

Drug Dosage Forms And Their Development In Europe In The 19th Century



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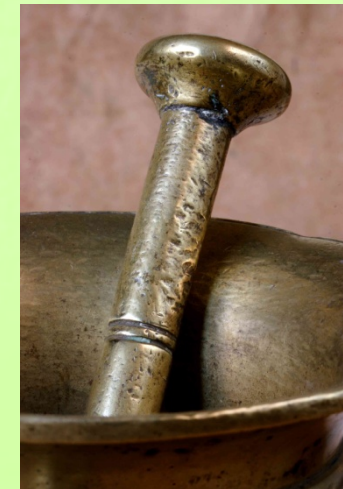
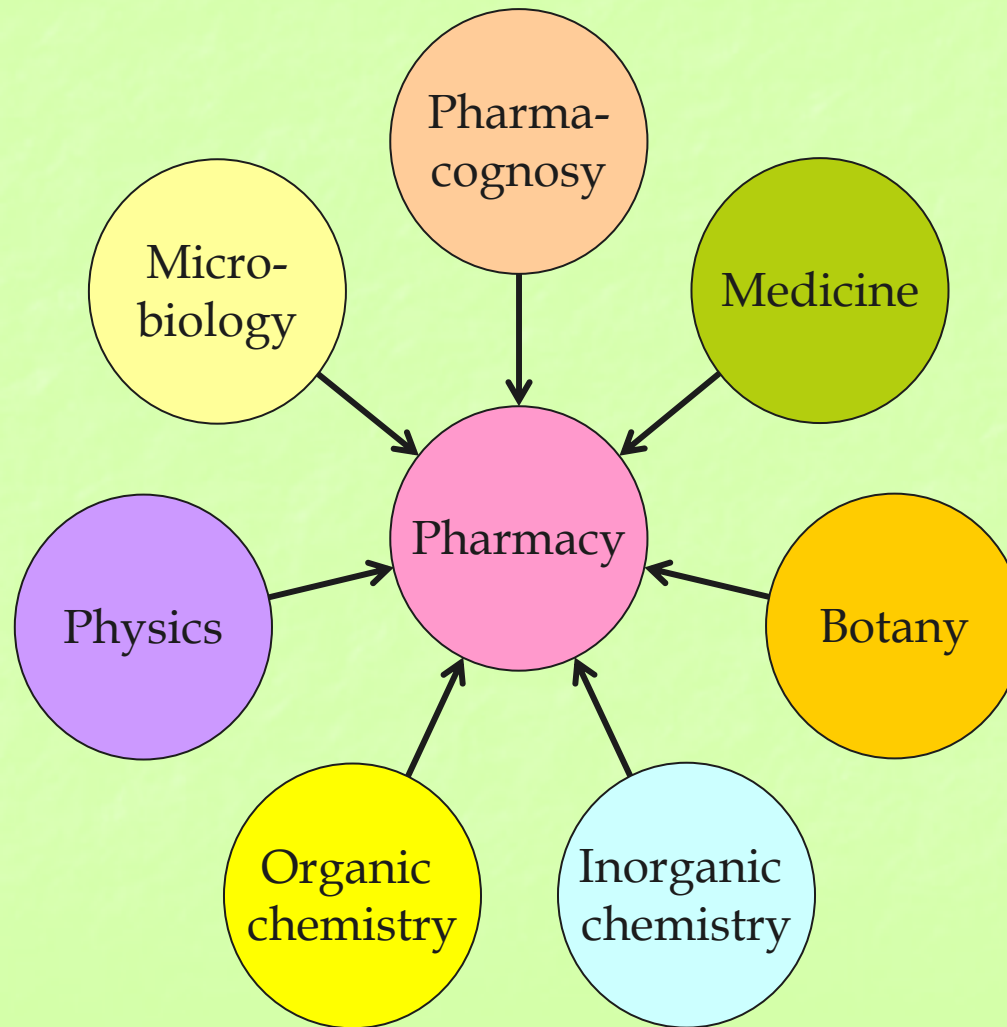
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Pharmacy in the 19th century



Development of pharmacy in the turn of times

Medieval Times

Early Period

Transition period

Pharmacy was
conservative



Rapid development
occurred

During the transition period:

- cognitions were acquired,
- discoveries were done,
- conclusions were accumulated in various branches of science.

Development of functions carried out in labs of pharmacies (part I)

- Preparation and dispensing of simple drugs since very beginnings,
- Later preparation, production and dispensing of chemical medications joined,
- Chemistry became more important in pharmaceutical practice (production of medications, analysis).



Development of functions carried out in labs of pharmacies (part II)

- New technological processes used for preparation of drugs: evaporation, granulation, dissolution, precipitation, oxidation, etc.
- New laboratory equipment and devices: stoves, distillery (with very different constructions), laboratory vessels, mills and instruments.



New auxiliaries introduced in laboratories of pharmacies

- Pill machine (1810)
- Cachets (beg of the 19th century)
- Origination of gelatine capsules (1833)
- Tablet press (1842)
- Process of tablet coating (1838)
- Injections as dosage form (mid of the 19th century)



Assortment of prepared dosage forms in pharmacies of the 19th century

Dosage forms prepared in laboratories of apothecaries' shops in the 19th century: tinctures, herbal vinegars and wines, essences, balsams, herbal oils, syrups, powders, tablets, pillules, mixtures, emulsions, drops, ointments, pastes, etc.



Changes in pharmacy under the influence of natural sciences

- Education
- Chemical – pharmaceutical enterprises
- Increase in range of drug dosage forms
- Improvement of existing dosage forms
- Evidence based conclusions



Conclusions

- scientists had created means and methods how to scientifically substantiate, prove and explain cognitions created by their discoveries in the 19th century;
- the range of medicines became notably wider due to the development of various natural sciences (chemistry, botany, pharmacognosy, material science, technology, microbiology, pharmacology, medicines, etc.);
- several new dosage forms used till nowadays were developed (coated tablets, gelatine capsules, parenteral dosage forms);



Conclusions (continued)

- Already existing dosage forms were improved, using various technological methods, excipients, trying to achieve the most complete effect;
- Quality became very important aspect in preparation of drugs due to development of microbiology, analytical and physical chemistry.



Thank you!

