreciate how greatly Pierre's death was continuing to impact Irene. For years, Irene had balked whenever Marie had tried to leave her—even if only for an hour or so. But Marie appeared to have been unmoved. Marie wrote at one stage that Irene "doesn't speak of her father. . . . She no longer seems to be thinking about it, but asked for the picture of her father that we had taken from the window of her bedroom." Yet Irene wrote that she often felt sad and alone. And in a letter from Irene to Marie in August 1909, when Irene was only eleven, she made a point of asking her mother how the plants on her father's grave were faring and which ones were flowering. In a charming note, these were just two of ten very specific questions posed by Irene to her mother. "I ask you ten questions," Irene wrote while on vacation at the seaside. "Respond to all of them when you write to me."

Making Irene's sorrow even worse were the lasting effects of the death of her grandfather, Dr. Eugene Curie, in February 1910. He had been Irene's best friend in the world and both girls' caretaker while their mother spent long hours at work. From her writings, Eve was more in touch with her sister's emotions than was Marie: "I was very young but Irene was [much older]. My grandfather raised her from the time she was a baby and they had a close bond, a great bond. Irene was desolate when first father died and then her beloved grandfather, who had been everything to her."

Irene worshipped the memory of her father and grandfather so it is no surprise that letters and diaries reveal how hard the Langevin scandal was on her. She hated having to hide the Curie name she had been taught to revere and begged Marie to allow Irene to address her letters to Mme Pierre Curie as usual. But Marie was determined to escape the press in Brunoy and so insisted that her daughters' almost daily correspondence be addressed to Mme Skłodowska.

Although the love affair between Marie and Paul eventually waned, the two remained lifelong friends and associates. After one more separation, Langevin returned to his wife for good, although later he would take on another mistress. (Years later, Langevin would ask Marie to find a position at her radium institute for his mistress, one of his former students named Elaine Montel, and Marie obliged.) The good news for Marie was that a writ of separation between the couple made no mention of her, meaning her name would never be dragged through the sordidness of a divorce court.

proceeding. In her own comprehensive biography of her mother, Eve never specifically mentioned the Langevin affair, but alluded to this dark period when she wrote about a “perfidious campaign” that led Marie to the brink of suicide and madness. Although Langevin never publicly admitted to having an affair with Marie, his son André later wrote in a biography of his father: “Isn’t it natural enough that a few years after Pierre Curie’s death this friendship enhanced by mutual admiration should have gradually grown into a passion and resulted in a love affair?”

This storm that erupted in 1911 seemed as if it would never end. Without their precious Mé, as they called their mother, Irene and Eve were despondent. Marie enjoyed a strong will but failing strength. It wasn’t clear how, or when, her work and reputation would ever be vindicated, or what would become of the two girls, one of whom was turning out to be exactly like her mother and father in her passion for science. Certainly Marie had veered off the track she’d been taking all her life, since her childhood days in an oppressed Poland.

Moving On

Playtime in the Skłodowski household in Warsaw was exactly what one might expect from a family of educators. When anyone spotted a sunset, Marie’s father, Professor Vladislav Skłodowski, would take a few minutes to explain the earth’s rotation. When reading a bedtime story in one of the five languages he knew fluently, he would simultaneously translate the work into Polish. Lighthearted banter over the dinner table invariably turned into dense debates over the malignance of inferior educational opportunities for women in Europe. A caring man who taught physics, science, and mathematics, there’s no doubt that the Polish patriot valued a love of learning more than anything else in the world. As such, no matter what else was going on, he never missed an opportunity to impart some of his own knowledge about scientific matters to his children.

Skłodowski became the primary caregiver to ten-year-old Marie and her three older siblings after his wife, also an educator as well as a gifted piano player, died of tuberculosis in 1878 at the age of forty-two. (Another child, a girl, had died from typhus at the age of twelve a few years before her mother’s death.) Marie later called the loss of her mother the first great sorrow of her life, one that threw her into a profound depression. She wrote that her mother’s influence on her was extraordinary “for in me the natural love of the little girl for her mother was united with a passionate admiration.”

Skłodowski, too, was heartbroken over the loss of his beautiful wife and daughter. He vowed to devote himself to his work and to the education of his remaining children. As long as he lived, he believed his offspring capable of great things—especially when it came to his little “Manya.” Once when she was only eleven, the headmistress of her school told Skłodowski that, although Marie was at the top of her class, she was much more sensitive than her peers. Perhaps, she suggested, he should consider holding the girl back a year. Skłodowski did exactly the opposite. He immediately pulled Marie from the school’s nurturing environment and enrolled her in a Russian-run school that catered to high achievers. A Skłodowski was always supposed to go forward, not back. Even later, when as a teenager Marie was taking a break from school and was employed as a governess in the countryside, Skłodowski never failed to include increasingly challenging math problems for her to solve along with every letter he sent.

Skłodowski had every expectation that the brightest of his brood would go on to be somebody special—and Marie didn’t disappoint. As the star pupil, she was awarded a gold medal at her high school graduation in 1883. She was always at the top of her class. Since women weren’t welcome at the University of Warsaw, Skłodowski encouraged Marie and her sister Bronya to join a brave circle of bright friends in attending the so-called Floating University, an illegal night school that constantly changed locations in order to evade the watchful eyes of the Russian authorities.

During Marie’s youth, her father wove the ideals that would shape her future: a love of country, a love of learning, and a love of humanity. With war clouds on the horizon—and many heartaches ahead—her childhood of hard work, academic rigor, and high expectations would prove to be a perfect training ground for what was to come.

In her writings, Marie often spoke of the love and respect she felt for her father. She said that, even as an adult, she couldn’t go back to Poland without meeting people who held “tender memories” of her

father. In particular, she never forgot how her father had been deprived of a laboratory by his Russian taskmasters. Often he had referred to the overseeing of a major institute of research as the dream of a lifetime. That dream was shared by Marie's husband, Pierre—and then by Marie herself. No matter what life threw at her, the drive to reach this goal would never go away.

But in the aftermath of the Langevin scandal, and with war rumors starting to dominate people's lives, Marie and her daughters would have much to get through before coming close to achieving their hope, this vision, this fantasy.

First and foremost was the matter of Marie's health. After winning her second Nobel Prize in 1911, Marie was often away, scouring the countryside for one health cure or another—always far from the crowded confines of Paris. Paying the price were Irene and Eve, shuffled endlessly among governesses and various family members, forever homesick for their mother's embrace.

By the summer of 1912, Marie's health had deteriorated to the point that she was taken to a sanitarium in the Savoie mountains, part of the French Alps. At the time, all sorts of people visited sanitariums, believing cold clear mountain air to be the best remedy for almost anything that ailed them. Strangely, perhaps, Irene's letters to her mother indicate that the girls celebrated Bastille Day on July 14, 1912, with Paul Langevin. Apparently Irene and Eve maintained a warm relationship with the scientist—just as their mother did—despite all that had transpired. In later years, neither Irene nor Eve ever wrote anything specific about the Langevin scandal, so it isn't clear what they thought about their mother's alleged actions, although they always remained close to Langevin.

What is clear is that Irene hated the idea of hiding her family name more and more, especially as her mother continued traveling incognito from one health center to another in order to stave off publicity. Feeling nostalgic for her father, a defiant Irene asked if she could spend time with Pierre's brother. Marie agreed, and Irene and Eve went to stay with Jacques Curie and his extended family in Montpellier. Marie wrote that Irene "adores everything relating to the Curie family: the name that she bears and that she would not like to change—that of the family of her father."

A constant flow of letters between Marie and her girls during this period reveals Irene growing in strength and maturity, with none of the broodiness typically displayed by teenage girls. Meanwhile, the much more emotional Eve seems to have been deteriorating in health and spirit without a parent around to nurture her.

A keenly intelligent Irene wrote daily to her mother, often to ask how to solve a certain kind of math problem. Indeed, math was brought up in almost every letter exchanged between the two just as it had been in letters between Marie and her father, with long complicated equations often included as part of the correspondence. In one letter, Irene, obviously advanced for a fourteen-year-old girl, remarked that "the derivatives are coming along all right, the inverse functions are adorable. On the other hand, I can feel my hair stand on end when I think of the theorem of Rolle, and Thomas's formula."

But a thoughtful Irene also asked often about politics, saying that there were many issues she didn't understand, such as the causes and consequences of the Turkish government. Overall, her letters display a maturity beyond her years and an overwhelming desire to please her mother. In one, Irene makes a point of emphasizing how hard she was working not to confuse her languages while simultaneously reading works by Charles Dickens, Gotthold Ephraim Lessing, and Shakespeare. "I have a dictionary on my table at all times," Irene wrote her mother.

But when Irene was with Pierre's brother, she also expressed a youthful exuberance: "At Montpellier, I met uncle. In the morning we walked in the town. In the afternoon we were in Palavas on the edge of the sea. We were together, uncle and I, all day long. Uncle is so happy to have me here."

It was during her weeks in Montpellier, in 1912, that Irene first began referring to her mother as "Maman chérie" or "My dearest," a salutation indicating Irene and Marie to be on more equal footing than the

previous greeting of “Ma douce Mé” or “My sweet Ma.” But Irene would always look up to her adored mother and, in almost every letter, she expressed concern over her mother’s health.

On the other hand, Eve—although only seven years old—already showed that she cared very little for academic pursuits. Her letters were often more carefree, no more than one or two sentences in length, and always ended with an expression of how much she missed her mother.

Differences between the two sisters were readily apparent even in the most trivial of situations. Often, Marie sent her girls small boxes of candy. For her part, Eve gobbled up every piece by the very next day. Irene, on the other hand, savored her bits one by one, hiding them away in a drawer. Eve would come across her sister’s stash, hardly touched, some time later. Much to Eve’s chagrin, the disciplined Irene had no problem rationing her supply to a piece a day. When it came to money, too, Eve immediately spent whatever she could get her hands on while Irene hung on to every last franc simply because she could think of nothing she wanted to buy.

In the summer of 1912, Marie was well enough to leave the sanitarium. But she wasn’t yet ready to return home. She accepted an invitation from one of the few good female friends she would have in her life—the well-known British physicist Hertha Ayrton—to visit her in Hampshire on the edge of the New Forest in England. This time—finally—the change of scenery worked to get the ailing Marie moving again.

Perhaps the visit reaped rewards simply because Marie liked Ayrton so very much. They had first met in 1903 when Marie took a trip to London with Pierre and had remained in touch ever since. Like Marie, Ayrton was not only the widow of a distinguished scientist but was also an important practicing researcher herself. As soon as Ayrton had read about the Langevin affair, she immediately wrote to Marie, offering her rented home at the seashore as a sanctuary. In addition to being a brilliant physicist, Ayrton was also a crusader for women’s rights, and she knew how to deal with both the press and the public. She promised Marie complete privacy—and Marie was not disappointed.

The two women soon were joined by Marie’s daughters and their Polish governess after Irene celebrated her fifteenth birthday in Brittany—without her mother—on September 12.

Ayrton would tutor Irene on the side, treating her as a serious student and discussing math with her on an adult level. Irene was delighted. She won over Eve, too, by accompanying the budding eight-year-old musician on the piano, even when she played French songs. More than anything, though, she piqued the older girl’s interest in women’s rights. Earlier that year, an astute Irene had written her mother, “I’ve noticed that every day or almost every day an English minister just misses being killed by the English suffragettes, but it seems to me that that isn’t a very brilliant way for the suffragettes to prove that they are capable of voting.” But Irene grew more understanding after Ayrton shared with her the British way of dealing with women who fought for their rights: they threw them in prison. Up to that point, Marie had always been reticent to lend her name to causes, believing scientists should remain objective in all political matters. But Marie thought so highly of Ayrton that she agreed to allow her to add her name to a petition protesting the imprisonment of leaders of the suffragette movement.

Following her return to Paris in late 1912, Marie finally began feeling more like her old self, both mentally and physically, and so, as 1913 got underway, she began writing more about her work and less about her health. After an absence of more than a year, she resumed making notes in her lab book again in December 1912. She also went back to teaching classes at the Sorbonne. Maybe it was just the passage of time, but it seems that she began rediscovering her inherent drive and common sense. Any lasting longings for Langevin seem to have been brushed aside as there exists no further evidence from this time onward of correspondence between Marie and Paul of an intimate, personal nature.

Back with her girls, Marie behaved very much like her father when it came to the day-to-day nitty-gritty of running a household. She never permitted loud voices in her home, whether angry or happy.

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