

Integration of Pharmacy History into the Pharmaceutical Sciences

K Á R O L Y Z A I A I

(Received: 02 01 1986)

The process of the development of science, dating back to some thousands of years, is receiving a tremendous impetus nowadays, which leads to specialization in sciences and to various independent disciplines. At the same time the most recent trend is the integration of the various sciences.

The development and changes in pharmaceutical sciences followed the general lines sketched above in all developed countries of the world. Pharmacy came into existence as a practical activity of treatment as an integral part of it. Thus pharmaceutical services in the modern sense of the concept were for long time interwoven with the doctor's treating activities and only later, in the 13—17th centuries, separated from medicine to become an independent activity, a proper profession. As a result of this factors pharmacy became an independent branch of science, and ran its course of development up to the present.

The origin of pharmaceutical sciences, their trends of development, structure and contents show pharmacy to be an applied science, intermediate between the natural (chemistry, botany) and the biomedical sciences, having in addition close relations to the technical and social sciences.

Considering its objectives, pharmacy as a science is most intimately correlated with the medical sciences. That is to say, pharmacy is concerned with the knowledge and supply of medical substances, the drugs capable of maintaining health, improving the physical and mental state of human beings, designed for diagnosis and control of disease to prolong life and its creative period.

The pharmaceutical sciences at present can be divided in two big fields: — pharmacy based on natural, biomedical and technical sciences. Its task is to search for the most proper means of medicine, prophylaxis, diagnosis and therapy. According to these activities, it may be designated first of all drug oriented pharmacy,

— pharmacy based on social sciences, as legislation, administration, management, organisation, ethics, drug utilisation. Its task is to examine and organize the mutual relations of drug, patient and society. So it may be called first of all: patient and society oriented pharmacy.

The result of this more complex view is, that the pharmacist of the modern age have to be expect in the conventional natural-biomedical-technical sciences, as well as, in the social sciences. In these last branches the knowledge of pharmacy history, is fundamental and essential, this gives a scientific background of pharmacy sciences and praxis. The pharmacist will be able only by getting acquainted with the pharmacy history to handle his consistently expanding tasks of organization and management, the logistics of drug supplies and thus function in a manner appropriate to a pharmacist or a doctor, and serve the further development of the pharmaceutical profession.

The enclosed table is an attempt to illustrate the manner in which pharmacy history should be integrated into the system of the pharmaceutical sciences. The pharmaceutical science has six fundamental columns :pharmaceutical biology, -chemistry, -technology, -pharmacology, -history and -administration.

The history of pharmacy has already been introduced into the curricula of many universities. The topics of the study are not unified. There are two different directions:

- the history of pharmaceutical sciences
- the history of pharmaceutical practice.

The first direction is the science-history and includes the historical development of all pharmaceutical science branches with the most important results. The second direction is presentation and demonstration of the pharmaceutical praxis in details with its all social, economical, etc. relations.

The following chapters of the pharmaceutical sciences branches are

— the history of pharmaceutical botany, pharmacognosy, phytochemistry, biotechnology etc., for this reason the knowledge of natural products in chronological description.

— the history of pharmaceutical chemistry, thus the production of elements and inorganic preparations, the synthesis of organic compounds; chemical and pharmaceutical analysis of all these drugs. For this reason the drug control according chemical methods.

— the history of drugs. The acknowledgement of biological activities of drugs, pharmacology, pharmacodynamics and pharmacokinetic etc.

— the history of pharmaceutical technology. Development process of the technological methods and the formulation of the pharmaceutical preparations, with special respect of the stability and biopharmaceutical research.

— the history of pharmaceutical legislation, administration and organization of pharmaceutical service and social pharmacy

— the development process of history of pharmacy as a science.

The above mentioned science territories give the whole pharmaceutical science, on that basis developed the consideration, opinion and profession of the pharmacist.

The history of pharmacy practice contains the following significant chapters:

— the general history of pharmacy profession in different periods (antiquity, middle age, modern times, etc): medical, social, economical, etc. relations of the pharmacist, wholesaler and pharmacy shop, pharma-industry, etc.

— the history of herbarias, dispensaries, pharmacopeias, national formularies, collection of prescriptions, drugs prices lists, etc. Development of scientific and professional press.

— the history of pharmaceutical instruments: apothecary pots weights, scales, mortars and pharmaceutical machines etc.

— the history of pharmaceutical establishments: pharmacyshop, pharmacy-laboratory, pharmaceutical industry, and wholesale, pharmaceutical society, pharmacy museums, etc.

— the history of pharmacy education, specialisation, doctor degree and post graduate training. History of professor-ships, colleges and pharmaceutical faculties

— Pharmaceutical biographies of famous pharmacists. The role of some pharmacists in other sciences or in literature and arts.

The research in pharmacy history contains analytic and synthetic elements, and the most important assistant sciences of these are the following: physics, chemistry, biology, medicine, history, general statistics, legislation, geography, archeology, heraldic, numismatic, diplomatics, librarianship, linguistics, etc.

My conclusion shows, that the pharmacy history as scientific discipline and subject should be integrated very well into the system of pharmaceutical sciences. The description of the most important chapters of scientific and professional pharmacy, shows the role and importance of pharmacy history as science and as curriculum and discipline.

PHARMACEUTICAL SCIENCES

1. <i>Applied natural sciences</i>	General-physical chemistry, Colloid, s. Analytical chemistry Anorganic and organic chemistry	}	Drug				
<i>Pharmaceutical chemistry</i>	Drug chemistry Drug controll						
<i>Pharmaceutical biology</i>	Special chemical subjects General biology Botany Medicinal botany Microbiology						
<i>Pharmaceutical technology</i>	Physiology-pathophysiology Praescriptional pharmacy Galénics Drug formulation Drug standardization and stabilization Pharmaceutical industry Biopharmacy			}	<i>Drug oriented pharmacy</i>		
<i>Pharmaceutical pharmacology</i>	General pharmacology Pharmacodynamics Pharmacokinetics Clinical pharmacy						
2. <i>Applied social sciences</i>	Sociology, ethics Legislation, administration Statistics			}	Drug and pharmacist in society		
<i>Pharmaceutical administration</i>	Pharmacy organization, management Drug utilization Pharmaceutical economics					}	<i>Patient and society oriented pharmacy</i>
<i>Pharmaceutical history</i>	History of pharmaceutical sciences History of pharmaceutical practice						

1. Table Integration of pharmacy history into the system of the pharmaceutical sciences

Summary

The pharmacist of the modern age have to be an expert in the conventional natural-biomedical-technical sciences as well as in the social sciences. In these last branches is fundamental and essential the knowledge of pharmacy history, wich gives a scientific background of pharmacy sciences and praxis. The author shows, that the „pharmacy history” as scientific discipline and subje-t should be integrated very well into the system of pharmaceutical sciences

Összefoglalás

A tudományok fejlődése napjainkban a specializálódás következtében számos önálló tudomány megjelenését eredményezte. Egyidejűleg a fejlődés velejárója a különböző tudományágak integrációja. A világ legkülönbözőbb országaiban a gyógyszerészeti tudományok hasonló változásokon estek át. A szerző kísérletet tesz a gyógyszerészeti tudományok rendszeresítésére, felosztására, melyet külön táblázatban mutat be. Az alkalmazott társadalomtudományok közé sorolja a gyógyszerészeti történelmet, megjegyezve annak két különböző szakterületét: a gyógyszerészeti tudománytörténetet és a gyógyszerészeti gyakorlat történetét.

A gyógyszerészeti tudománytörténet és gyakorlat történet fontosabb fejezeteinek áttekintésével a szerző bemutatja a gyógyszerészeti történelem, mint tudomány és mint az oktatás tárgyát képező diszciplína jelentőségét.

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проф. д-р К. З а л а и: Интеграция истории фармации в фармацевтические науки

Развитие наук в наши дни вследствие специализации привело к появлению многих самостоятельных отраслей науки. Одновременно развитие сопровождается интеграцией различных отраслей науки. В разных странах мира фармацевтические науки претерпевали аналогичные изменения. Автор делает попытку на систематизацию, разделение фармацевтических наук, что предстает в виде отдельной таблицы. К прикладным общественным наукам причисляет историю фармации, отметив два специальных области ее: историю науки фармации и историю фармацевтической практики.

Пересмотром важнейших глав истории фармацевтических наук и истории фармации автор демонстрирует значение история фармации, как предмета науки и обучения.

D r. K. Z a l a i: *Integration der Pharmaziegeschichte in die pharmazeutische Wissenschaft*

Die Entwicklung der Wissenschaften hatte der Spezialisierung zufolge das Erscheinen von zahlreichen selbstständigen Wissenschaften mit sich gebracht. Eine Begleiterscheinung dieser Entwicklung ist die Integration der verschiedenen Wissenschaftszweige. Einer solchen Änderung waren in vielen Ländern der Welt auch die

pharmazeutischen Wissenschaften unterworfen. In der Arbeit wird die Systematisierung bzw. Aufteilung der pharmazeutischen Wissenschaften versucht und das Ergebnis in tabellarischer Form zusammengefaßt. Die Pharmaziegeschichte, die aus zwei verschiedenen Fachgebieten besteht — der pharmazeutischen Wissenschaftsgeschichte und der pharmazeutischen Praxis — wird unter die angewandten Gesellschaftswissenschaften eingereiht.

Nach Überblickung der wichtigeren Kapitel der Geschichte der pharmazeutischen Wissenschaft und Praxis wird auf die Bedeutung der Pharmaziegeschichte, als eine wesentliche Disziplin der Wissenschaft und des Unterrichts hingewiesen.

FELHÍVÁS SZERZŐINKHEZ

Felkérjük Tisztelt Szerzőinket — hogy adminisztratív okokra való tekintettel — cikkük kéziratának leadásakor szíveskedjenek személyi számukat, pontos lakcímüket, munkahelyük nevét és címét is megadni. Megértésüket előre is köszönjük.

Ifjúsági Lap- és Könyvkiadó Vállalat