

History of the Discovery and Production of "Aspirin", In Reflection of the Means of Philately and Philocarty

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Abstract

This article contains the materials of the conducted research, thematically related to the reflection of the issue of discovery and production of aspirin (acetylsalicylic acid), in the reflection of philatelic means: on postage stamps and envelopes, postal blocks, in philocarty (postal, art and educational cards), different countries of the world and the years of their issue and, different countries of the world. In total, this research article presents 46 screenshot copies of collection materials, of which - 29 philatelic and 17 philocarty.

Kew Words: aspirin; philately; postage stamps; envelopes; blocks; philocarty; postcards and art cards; screenshot copies

Introduction

Any scientific research related to medicine and pharmacy, their history and heroes, are always relevant and in demand. This directly concerns the issue of the history and heroes of the discovery of such a world-famous drug as aspirin, since the day of its discovery, about 127 years have passed. Of particular interest is the fact that this history will be presented to the reader with the help of such means of collecting as philately and philocarty, in all their diversity. According to existing and presented in a number of studies earlier, by other authors-researchers [1-4], the first mention of antipyretic and anti-inflammatory properties was written on ancient Sumerian tablets, and Hippocrates and other healers in ancient times knew about these properties of willow bark and branches. Another ancient Egyptian papyrus described these properties in 1543 BC, mentioning medicines made from willow bark. Hippocrates also used willow and its bark, and the Roman physician Aulus Cornelius Celsus directly said that willow bark extract helps with inflammation [1-4].

Back in 1763, a naturalist from Oxfordshire (England), Reverend Edward Stone (a local vicar), showed that dried in an oven and ground willow bark reduces high temperatures/heat. In 1828, a German researcher, Johann Buchner, also worked with willow bark extract, which he called "Salicin". Edward Stone gave a report on the treatment of feverish chills with willow bark tincture at the Royal Society of London. Later, in 1838, scientists found out that the active component of willow bark is salicylic acid [1-4]. This

means that in the 19th century, to reduce fever, in the treatment of diseases, they again began to use white willow bark, which contains salicylic acid in its composition. But this method of treatment had a serious side effect, namely, abdominal pain and nausea. According to a number of historical data, around 1838, the Italian chemist and researcher Rafael Piria derived a stable formula for this substance. But salicylic acid had not yet received practical, medicinal use [1-4]. Sometime after Edward Stone's research, the French chemist and researcher Charles Frederic Gerard was the first to obtain acetylsalicylic acid by reactions of acetyl chloride and sodium salicylate. He was able to synthesize this medicine, and, accordingly, to be the first to carry out the acetylation reaction of salicylic acid, in 1853, and obtained acetylsalicylic acid in its pure form [1-4]. This new substance was named "salicylic-acetic anhydride" by the French chemist Charles Frederic Gerhardt, and a little later it was named salicylic ("spiraic") acid. Another six years passed, and another German chemist, von Glim, carried out a reaction between salicylic acid and acetyl chloride. The resulting crystals of this substance, von Glim called acetylierte Salicylsäure – acetylated salicylic acid. It took another decade (1869) for three more chemists – Schroeder, Prinzhorn and Kraut – to repeat the work of Gerhardt and von Glim and realize that they had obtained the same substance. In parallel, these three researchers were able to show the correct structure of the aspirin molecule (Figure 2) [1-4].

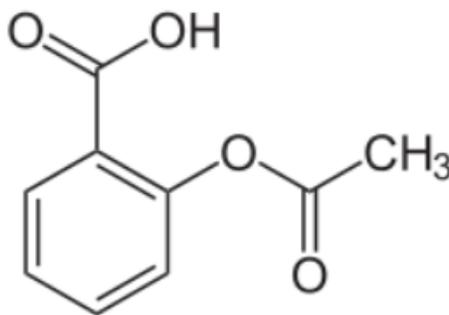


Figure 1: Chemical formula of acetylsalicylic acid

Thus, the drug became safe for use in medicine. Already in 1874, in Dresden, the first factory for the production of this drug was opened. By the end of the 19th century, the German scientist and researcher, Felix Hoffman, worked on the creation of chemically pure salicylic acid in a stable form, which he received a patent on March 6, 1899 (Figure 2). An interesting historical fact is that, being a chemist for the German company Bayer AG, F. Hoffman, on

March 6, 1899, received an American patent in the United States, because, for a number of reasons, it was not immediately possible to patent the method for producing acetylsalicylic acid in the form of the drug "aspirin" in Germany, the homeland of F. Hoffman and the Bayer company, and this chemical and pharmaceutical company did not want to delay the release of a new promising drug [1-4].

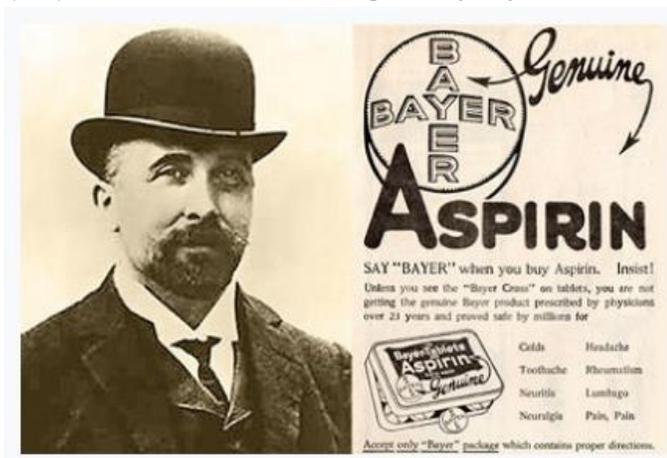


Figure 2: Felix Hoffman and aspirin from Bayer AG

Initially, aspirin was produced in powder form, but since 1904, it has acquired the form of a tablet, which has become the most famous and most widespread tablet in the world, which for more than 127 years, successfully reduces fever and relieves pain in billions of people around the world. In the 1970s of the twentieth century, the role of aspirin in reducing the risk of vascular thrombosis, including coronary and cerebral arteries, was proven. Accordingly, aspirin became a medicine for the prevention of heart attacks, ischemic strokes and a whole bunch of cardiovascular diseases. In 1982, this discovery was noted by the Nobel Prize. This is the same aspirin that we know, and to this day we use it. Aspirin, or rather, the active substance of the drug - acetylsalicylic acid, is on the list of essential drugs of the World Health Organization, and also on the list of vital and essential drugs [1-4].

Aim of article

The purpose of writing this article by the author, based on the materials of his research, is to present to his readers an analysis of the research material, as well as the obtained volume of available philatelic materials, thematically related to the discovery and production of such a world-famous and popular drug as "aspirin" (the active ingredient is acetylsalicylic acid).

Materials and methods

In conducting his research and subsequent writing of his article based on its materials, the author used such research methods as: literary-critical analysis

of all available sources of information, both domestic and foreign, which were thematically devoted to the issue being studied by the author. First of all, these were research articles by a number of others by the author, information on the history of chemistry and pharmacy, available materials posted on websites and Internet pages of publications on such types of collecting as philately and philocarty. Also, all thematic, illustrative materials obtained as a result of search work on the Internet, with the help of special computer programs, were converted into color and black-and-white screenshot copies, which were then inserted directly into the text of this article as illustrations, supplied with brief accompanying material and appropriate links to the sources of their borrowing, to comply with the copyrights of their owners on the Internet.

Results of the study and discussion

I would like to begin my story about the history of the discovery and production process of aspirin by presenting a small selection of postage stamps, shown in Figure 3, from countries such as Colombia (1999), for the 100th anniversary of the discovery of aspirin; Liberia (2023), the Republic of Niger (2023), the Republic of Sierra Leone (2024), and Germany (1990), dedicated to this drug and the 100th and 125th anniversaries of its discovery and the start of industrial production [5-14].



Figure 3: A selection of postage stamps from a number of countries around the world dedicated to aspirin

Further, in a small selection of postage stamps of such countries as Liberia (2023), the Republic of Niger (2023), the Central African Republic (2024), dedicated to this drug and the 125th anniversary of its discovery and the beginning of industrial production, presented in Figure 4, portraits and situational drawings are depicted, thematically dedicated to the scientist who

discovered aspirin - a German scientist, chemist and pharmacologist, which gave rise to the industrial production of this drug, a large German pharmaceutical corporation "BAYER", which produces aspirin, starting in 1899 - 126 years and, to this day, Felix Hoffmann / Felix Hoffmann (1868-1946) [5-14].



Figure 4: A selection of fidelitical materials dedicated to Felix Hofmann

Also, in Figure 5, another philatelic collection (postage stamps, postal block, envelopes) and philocartal (a series of postcards) of different years of issue are presented, which are thematically dedicated to aspirin and its use for medicinal purposes [15-21, 32].





Figure 5: Philatelic and philocart collections dedicated to aspirin

Further, in Figure 6, a very interesting thematic, philocartical selection of art cards is presented, which was used in France, dedicated to aspirin and, in particular, to advertising its use. This was a very successful marketing move, which became a passion for hundreds, if not thousands of people! On the proposed art cards, which were often used as insert cards in a chocolate bar and included in their price, on their front side (obverse), at a very high artistic level, historical and biographical plots were presented, dedicated to famous doctors and a number of scientists of past years, their portraits, and on the back of this art card, their biography was presented, and also, a large place on their back was occupied by advertising aspirin and indications for its use,

and a diagram/diary for recording the intake of aspirin tablets [22-31]. In total, this collection features 9 such artistic cards (although there are many more), dedicated to such personalities as Hippocrates, Bichat, Claude Bernard, Edward Jenner, Louis Pasteur, Alexander Fleming, William Harvey and Ambroise Paré – famous doctors of their time. There are also similar cards dedicated to a number of famous scientists, famous in other branches of science, as well as such areas as different types of transport, military events, airplanes and religious themes, with aspirin advertisements on their reverses.



Figure 6: A philatelic collection of postcards dedicated to a number of famous scientists and aspirin

This concludes another article devoted to the issue of discovery and production of aspirin (acetylsalicylic acid), in the reflection of various means of collecting, such as, in particular, philately and philocarty. The author is preparing for publication his new research article, thematically devoted to pharmacy, pharmacology and pharmacognosy, in the reflection of a number of various means of collecting.

Conclusion

1. The author of this article has quite fully, interestingly and fascinatingly revealed a rather difficult topic for research, concerning the issue of representation of the discovery and production of such a world-famous drug as "aspirin" (the active ingredient is acetylsalicylic acid), in such means of collecting as philately and philocarty.
2. The screenshots of postage stamps and envelopes provided by the author as illustrations, as well as the presented selections of artistic, thematic cards, brightly and appropriately complemented the text of the article and decorated this research work.
3. Such auxiliary scientific and historical sciences as philately and philocarty, as well as a number of other methods and means of collecting, are quite capable of vividly, creatively, unconventionally, and in a fairly complete volume, presenting very interesting information, both for interested readers, and for those people who are seriously interested in various areas of collecting, and enriching their knowledge on the issue being studied.

4. In total, this research article presents 46 screenshot copies of collection materials, of which 29 are philatelic and 17 are philocartic.

References

1. Alexey Paevsky. "Chemistry and Life" article "History of Molecules: Aspirin. From Willow Bark to the Nobel Prize"
2. March 6 — Aspirin's Birthday | Day in the calendar Grodno State Medical University http://www.grsmu.by/about/museum/den_vistorii
3. Aspirin. History of One Painkiller Federal Portal "Russian Education"
4. Postsegl: Aspirin (Kolombia(Acetylsalicylic acid centennial), Aspirin | Heart
5. Pharmacy aspirin acetylsalicylic willow tree medicine URUGUAY #1676 MNH STAMP | Central
6. Berlin 1990, Mortar, Formula image (aspirin), DPhG Emblem VF MNH
7. 7.History of Pharmacy: to make, produce and dispense
8. 8.Bayer ASPIRIN Tablets Medicine Nurse Red Cross Stamp Sheet (2023 Liberia)
9. 9.LIBERIA 2023 125th ANNIVERSARY OF THE MARKETING OF BAYER ASPIRIN S/SHEET FDC
10. Liberian Medical & Red Cross Postal Stamps for sale | Shop with Afterpay | eBay Australia
11. Sierra Leone 2024 125 years since Aspirin was first marketed.(1085) OFFICIAL ISSUE

12. Central Africa 2024 125 years since the first commercialization of Aspirin. (139) OFFICIAL ISSUE
13. aspirin JOKE - LABEL CINDERELLA VIGNETTE - MNH - USA / MAD magazine 1988
14. 1934 Publibel 13 - Aspirine Bayer Gent 5.2.1934 - vlagstempel - Eet meer suiker - sucre
15. x1119 austria cover circuled 1970 with red meter freistempel ema, Wien , Aspirin, Bayer
16. Gabon Gabun 1999 Mi. 1471 FDC 100ème anniversaire invention de l'Aspirine Médecine Aspirin RARE!
17. AFS Aspirin 51368 Leverkusen 2001 Bayer E650819
18. Aspirin-Tabletten old illustrated letter cover b190211*
19. Publibel - Postal stationery Belgium 1946 Aspirine - Bayer
20. Publibel - Postal stationery Belgium 1941 Aspirine - Bayer
21. BL-BFP1-0209-CHROMOS - ASPIRINE - Usines du rhone - Hippocrate - 460 avant j-c - Le plus célèbre médecin de l'antiquité
22. Chromo aspirine usines du rhone / niece 1765-1833 daguerre 1787-1851 les inventeurs de la photographie
23. Chromo aspirine usines du rhone / claude bernard 1813-1870 medecin et physiologiste francais
24. Chromo aspirine usines du rhone / edouard jenner 1749-1823 medecin anglais il decouvrit la vaccination antivariolique
25. Chromo aspirine usines du rhone / louis pasteur 1822-1895 biologiste francais - pasteur vaccinant le petit meister
26. Chromo aspirine usines du rhone / sir alexander fleming 1883 microphotographie du "penicillium notatum" et laboratoire
27. Chromo aspirine usines du rhone / charles gerhardt 1816-1856 chimiste francais - vue des usines specia-rhone-poulenc
28. L02D153 - Publicité pour l'Aspirine Usine du Rhône - Physicien Français André Marie Ampère
29. Chromo AMBROISE PARÉ Chirurgien Pub: Aspirine Didactique au dos 132 x 90 mm TB 2 scans
30. Chromo william harvey médecin pub: aspirine 132 x 90 mm bien 2 scans
31. Publibel - postal stationery belgium 1951 aspirine - bayer



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