

An Early Cartoon on the Discovery of X-Rays in a Romanian Satirical Journal

“Cea mai perfectă aplicațiune a invențiunei Roentgen”

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Introduction

THE NINETEENTH century was characterized by significant discoveries, inventions and technological achievements such as the steamboat, fuel cells, the locomotive, photography, the pen, the alphabet for the blind, the sewing machine, the telegraph, the gyroscope, the tram, the bicycle, the electric motor, the antenna, airships, steel, dynamite, asphalt, reinforced concrete, but also medical breakthroughs such as narcosis and radiography.

From diagnosis to therapy, X-rays were used extensively during the last century. This application stemmed from Roentgen's discovery of a number of techniques that initially seemed outlandish, but soon became more viable, as sophisticated devices were created to support their use. These included equipment for the investigations with contrast agents, and devices able to detect changes in different organs, as well as radiotherapeutic devices. In time, X-rays were employed using a range of methods including nuclear magnetic resonance, ultrasound, and positron emission tomography.

Roentgen's discovery was, for physicists, an imaging process that needed to be explored. For the physicians, the fascination to uncover the structure of the body was linked to the need to improve diagnosis and therapy. However, unlike scientists, the lay world was usually more reluctant to new discoveries and met these events with caution.

The ability to see “beyond the skin” with the discovery of W.C. Roentgen fascinated researchers and scientists. By contrast, the public's response, albeit supportive, was slightly different, as Gerson explained: “The public concentrated on its magical ability to see through objects and its miraculous capacity to change the world as they knew it. Together, everyone focused on the x-ray as an unexpected technologic advancement that encouraged belief in other similar or even more miraculous advances.”¹

In summary, 1895 will remain in the memory of those who use radiographic explorations, regardless of their type, as a landmark in the transition from the exploration of the human body exclusively by the human senses to the one assisted by technology.²

A short history of X-Rays

PROFESSOR OF physics and rector of the University of Wurzburg, W.C. Roentgen discovered X-rays on 8 November 1895. A few months later, in January 1896, Roentgen presented his discovery to the public at the *Physikalisch-Medizinischen Gesellschaft*, thereby certifying the important medical discovery he had made. “He concluded his practical demonstration by asking the famous anatomy professor Geheimrat von Kolliker for permission to take a picture of his hand by using the x-strahlen. The radiograph of the hand was a sensation, and the news of this accomplishment spread all over the world and made everyone in the medical and scientific community realize the wide-ranging importance of his discovery.”³

Roentgen continued his research with great intensity during the next six weeks, telling his wife that when someone found out about what he had accomplished they would certainly exclaim that: “Roentgen ist wohl verrückt geworden/Roentgen has really gone crazy.”⁴

Noting that the observed phenomenon was not accidental and that it could be repeated, Roentgen presented his discovery on 28 December 1895 during a presentation titled “A New Kind of Ray” held at the Physical-Medical Society of Wurzburg. He included in his presentation the famous photograph of his wife’s hand.⁵

Roentgen’s discovery was also presented later, on 13 January 1896, before the emperor Wilhelm II.

The discovery of X-rays radically changed medical diagnosis techniques and brought Roentgen the Nobel Prize in 1901. This was awarded not for medicine but for physics, “In appreciation for the outstanding service provided by the discovery of the remarkable rays that bear his name.” The discovery of X-rays was soon reflected in prestigious journals like the *British Medical Journal* and *Nature*, and in the pages of the nonmedical press, i.e. the *Pall Mall Gazette*. X-rays were also celebrated on pill boxes, songs and cartoons, all detailing or mentioning the discovery of Roentgen.

The first Nobel Prize in medicine that can be correlated with Roentgen’s discovery was awarded in 1946, when Hermann Joseph Muller won the award for the creation and study of mutations radiogenetics.⁷

The beginnings of radiology in Romania

RADIOLOGY WAS among the areas which were quickly embraced by scientists around the world, including in Romania. In 1896, a few months after the discovery of the X-ray, the first demonstrations took place, accompanied by studies and presentations of this landmark discovery. Thus, in March 1896, the first X-ray demonstrations took place in the physics lab of the School of Bridges and Roads in Bucharest, conducted by Professor Many.⁸

Further dissemination of the discovery took place across Europe, where scientists explained the new phenomenon. For example, Louis Benoist presented the discovery

to the French Academy in February 1896. Also, the “Chabaud-Hurmuzescu” tubes were presented on 4 May 1896 Academy of Sciences and by Professor Hurmuzescu on 10 June 1896, during a conference specifically dedicated to X-rays held at the Bucharest Physics Society.

As a consequence of the dissemination, X-rays began to be used in practice. The first radiographs in our country were made at Colțea Hospital, in 1896, at the surgery of Professor Constantin Dimitrescu-Severeanu.

However, during roughly the same time, on 14 March 1896, news of Roentgen’s discovery also reached Transylvania, in the pages of the *Siebenburgische-Deutsches Tageblatt*. Professor Karl Albrich Jr., who successfully reproduced the experiments of Professor Roentgen, presented his experiment in the *Pharmaceutische Post* of Vienna. In the same year was published the article “About photography after Roentgen” written by a pharmacist from Brașov, Konya; his piece also presented the scientific work in the field of radiology done in Romania.⁹

The dissemination of X-rays’ discovery

VERY FEW scientific discoveries of the nineteenth century belonging to the medical field received such massive attention as X-rays. Gerson explained: “One explanation for the marketing phenomenon was simply that, for at least a short period after the discovery of X rays in 1895, everything about the new rays was dazzling and fascinating to the public.”¹⁰

Considered a miracle by both specialists and the general public, “X-ray mania” gripped the different categories of the population very quickly and soon became reflected in other areas of society such as commercials, cartoons and even songs talking about the already famous discovery.

Without any knowledge of the adverse effects that X-rays can have, of their value in diagnosing some diseases, in treatment, or even of their use in industry, X-rays quickly became the desired miracle for medicine: “Hopes for the new technology reflected a wide spectrum of contemporary concerns ... The rays represented the miracle cure that someday, with the flick of a switch, might heal a wide range of mortal ills.”¹¹

Gerson tells us that X-rays were promoted on the packaging of medicines (“Cosmopolitan for a headache remedy (Kohler’s Antidote) by Kohler Manufacturing, Baltimore, MD.”), or on the gold foil boxes of disease-preventative prophylactics, on a sample tin of anti-septic ointment from Columbus Chemical Corporation, on a dry battery manufactured by P. F. & Bros of New York, or on a coffee grinder box (“Coffee Mill No. 1”) from Arcade Manufacturing Company. Furthermore, in 1896 the song “X Ray Waltzes” came out.¹² There were also less favorable reactions. For example, the *Pall Mall Gazette* (March 1896) published an article titled: “We are sick of the Roentgen rays.”¹³

However, despite these dissenting voices, there was a great number of commendatory presentations across Europe, for example in *Die Presse* (Sunday, 5 January 1896), the *Daily Chronicle* (6 and 7 January 1896), *The Lancet* (25 January 1896), *The British Medical Journal* (1 February 1896) and *Nature* (16 January 1896).¹⁴



FIG. 1. The cover of Nikipercea

The discovery of X-rays reflected in a satirical weekly newspaper in Romania

THE DISCOVERY of X-rays and their applications in medicine stirred the interest of a large number of journalists, including those in the nonmedical field, who made this discovery known and quickly presented it to the public.¹⁵

On 8 February 1896 a cartoon about the new discovery appeared in the journal *Nikipercea*.

Nikipercea was a satirical weekly published in Bucharest with intermissions caused by political censorship, in the second half of the 19th century. The name “Nikipercea” is an alternative name for the devil, suggesting that some may see the journal as subversive.

The cartoon printed on the front page of the issue of Thursday, 8 Feb. 1896, shows an insane male person subjected to an X-ray investigation of his head. Beside we see the man’s brain as a radiography. This is obviously a politician, possibly Petre P. Carp (1837–1919), the leader of the Conservative Party of Romania at that time, who would become prime-minister between 1900–1901 and 1910–1912. Birds could be seen in the brain, a symbol of madness. The investigator looks rather like a photographer and the setting looks like a natural science laboratory.

The cartoon is entitled “The perfect application of the Roentgen invention” and refers to pioneering brain imaging. It should be noted that in the same year, 1896, in Paris, Gheorghe Marinescu together with Dragomir Hurmuzescu were the first to radiograph patients with acromegaly, at the Pitie Salpetriere Hospital, but we have no proof that the author of this cartoon was aware of this fact.

Signed Violette, the cartoon presents both the device used for radiography and the results obtained by this exploration (Fig. 2). The artist with the pseudonym Violette could not be identified, but we consider that he was an active cartoonist of the time.



FIG. 2. The cartoon in *Nikipercea*

Ironically, Roentgen suffered during his academic training and was even expelled because of a cartoon made by a colleague. According to Goodman, “During his schooling, an unfortunate event derailed Roentgen’s higher-education aspirations. One of his classmates had drawn an unflattering caricature of a teacher on a fireplace screen. Roentgen was admiring this handiwork when the teacher entered the room. Roentgen, while denying a hand in drawing the cartoon figure, would not reveal the true culprit. Embarrassed, the strict instructor saw that Roentgen was expelled from school.”¹⁶

Radiography was originally used for skeletal injuries, especially in the limbs, or to discover foreign bodies in the human body. It took several years before the method was used on the head. According to Weber, “In the early years after Roentgen’s discovery, these ‘new rays,’ however, were also used in patients with diseases that involved the ears, nose, throat, or neck.”¹⁷ It was only in 1905 that, in “The Skull Base on the Radiogram,” Arthur Schuller (1874–1957), an Austrian neuroradiologist, described several projections of the skull base, and only a CT scan can give information about brain structure.

Nikipercea was one of the most important satirical journals of the time, from among the 300 satirical journals published in Romania in the second half of the 19th century. It had a liberal and anti-dynastic profile, hence the attack against the Conservative Party. It was published for the first time in 1859 and had an intermittent publication schedule, because of the interdictions imposed frequently in response to its political views.

Conclusions

WE REPORT here on the first X-ray cartoon in the Romanian non-scientific press, and certainly the first in world literature. This provides proof of the important echo of Roentgen’s discovery in the non-specialist media and highlights its controversial perception among laypeople at that time. It may also be considered a fantastic representation of the future brain imaging technology that was to be discovered later, but in an interesting and controversial satirical context.

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Notes

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17. Idem, Weber.

Abstract

An Early Cartoon on the Discovery of X-Rays in a Romanian Satirical Journal:
 "Cea mai perfectă aplicaţiune a invenţiunei Roentgen"

The discovery of X-rays by Roentgen in 1895 represented a major event, but the future implications of the discovery were not yet clear at that time, even for specialists. Experiments with Roentgen's rays quickly spread across Europe and X-rays were soon presented in many prestigious journals such as the *British Medical Journal* and *Nature*. Their discovery was also mentioned in the non-medical press, i.e. the *Pall Mall Gazette*. In the same year (1895), in Romania, Dragomir Hurmuzescu and Gheorghe Marinescu first started experiments with X-rays, and in 1896 Constantin Severeanu performed the first X-ray examination in a Romanian hospital. We report here on very early cartoon from a Romanian satirical magazine, *Nikipercea*, published in February 1896. This is a sign of the popularity of Roentgen's X-rays discovery among laypeople. To our knowledge, this is one of the first cartoons dedicated to X-rays in the world. The presentation of this very early satirical cartoon is presented in the context of the first steps in the development of radiology.

Keywords

cartoon, history of medicine, Roentgen, X-rays, satirical magazine