

PHARMACOPOEIA IN SERBIA

Krajnovic Dusanka, Manojlovic Jelena,
Belgrade University Faculty of pharmacy

This work is dedicated to the memory of Prof. Mirjana Stupar and prof. Dragan Stupar

National *Pharmacopoeia* in Serbia appear in the second half of the 19th century with the first deontological norms in the pharmaceutical profession. They were written in imitation of the then *European Pharmacopoeia* countries. From 1863 until today a total of thirteen military and civilian pharmacopoeia have been issued, of which military ones have been preserved in a very small number of copies, and today represent a real rarity(1).

Military Pharmacopoeia

The need for a unified military Pharmacopoeia occurred in 1862. when the *Main Medication Depot* and a special *Military Pharmacy* on the basis of rules on the regulation of military-pharmaceutical profession were founded. For professional work not only in the military but also civilian pharmacies to take place under the provisions, in 1863 the first *Serbian military Pharmacopoeia* was issued (2). It represents the first independent pharmacopoeia in the territory of today's Serbia. In the committee for its development were two pharmacists and three doctors: Main pharmacy depots and Military Pharmacy in Belgrade provisor mr ph Josif Katrajin, state chemist mr ph Pavle Ilic, former Chief of the Medical Corps, Dr. E. Lindenmayer, staff doctor Dr. K.Beloni and Dr. Kraus. The base constituted of the *Austrian military Pharmacopoeia* from 1859. Its application was official in April 1866 both in the military and in civil pharmacies that issued medication for the army. (1) A large number of medicine made of herbs, such as decoctions, infusions, tincture, extract, powders, teas, cataplasms and electuaria is characteristic for it. Although it was completely original, it was never printed separately, but remained in working form and now occupies a significant place in Serbian historiography of pharmacy and pharmaceutical professional ethics.(3) One of the two preserved copies of the Pharmacopoeia is located in the Museum of the History of Pharmacy, Faculty of Pharmacy, University of Belgrade.

The second *Military Pharmacopoeia* was issued in Serbia on 16th of June 1878, published by the Ministry of military of Serbia (no. Ight. 2137). Along with the pharmacopoeia the rules for administration of military pharmacies and pharmacy depots were established. It was written in the Cyrillic script, in Vuk Karadzic's grammar except for *Materia Medica*, which is in Latin and was printed in the state printing house in Belgrade.(2) It is divided into twelve chapters that are marked with Roman numerals which, in addition to the general rules for the storage, preparation and expedition of drugs, provide specifications for the manufacturing process as well as reagents used in pharmacies and laboratories.

In 1888, due to the rapid development of pharmacy, medicine and chemistry, there was a war to overcome the Pharmacopoeia from 1878. With great effort surgeon-major military pharmacists mr ph Alojz Heliha, issued a third *Military Pharmacopoeia* on the 17th of January 1888, published by the Ministry of military (2). The title is similar to previous read: "*Military Pharmacopoeia* and rules for the administration of military pharmacies". Following the development of the European pharmacotherapy it is enriched compared to the previous with more than 80 new drugs and medicine. Particularly noteworthy is the fact that it first introduced antipyrine - Antipyrinum officinal as a drug, and only four years after its discovery.(3) An important novelty is the introduction of bandages.

Following the unification of the Yugoslav peoples, the pharmacopoeia was accepted as sufficiently modern so it could be used in the army of the Kingdom of Yugoslavia and therefore was reprinted

in 1919(1).

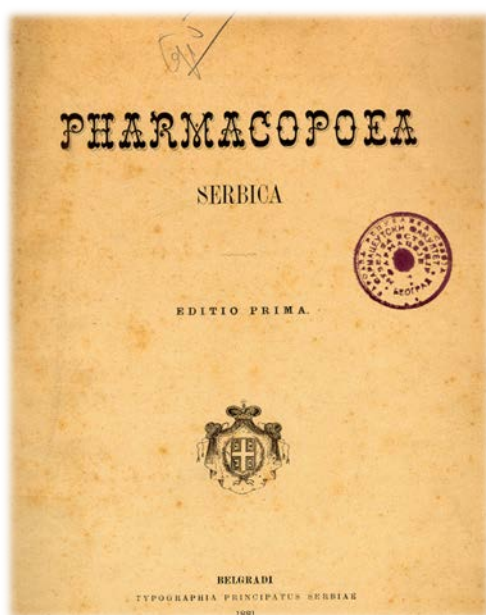
The first military Pharmacopoeia of the Kingdom of Yugoslavia issued by the Department of the Army and Navy of the Kingdom of Yugoslavia on 21 August 1927 under the name of *Provisional Military Pharmacopoeia*,(2) was put through on the 01st of January 1928 and was valid until the beginning of World War II, ie. until 1940 when the "Pharmacy Service, Part I - Regulations for lekarije and dressings" was published and its composition assumed all the characteristics of the previous Pharmacopoeia.

The Temporary Military pharmacopoeia contains a general monograph for ampoules, glass packaging material of a certain quality in which sterile solutions for parenteral use were kept - for human and veterinary use. Ampoules have had the quality of the glass tested by heating and cooking with water for alkality. For the first time, in addition to sterilization of water, fats and oils, sterilization of pharmaceutical products was perscribed: a solution for injection, flushing wounds and rinsing eyes(3).

Civil Pharmacopoeia

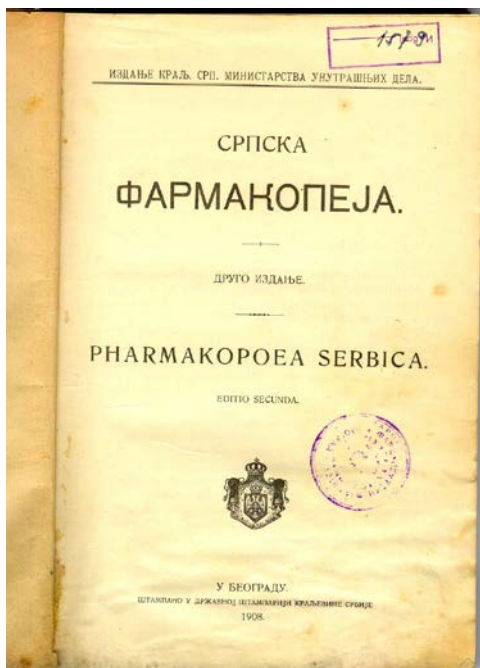
The first civil pharmacopoeia in Serbia represents a short composition of Pharmacopoeia for Serbia which was established along with the Law on pharmacies and pharmacists from 1865 and was official from 01 January 1866 (2). It was printed together with other laws related to the pharmaceutical industry under the Collections Act and regulations issued in the Principality of Serbia in 1865. It was on the list of 90 printed pages, which contains 808 drugs, chemicals and products exclusively for human use. The names were the first written in Latin then in Serbian, along with synonyms in German and French. The vast majority of the preparation is not presented monographically but next to the name in Latin notes on what side of the regulation is made were written.

Pharmacopoeia Serbica editio prima (SBR. 3750) (picture 1) published by the Ministry of Internal Affairs, was issued in early November 1881 as the first complete and comprehensive civil Pharmacopoeia. It represented the translation into Latin of then the latest Hungarian Pharmacopoeia except for some parts, such as: General rules at the beginning and Tables of Particularly toxic materia and resources against them as well as objects that these funds can be replaced with and Corrections at the end of the pharmacopoeia.



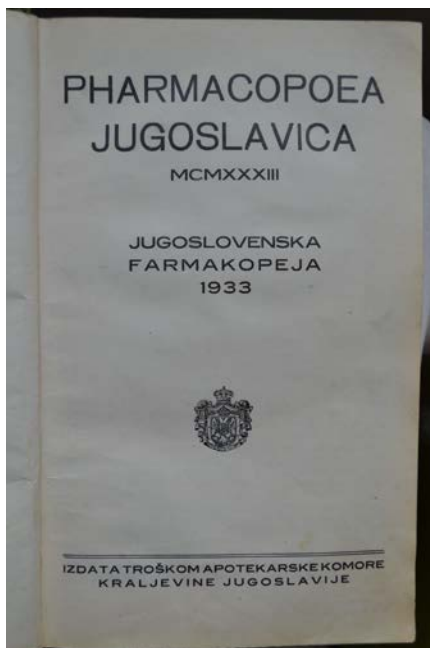
Picture 1 - *Pharmacopoeia Serbica editio prima*

Pharmacopoeia Serbica editio secunda (picture 2) is one of the most modern civil pharmacopoeia in Yugoslavia in the early 20th century. The minister of Internal Affairs of Serbia proposed it on the 10th of November 1908. It is made according to the latest pharmacopoeia Sweden which was then found to be most suitable and enjoyed the reputation of one of the best Pharmacopoeia in the early 20th century. It was written in Serbian language except for preparations which are in Latin. In preparing Pharmacopoeia Commission to comply strictly to rules of the Brussels Convention on the heroic medicines of 1902(2).



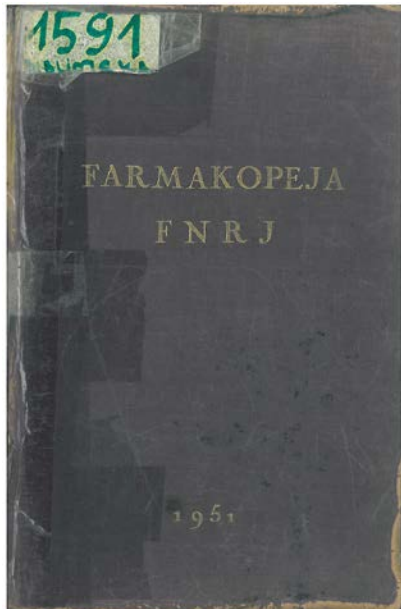
Picture 2 - *Pharmacopoeia Serbica editio secunda*

The first Yugoslav Pharmacopoeia, *Pharmacopoeia Jugoslavica editio prima* from 1933 (picture 3) which was issued on the 1st of January 1935 had a major breakthrough for the profession because it was well aligned with the needs of the country, professional and scientific level of the former pharmacy, as well as with the decisions of the Second international conference on equalization of formulae of drugs with severe effects in Brussels. In terms of content it has been significantly modified and updated.



Picture 3 - *Pharmacopoeia Jugoslavica editio prima*

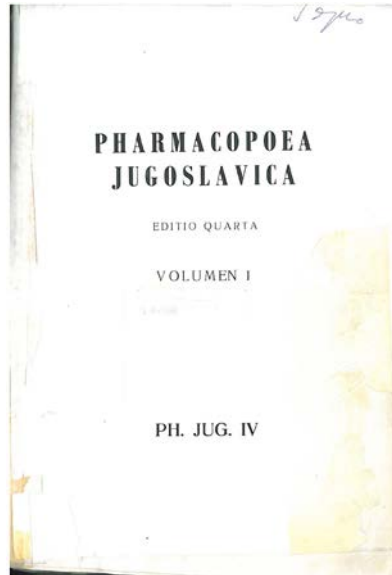
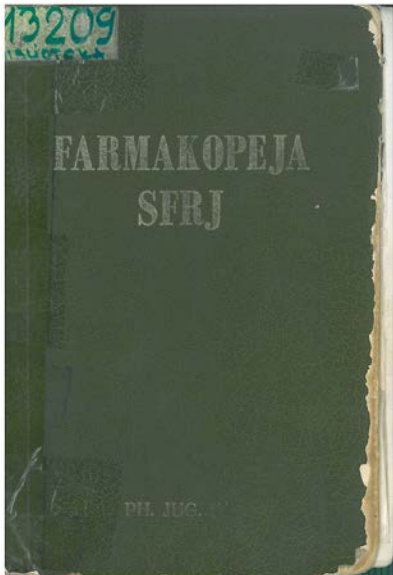
The second Yugoslav Pharmacopoeia - *Pharmacopoeia Jugoslavica editio secunda* from 1951 (picture 4) was the pharmacopoeia of the FNRJ, and has been official since 1 January 1953 and was created on one hand as a result of the introduction of new chemotherapeutic agents in the treatment and on the other hand, as a result of developments in technology of drugs in order to obtain stable forms of medicinal drugs and more precise dosing (3).



Picture 4 - *Pharmacopoeia Jugoslavica editio secunda*

Pharmacopoeia Jugoslavica editio tertia from 1972 was issued due to the great progress of pharmaceutical technology, application of new equipment for the production of medicine and finding new ways of applying drugs. It was official on the 1st of March 1972 as a special edition of the Federal Office of Public Health, and was technically done in the tradition of the German Pharmacopoeia with a mechanism for removing and adding sheets(2). It is divided into two sections: General and Special.

Fourth Yugoslav Pharmacopoeia - *Pharmacopoeia Jugoslavica editio quarta*, (picture 5) was issued on 8th of June 1984 and was official on 1st of January 1985. It excluded 42 monographs of the third Pharmacopoeia and introduced a new 80 (3). Everything else was kept unchanged. It has significantly increased the number of types of preparations of tablets, ointments, injections and solutions, and the reason for this is the use of these forms in therapy.



Picture 5 - *Pharmacopoeia Jugoslavica editio quarta*



Picture 6 - *Pharmacopoeia Jugoslavica 2000 editio quinta*

References:

1. Parojčić D, Stupar D. *The History of Pharmacy in Serbia*. International Scientific Conference “Pharmacy in Contemporary Society”; 2003 November 21; Kaunas; 168 - 81.
2. Parojčić D, Stupar D. *Farmakopeje na teritoriji Srbije u periodu od 1863. do 2000. godine*. *Arh. farm.* 2001; 1-2: 163-80.
3. Parojčić D, Sredanović V. *Pregled lekovitih oblika kroz nacionalne farmakopeje Srbije u XIX i XX veku*. Drugi kongres farmaceuta Jugoslavije sa međunarodnim učešćem; 1998 Oktobar 19-22; Beograd, Jugoslavija; *Arh Farm.* 1998;6:1090-1.