



October 2011

ZOOM

in on america

By the U.S. Missions of Austria and Poland

Volume III. Issue 10.

“Radium Lady” in America



Scientist Marie Curie works in a laboratory in this undated photo. Curie, along with her husband, Pierre, first isolated the two highly radioactive elements-radium and plutonium-from uranium ore. (AP Photo)

In this issue: Woman in Science

Zoom in on America

A Gift from the Women of America

Madame Curie, nicknamed *Radium Lady* in recognition of her discovery of the element, made two trips to the United States. Both were extremely successful and profitable for the scientist. The first visit took place in 1921. Marie Sklodowska-Curie was already laureate of two Nobel Prizes in two different subjects: chemistry and physics, but the prize money had already been spent both on improving the shed which was her laboratory and on x-ray equipment she used to equip military hospitals during World War I. She did not earn money from her discovery because she refused to patent it on the assumption that other scientists should be able to conduct their research freely. In this hard financial situation, the future of her research was uncertain.

Great Minds Think Alike

Fortunately, there was someone who understood that it would be a tremendous loss, if the brilliant scientist was not able to pursue her research. Mrs. William Brown Mellon, an American journalist, who interviewed Marie Sklodowska-Curie in her Paris laboratory, set out on a mission to help. She appealed to the women of America to raise a sum that could buy 1 gram of radium. In 1921 it was \$100,000. It took Mrs. Mellon less than a year to raise the money and as soon as the radium was purchased, she arranged for Curie to come to the United States with both her daughters to collect the gift. The Curie party made a good team. The youngest, Eve (a future writer and diplomat,) turned out to be a great public-relations person who enjoyed speaking to the press, while Irene (a future Nobel Prize laureate in chemistry) and Marie were curious about chemical companies and university curricula. All three had to attend social gatherings and dinners as everyone wanted to shake hands with the famous scientist.

The Major Event

The climax of the trip was the handing of the gift by President Harding at a White House reception. The president presented Marie Cu-



rie with a key to a small lead-lined box that contained the radium. In his speech President Harding called the chemist the “adopted daughter of France” and the “native-born daughter of Poland.” During this visit Marie Curie received nine honorary doctor degrees from prestigious colleges and universities, visited laboratories and industrial sites, impressing everyone with her expertise and personal modesty.

Change in Attitude

Though by temperament Marie Curie was so much more a family person than a public personage, she saw that her position and influence made it easier for her to support and raise funds for various social causes. She established the Radium Institute in Paris and in Warsaw and was active in all efforts to conquer cancer.

The Second Visit

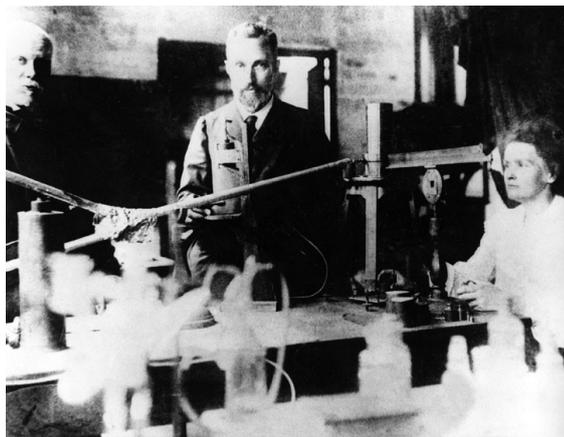
Eight years after her first visit Marie Curie returned to America to receive \$50,000 from the hands of U.S. president Herbert Clark Hoover. This money bought the same amount of radium as in 1921 - 1 gram. This time the radium was to be used in the cancer hospital Madame Curie was sponsoring in her homeland, Poland. Mrs. William Brown Mellon, her benefactor and now a lifelong friend, was again the good spirit behind the fund-raising venture.

Text AIRC Krakow

Photos (from top to bottom) 1. Marie Curie (second from right), with her daughters and Mrs. William Brown Mellon (first left) Photo LOC, 2. with President Warren G. Harding outside the White House on May 21, 1921, 3. with U.S. president Herbert Clark Hoover on the steps on the Medical Science Building on Oct. 30, 1929, 4. seated with Mme. Curie is Mrs. Robert G. Mead. Standing, from left, are Mrs. Samuel Adams Clark, chairman of the dinner committee; Dr. Howard Canning Taylor, president of the Cancer Society; Mrs. William Brown Mellon and Dr. John C. A. Gerster, chairman of the New York Committee,

Photos 2-4 © AP Images

Woman in Science



Marie Curie with her husband, Pierre, and with her daughter, Irène (AP Photos)

To celebrate the contribution that chemistry has made to the well-being of mankind and to highlight the achievements of this science, the year 2011 was proclaimed the International Year of Chemistry by the United Nations. The choice was no coincidence, as it marks the 100th anniversary of the Nobel Prize for Marie Skłodowska-Curie in Chemistry in 1911. For a hundred years Madame Curie has continued to inspire and fascinate people all over the world. Only two years ago, in 2009, she was voted the “Most inspirational woman in science” in a poll organized by *New Scientist* magazine.

Marie Skłodowska-Curie made breakthrough contributions to chemistry and physics. She pioneered research on cancer treatment in medicine. To describe the achievements of this private, unassuming, modest woman, we have to repeatedly use the phrase: “the first person/woman to...” She was the first woman to receive the Nobel Prize and the first person awarded with two Nobel Prizes as well as the only woman to win in two fields. She was the first woman to be appointed chair at the Sorbonne in Paris. She was the first woman to be entombed in the Paris Pantheon.

Marie Skłodowska-Curie also made an impact in a totally different sphere of life; she changed the existing structure of the world’s social model. This change did not happen overnight and in achieving it she was not alone. She had strong support from her husband and fellow scientist Pierre Curie, who insisted that they be awarded the Nobel Prize together for their discovery of radium (not just he, as it was at first suggested,) as they had also worked equally hard for it. After Pierre Curie’s tragic death, Marie was asked by the authorities of the Sorbonne to fill his place as head of the Physics De-

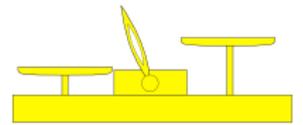
partment, thus opening for women a possibility never before offered to them - to fill prestigious positions in higher education. And yet, it was too early for a woman, even a woman like Marie Curie, to be elected to the French Academy of Sciences. She applied for the vacant seat, but lost to her male rival, leaving no doubts to anyone that the decision was made only on the basis of gender and not competence.

Curie was convinced of the equality of men’s and women’s intellectual capabilities. She never let her gender be a barrier, whether in her research which involved hard physical work, or in participation in prestigious conferences such as the Solvay Council during which she was the only woman among the world’s top physicists. She was not a militant feminist. As her granddaughter, Helene Langevin-Joliot put it, she was “a woman of her time, albeit one with an exceptional personality.” Nevertheless, Marie Curie was sensitive to discrimination against women in the education system as well as socially. While visiting the United States, she observed that American girls had a greater opportunity to develop their scientific skills and to study. Having met with women’s organizations she confessed:

In all these meetings it was impossible not to recognize the sincerity of the emotion in the women who gave me their best wishes, at the same time expressing their confidence in the future of feminine intelligence and activity.

Curie’s brilliant mind, authority and independent thinking in every sphere of life evoked admiration in her contemporaries, paving the road for other women to have equal educational opportunities and, as a result, to high positions in science.

Activity Page



Exercise 1. Below you will find definitions of some branches of science and studies. What branches of science/studies are described?

1. study of the composition of substances, and on their effects upon one another.
2. study of the properties of matter and energy
3. the science of life
4. scientific study of heavenly bodies, their motion, relative positions and nature
5. study of life processes
6. study of X-rays and their medical applications

Exercise 2. Below are some less frequently encountered names of special areas of science/studies. Match the names with their definitions:

1. Kinematics, 2. Acoustics, 3. Aerodynamics, 4. Dendrology, 5. Selenology, 6. Avionics, 7. Aerobiology
- a. study of airborne organisms
 - b. the science of electronic devices for aircraft
 - c. study of motion
 - d. microscopy study of minute objects
 - e. study of the moon
 - f. study of trees
 - g. science of sound
 - h. science of movement in a flow of air or gas

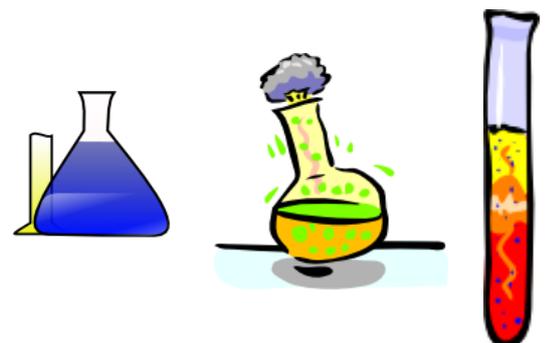
Exercise 3. Can you match the names of some chemical elements below on the left with their symbols on the right?

Calcium	Mg
Uranium	U
Chromium	Au
Iron	Cr
Radium	Ra
Magnesium	Ca
Nickel	Ni
Mercury	Hg
Zinc	Zn
Gold	Fe
Oxygen	Po
Lead	Al
Nitrogen	C
Carbon	O
Polonium	Pb
Aluminium	N

All these items can be found in a chemist's laboratory.

beaker, graduated cylinder, flask, test tube, test tube holder, test tube clamp, test tube brush, laboratory burner, tongs, spatula, funnel, funnel support, medicine dropper, forceps, plastic bottle, thin stem pipette.

Check the meaning of any new words.



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