EDITOR'S NOTE: THIS IS THE THIRD IN A SERIES OF ARTICLES BASED ON THE 1986 EXHIBIT ON POSTAGE STAMPS RELATING TO THE SCIENCE OF RADIOLOGY THAT DR. PRAESTHOLM AND HIS ASSOCIATES HAVE COLLECTED FROM AROUND THE WORLD. SUBJECTS OF PREVIOUS ARTICLES HAVE BEEN W.C. ROENTGEN, THE EXPLORATION OF THE ATOM, AND PIERRE AND MARIE CURIE. THE PRESENT ARTICLE CONTINUES THE STORY OF MARIE CURIE AS IT APPEARED ON POSTAGE STAMPS; IT ALSO ILLUSTRATES STAMPS THAT RELATE TO RADIOLOGIC EQUIPMENT AND PROCEDURES.

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Radiology on postage stamps
Part 3

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Marie Curie continued her scientific career after Pierre Curie's death in a traffic accident in 1906 (1). Monaco, 1.00 f, 1967.
In Madame Curie's laboratory, radium was further purified, its atomic weight established, and standards of measurement evaluated. France, 0.60 f, 1967.

For these studies, Marie Curie was awarded her second Nobel Prize in 1911, this time in chemistry. Sweden, 85 ore, 1971.

Marie Curie's Nobel Prize diploma was employed to commemorate the 100th anniversary of her birth. Poland, 60 gr, 1967.
In 1914, the Radium Institute in Paris was built for Madame Curie for her continued studies of radioactivity. Korea, 10 ch, 1984.

At the Radium Institute’s department of radiation biology and radium therapy, Madame Curie was engaged in the application of radium to cure cancer. India, 20 p, 1968.

Later, Madame Curie dedicated much of her time to public relations work to create resources for the propagation of the radium treatment. Central African Republic, 100 f, 1968.

Marie Curie, almost blinded by cataracts, died in 1934 of anaplastic anemia, a victim of her contribution to the welfare of mankind. San Marino, 60 l, 1982.
Radiological Equipment

(Above)
About this x-ray tube with 3 electrodes from 1896, Roentgen said “I use a concave mirror of aluminum as cathode and a piece of platinum foil, which turned 45° to the mirror axis, constitutes the anode.” The cathode is to the left and the anticathode to the right. The anode forms an angle of 45° to the axis of the tube (2).

(Below)
This early set up of an x-ray tube and an electron image intensifier demonstrates the technical development that had taken place since Roentgen’s discovery. Sharjah and dependencies, 3 np & 3 np, 1965.
Basic radiodiagnostic units being operated by radiographers are the subjects of stamps celebrating the national independence of Uganda, 1 s, 1962, and Zambia, 1d, 1964.

The Siregraph from Siemens is a fluoroscopy apparatus with the x-ray tube above the table. Notice that tilting of the table and abdominal compression are remotely controlled. German Federal Republic, 60 pf, 1975.

Postage stamps are employed in the fight against tuberculosis. In these two settings the doctor is examining the patient's chest by fluoroscopy. Taiwan, 40 c, 1953. Hungary, 30 fi, 1951.

An identical screen imaging technique is probably shown in this realistic interior. Vietnam, 3 p + 50 c, 1960.

Mobile x-ray units have been extensively used in the fight against tuberculosis. Note the registration desk outside in the shadow and the technician receiving the client indoors. Republic of Mali, 5 f, 1965.

Instructive drawings prepare people for the smooth implementation of a mass examination. Korea, 40 h, 1961.

Even children are prepared for their chest radiographs by a postage stamp. Turkey, 25 k, 1957.

This modern vehicle is still equipped for chest x-ray examinations. This stamp was issued before mobile units for CT, MRI and mammography appeared. Ryukyu Islands, 3 c, 1967.
Accelerators and cobalt bombs are mounted on a rotating gantry assuring accurate localization of the beam to the tumor which is placed at the isocenter. Japan, 15 y + 5 y, 1966 and 7 y + 3 y, 1966.

Cobalt-60 emits gamma rays equivalent to x-rays generated at about 2.5 million volts. Shown here is the treatment head of a cobalt unit with a collimator. Albania, 80 q, 1966.

Equipment for radiotherapy is also shown on stamps. This apparatus has an evacuated tube with a source of electrons at one end and a target at the other. Energies equivalent to 4–8 million volts, and more, are generated in such linear accelerators (3). Iran, 2 r, 1976.

Teletherapy with radioactive isotopes was made possible by the introduction of radioactive cobalt. Turkey, 100 k, 1972.
Radiation treatment with the cobalt bomb is the subject of this anticancer campaign. Indonesia, 20 r + 10 r & 30 r + 15 r, 1965.

More allegorical is this graphic representation of the radiation treatment of cancer. Mauritania, 100 f, 1965.

The microscope, a pencil of rays and a pierced crab are the symbols of cancer detection and treatment in this campaign. The Netherlands, 7 c + 5 c & 10 c + 5 c, 1955.
Radiological Examinations

The hand was the first part of the human body to be examined by Roentgen's new rays. Bones and joints were ideal subjects because of the absorption of the x-rays by the heavy bones. Republic of Maldives, 2 r & 50 l, 1977.

Air gave the lungs equally good contrast characteristics. Bahamas, 16 c, 1982.

A postage stamp the size of a microfilm clearly demonstrates right upper lobe pulmonary tuberculosis. Pakistan, 1 r, 1982.

Barium sulphate is the contrast medium used for demonstrating the colon on this postage stamp which announced a congress of proctology in Punta del Este. Uruguay, 10 c, 1963.

The lungs and liver with pathological foci are the subjects in this postage stamp announcing an international congress on echinococcosis in Algiers. Note, the small intestines, too, are visualized by barium sulphate. Algeria, 2 d, 1981.


In 1927, Egas Moniz wrote “In that unforgettable hour, that afternoon of June 28th, all the attentions were drawn upon the examination of the first arteriography . . . . In the film one could see the cerebral vessels, though deformed due to the presence of the tumour.” Portugal, 10 e, 1974.

Egas Moniz was awarded the Nobel Prize in Medicine in 1947. Portugal 3, 30 e, 1974.
An aortocervical angiogram and a stylized cerebral arteriogram have since explained vascular anatomy more clearly to lay people.


But suitable intravenous contrast media were still not available at the time of Moniz' pioneering work. It is a remarkable coincidence that two of the greatest radiological developments were reported for the first time in the same issue of the journal Klinische Wochenschrift in 1929: Swick's paper on the first iodinated water soluble contrast medium, Uroselecaton, and Forssmann's paper on the catheterization of the heart (5). Republic of Maldives, 1 l, 1977.
Starting in 1931, the benzene ring was investigated as the carrier of iodine. The sodium salt of triiodo-diaminocetetyl benzoic acid was introduced in 1954 as Hypaque or Urografin (5). Thirty-five years later, benzene is still the skeleton of modern contrast media. The benzene ring structure was determined by the German chemist August Kekulé (1829–1896) in 1865. Kekulé was commemorated on the 150th anniversary of his birth (top) and at the centenary of his publication of the benzene formula. German Democratic Republic, 25 pf, 1979. German Federal Republic, 10 pf, 1964. Belgium, 3 f, 1966.

References