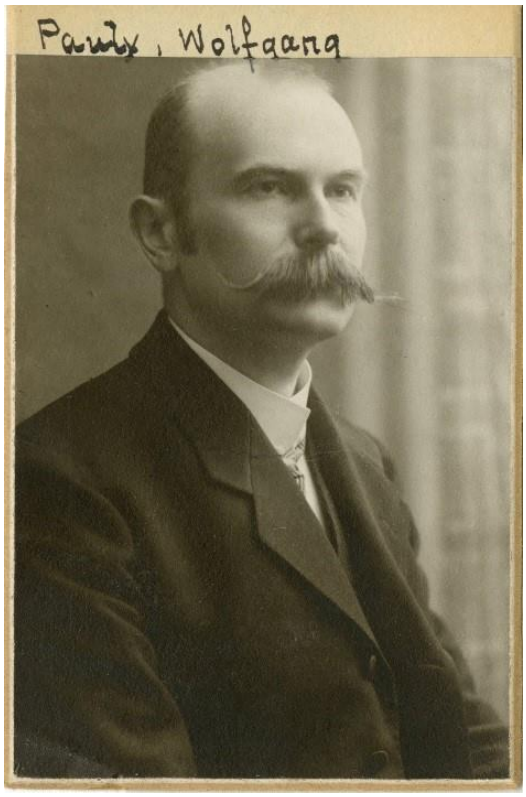
8 Wolfgang Pauly, The First Comet Discoverer of Romania
Mircea Pteancu

This is the story of Wolfgang Pauly, a gifted mathematician, creator of chess compositions and a keen amateur astronomer who discovered a comet (C/1898 L1) near Messier 4, which came to be credited to him and to Edwin Coddington.



Wolfgang Pauly 1876 - 1934

Wolfgang Pauly (August 15, 1876 - March 3, 1934): was born in Dohna, Germany, the son of Heinrich and Sabine (née Zillman). When he was four years old, in 1881, the family left Germany, as his father, who was a mining industrialist, lost his money in financial speculations and decided to seek his fortune in Bucharest, the capital city of Romania. Wolfgang, as a boy, studied at the Royal German College, and then at the University of Bucharest, showing a talent for mathematics and a decided interest in astronomy. He became a keen amateur observer. He was also a passionate chess player. (36)

In Bucharest, on 1898 June 14, Wolfgang Pauly discovered a comet whilst observing the globular star cluster M4 in the constellation of Scorpius. He used a 75mm aperture Reinfelder refractor telescope. The magnification used was ×28. At the time of the comet's discovery, Wolfgang was approaching the age of 22. His notes of the discovery of the comet, as recounted by himself, are quoted below. The quotation is taken from the article 'Weitere Nachrichten über den Cometen Coddington-Pauly/ Other news about Comet Coddington-Pauly' published in Astronomisches Nachrichten.

'*On June 14 [1898] at 22:30 I was observing with my Reinfelder refractor of 75mm aperture, at the magnification of 28x, the globular cluster GC 4183 (Messier 4) near Antares, when I noticed a small misty spot to the Southwest of it. Not having a complete catalogue of nebulae and not being able to determine if the object was a novelty, I made a sketch framed by the stars of the neighbouring area. On June 15, the sky was unfortunately overcast. Yesterday, on the 16th, from 10 pm to 11 pm, I found that the nebulous object in question could no longer be seen at the noted place, but, after a little searching, I found it to the southwest compared to the previous position.*

After 11 o'clock it was cloudy again but at 1 o'clock it cleared enough for me to do again observations. The nebulous object was visible again but with difficulty, and seemed

36 Provocarea unei moșteniri – Marian Stere , Gambit arhiSAH 9, 2001https://www.stere.ro/2001-m-stere-wolfgang-pauly-challenge-of-a-legacy-provocarea-unei-mosteniri-extras/

*to have moved a little to the Southwest. Based on the above, I considered that I was entitled to believe that the object in question was a comet, and I duly notified the Central Office by telegraph. * The comet appeared as a blurry foggy mass, being smaller and dimmer than the star cluster GC 4183 on the 14th, and on the 16th it appeared to have increased in brightness. '* [37])

The note (*) of the editors of the magazine, signed 'Kr.' (meaning probably Kreutz) states;

'*the telegram, which immediately revealed the identity of the discovered object with Comet Coddington, arrived here on June 17, at 8 o'clock. in the morning. Mister W. Pauly did not receive the telegrams of the Central Office and, as such, could not be informed of the comet's earlier discovery.'* [38]

The comet *had* been already discovered, by American astronomer, Edwin Foster Coddington of the Lick Observatory. This observatory is located at an altitude of 1300 metres on Mount Hamilton in the Diablo Range, California. It was the world's first high-altitude astronomical observatory to be permanently occupied. Coddington took a two-hour photograph of the area north of Antares on 1898 June 9, using the 152mm Crocker Photographic Telescope, but the plate was developed only on June 11. The comet was immediately noticed on the plate and confirmed in the evening of the same day and his position measured by Professor Hussey of the same observatory, using the 12-inch refractor. Comet C/1898 L1 (Coddington-Pauly) was only the third comet to be discovered photographically, according to the History of Astronomy. [39] From an analysis conducted in 1953 by Eric Sinding of the University of Copenhagen, Comet 1898 VII has an elliptical orbit and will remain in the Solar System. [40]

DISCOVERY-PLATE OF COMET CODDINGTON.
1898, June 9d 9h 30m to 11h 45m P. S. T.
[Comet is at intersection of arrows.]

In 1898 Wolfgang Pauly joined the Société Astronomique de France. He was introduced to the society by Mrs. Sylvie Flammarion and Bertaux, at the meeting of May 4, 1898, chaired by Vice President M. Fouche. Pauly was admitted at the June meeting and became member no. 2028. [41] Later, Pauly was working in an insurance company in which he subsequently advanced to the position of Vice President. Pauly continued to use his talent for mathematics to calculate astronomical ephemeris, for example for the asteroid 446 Aethernitas, for the variable star Mira Ceti or for the transit of Mercury over the

[37] Provocarea unei moșteniri – Marian Stere, Gambit arhiSAH 9, 2001https://www.stere.ro/2001-m-stere-wolfgang-pauly-challenge-of-a-legacy-provocarea-unei-mosteniri-extras/

[38] Weitere Nachrichten uber den Cometen Coddington-Pauly – "Astronomische Nachrichten", vol 146 Issue 20 p355, June 1898

[39] Comet C 1898 (Coddington) – E.F. Coddington, "Publications of the Astronomical Society of the Pacific" vol 10 no. 63 p.146 -148, August 1898

[40] The Future Orbit of Comet 1898 VII (Coddington-Pauly) – E. Sinding, " Dan.Mat.Fys.Medd. 27" no. 11 (1953)

[41] "Bulletin de la Société Astronomique de France" 1898, p.258 – SAF, Hotel des Société Savantes, Paris 1898

disk of the Sun on November 1, 1907 (Julian calendar) [42][43]

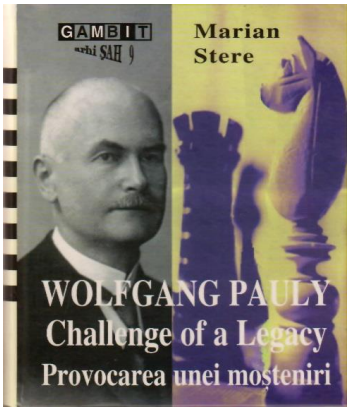
Comet.	Discoverer, and Date of Discovery.	Remarks.
I	PERRINE, . Mar. 20	Elliptic; with period of more than 300 years.
II	PERRINE, . Jan. 2	WINNECKE'S periodic comet; period, 5.8 years.
III	GRIGG, . . June 7	ENCKE'S periodic comet; period, 3.3 yrs. Independently discovered, June 11th, by TEBBUTT, from whom the first announcement of discovery was received.
IV	HUSSEY, . June 16	WOLF'S periodic comet; period, 6.8 yrs.
V	GIACOBINI, June 19	
VI	PERRINE, . June 14	
VII	CODDINGTON, June 11	By photography. Independently discovered visually by W. PAULY, at Bucharest, on June 14th.
VIII	CHASE, . Nov. 14	On meteor plates; announcement made Nov. 24th.
IX	PERRINE, . Sep. 13	Independently discovered by M. P. CHOFARDET, at Besançon, on Sept. 14th.
X	BROOKS, . Oct. 20	

January 9, 1899. R. G. AITKEN.

In 1907 Pauly joined the ''Flammarion'' Romanian Astronomical Society, founded in Bucharest in 1907 by Victor Anestin, with whom he worked closely. [44] He supported the fellow members of the ''Flammarion'' Romanian Astronomical Society by making his own observations and reporting those made with fellow members through his 135mm telescope (believed to be a Steinheil), [45] and by continuing to calculate astronomical ephemeris. [46]

During the First World War, because of his German nationality, the Romanian authorities interned Pauly in a camp, where he contracted an eye disease which then prevented him from further indulging his passion for astronomy. [47]. From now on, all his enthusiasm and creativity would go into the game of chess. In chess, Pauly's mathematical talent found a home. The Koninklijke Bibliotheek is a library in The Hague, Netherlands, that has a section dedicated to Wolfgang Pauly's life as a chess player and, in particular, as a creator of chess compositions. Here is what we learn about him as a chess player on the site of Koninklijke Bibliotheek:

'A chess problem consists of composing a chess position together with a creative solution to solve it. Along with Samuel Loyd (1841-1911) and William Shinkman (1847-1933), Wolfgang Pauly is considered one of the first three chess composers of their time. He composed about 2,500 chess problems during his lifetime. Meindert Niemeijer, one of the two founders of the Van der Linde-Niemeijeriana Library (himself a chess composer), was very impressed with Wolfgang Pauly. He corresponded with Pauly and sought inspiration from him. In 1948, Niemeijer published an anthology of Pauly's chess problems. In the introduction, he wrote of Pauly's archive, until then considered lost, 'maybe the archive will appear someday, but maybe it's lost forever.' [48]



The cover of the book "Wolfgang Pauly Challenge of a Legacy", M. Stere, 2001.

The latter prediction is very close to what really happened. In the late 1980s, Marian Stere found Pauly's archive in the attic of a building in Bucharest, scheduled for demolition to make room for Ceausescu's

[42] Ephemeride des Planeten (446) Aeternitas – W. Pauly, "Astronomische Nachrichten" Feb. 1901- p.297;
March 1902 – p.175; July 1903- p.323

[43] Trecerea planetei Mercur in dreptul Soarelui - "Orion" An I Nr. 2 Octombrie 1907 p. 25, SARF, București 1907

[44] Societatea astronomică din România - "Orion" An I Nr. 1 Septembrie 1907 p. 11, SARF, București 1907

[45] Noutăți astronomice - ''Orion' 'An I Nr.1 Septembrie 1907 p.16, SARF, București 1907

[46] Noua cometă - ''Orion" An II Nr.3, 1 Oct. 1908 p. 39-40, SARF, București 1908

[47] https://de.wikipedia.org/wiki/Wolfgang_Pauly

[48] https://www.kb.nl/en/wolfgang-pauly-archive

People's House. In 2001, after years of study, Stere published a comprehensive biography of Pauly. He then offered the archive for sale on the Internet. The Koninklijke Bibliotheek bought it for its chess collection in 2002. In the image above, we see the cover of Marian Stere's book about Wolfgang Pauly while that below we see an envelope with chess problems, bearing the name and address in Bucharest of a W. Pauly, which is in the possession of the Koninklijke Bibliotheek in The Hague, the Netherlands, since 2002.

Pauly co-authored, with Alain Campbell White, the chess book 'Asymmetry', published by Stroud Publishing in 1927. With Luigi Ceriani he collaborated in the study of the properties of orthopendular positions, the results being published in the magazine 'Italia Schacchistica' for April 1929. In chess, there is a 'Pauly Theme' [49], also called 'Perpetuum mobile', applicable in certain plays, to create blocking of an opponent.

Pauly's native penchant for mathematics naturally manifested itself in the realm of chess. Thus, he was particularly interested in the 'echo' as in recurring and symmetry problems. With Alain Campbell White, Pauly co-authored the books 'The White Rooks' (1910) and 'The Theory of Pawn Promotion' (1912). Problemist Meindert Niemeijer wrote a book about Pauly as the chess problemist and chess tournaments organiser entitled 'Zo sprak Wolfgang Pauly', a title that I would translate as 'So spoke Wolfgang Pauly'. [50]

Wolfgang Pauly died on March 3, 1934 from continuing complications of the illness that he had earlier contracted in the Romanian POW camp. He was and still is famous in the world of chess. According to Marian Stere, his passion for Astronomy was overshadowed only by his passion for chess. In his life, astronomy was his first love but in his adult years, all his energy and creativity manifested in chess, a wonderful intellectual kaleidoscope in which the infinite is reflected and which gave him the thrill of glimpsing the absolute, first sought among the stars of heaven.

Cornel Păcurar, editor of the 'Chess Problems. CA Bulletin' magazine issue 14 for July 2018 writes: '*This first-ever comet discovery from Romania was - strangely - forgotten, not recognized and not known until very recently.*' [51]

During the Marxist dictatorship, access to the archives was drastically limited, so we are less surprised that the comet he discovered, and indeed the man himself, are missing from the seminal textbook 'Moments and Figures of the History of Romanian Astronomy' by I.M. Ştefan and V. Ionescu Vlăsceanu. But how can a person so preoccupied with the progress of

[49] The theme of Pauli (Eng. Pauly theme), in a chess composition is an extended block task with twin positions in which the first move to solve one problem leads to the initial position of the other task and vice versa (perpetuum mobile, lat. Perpetuum mobile). Named after the famous Romanian chess composer Wolfgang Pauli (editor's note).

[50] https://it.wikipedia.org/wiki/Wolfgang_Pauly

[51] Pauly's Comet – Cornel Păcurar, ChessProblems.ca Bulletin, issue 14 (July 2014) p. 699

Romanian Astronomy, as is said to have been Nicolae Coculescu, the Director of the newly completed observatory of Bucharest, completely forget about Pauly? The ten-year interval between the comet discovery by Pauly and the subsequent establishment of the astronomical observatory of Bucharest, always suffering from a shortage of qualified staff, would have been too high a figure for the doctor in mathematics Coculescu? The answer can be only one: it was not about forgetting but about deliberate ignoring. For political reasons the less said the better.

In my research of Romanian astronomical literature, I found only two references to Wolfgang Pauly and his comet. The first mention is in the book 'Asteroids and Comets' by Victor Nadolschi, see Table III Chronological list of comet discoveries, p. 357, p. 276. [52] The second mention appears in an article by Dimitrie and Maria Olenici from the Planetarium of Suceava, an unpublished document, written around 2012. They were planning an exhibition of their institution. Their source on the subject originated from Cornel Păcurar. [53]

Life hit hard for Pauly when a disease severely affected his vision, taking him away forever from the much-loved world of the stars. But the loss to astronomy was the gain of chess. Let's break the wall of silence, forgetfulness and injustice of the past by remembering Wolfgang Pauly as the first astronomer in Romania who, in a brutally shortened period, discovered a comet. It was an achievement that, in more than a century, proved to be so difficult to repeat, either by professional or amateur astronomers of Romania. [54]

Mircea Pteancu

[52] Asteroizi și comete – Victor Nadolschi, Editura Albatros, 1971, pag. 276, poz. 357

[53] Pagini din istoria astronomiei românești- Cornel Păcurar apud Dimitrie Olenici, Maria Olenici, "Plan tematic pentru expoziția de bază de la Planetariul din Suceava", "Comete cu nume de romani", p.9, Suceava, cca. 2012

[54] Românii și stelele în La Belle Epoque - Mircea Pteancu, p 37-55 see volume Marc Frîncu (editor) " Lucrările celei de a Treia Sesiuni Naționale de Comunicări Științifice a Societății Române pentru Astronomie Culturală", Editura Eurobit, 2020 https://www.academia.edu/44153135/Conferin%C8%9Ba_SRPAC_2019