

Comparative Study on the Use of Medicinal Plants in Poland (16th century and today)

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THE EARLIEST POLISH HERBALS (16TH CENTURY)

The Polish treatises on plants and herbs are hardly at all known in the world literature. Suffice it to say that the most comprehensive English historical monograph *Herbal, their Origin and Evolution* (Cambridge, 1955) by Agnes ARBER¹ discussing the herbal printed in between 1470 and 1670 contains no mention of the Polish books on the subject.

Thus, one may have a distorted idea of the state of pharmaceutical knowledge in Poland of the period as compared with other European countries. To fill in this gap let us have a brief description of Polish herbals.

The oldest among herbals printed in Polish is Stefan Falimirz's *On Herbs and their Power...*² published in Cracow in 1534. His encyclopaedia was no more original than the herbals published in other countries. It was likewise a translation and compilation based on the Mainz herbals³, namely the Latin version of *Herbarius* (149 chapters) and *Ortus Sanitatis* (60 chapters) as well as on one more unidentified source. This herbal is a comprehensive study covering the whole information on medicinal herbs used in Poland in the first half of the 16th century, for alongside with a collection of borrowed texts in translated, modified and abridged form, it contains some personal observations of Falimirz as well as data on the geographical distribution of certain plants. A great achievement of Falimirz was also introduction of Polish terminology, the most part of which has survived to the present day. He was also the first to use woodcuts made from life, thus heralding the trends of renaissance in Polish writing on natural history.

After the herbal by Falimirz there appeared a more comprehensive book *The Polish Herbal* (Herbarz polski...)⁴ by Marcin of Urzędów, published in 1595. On its 488 pages it gives the description of all medicinal herbes, known and used at that time in Poland. The work is largely original and its purpose was to make people familiar with Polish herbs.

In 1613 a third herbal came out. It was a huge work of 1540 pages and comprising 650 woodcuts depicting plants drawn from nature. The *Herbal*.⁵ was the result of the lifetime's work of Szymon Syreniusz. It includes his university lectures, descriptions of the plants based on the author's own observa-

tion and the first in Polish literature mentions on the places where particular herbs grow in this country.

The herbals played an important role as guides to treatment. During the renaissance period the great majority of Poland's inhabitants lived in the country, there were few physicians, few apothecary's shops. Consequently phytotherapy was very common, treatment consisted mainly in the use of herbs. And as regards the afore-mentioned herbals, as well as other books of this type, they described treatment not only with herbs but also with drugs of animal and mineral make up. They gave advise how to treat the sick and were kept mainly in nobles' country-houses and monasteries, both being places where advise could be given to the country people how to apply herbs.

FOLK MEDICINE

The kind of medicine was the concern of women-herbalists as well as of various quacks and witch doctors. Their work was plenty with superstition, included remnants of the ancient Slavonic and pagan beliefs and much magic, as well as beautiful rites characteristic of Polish folklore⁶. There was a strong link between magic and the belief in the curative power of herbs. In this country, as world-wide, illness was regarded as the act of an evil spirit which could be banned only by a doctor-priest. The students of that period (among others GRMEK M.D.⁷, HENSLOWA M.⁸) point to the very good knowledge of phytotherapy among Slavonic peoples, including the inhabitants of Polish lands. This knowledge was derived from people's age-long coexistence with nature.

Though it must be stated that written knowledge could reach at that time only a small fraction of Polish people, it was spread instead by words of mouth, transmitted by oral tradition. The historians of that period (Józef Rostafiński and January Kołodziejczyk) did not agree whether the folk knowledge came in this field from written sources, or the other way round—the authors of books (mainly the medieval and renaissance ones) derived their information on medicinal herbs from folk tradition⁹. The writers of this study are inclined to agree rather with the second thesis because it finds its confirmation in manuscript and printed sources, although they do appreciate the influence of the official knowledge as well.

Contemporary investigations of numerous writers¹⁰ indicate the great role of some medicinal herbs as apotropeic drugs¹¹. This role —although diminishing— can still be observed.

THE PRESENT TIME

1. THE HERBAL PHARMACOPEAL DRUGS

It is the "Farmakopea Polska" (Polish Pharmacopoeia IV)¹² (Vol. I, 1965, Vol. II, 1970, Supplement I, 1973) which is considered the basic printed source of the official science concerned with herbs and drugs made from them. The book contains 158 monographs (23%) on herbs and drugs made from them. They are derived from 81 species of herbs, mostly of this country and to a large extent obtained from cultivation.

It appears from our investigations that this number, although by no means small when compared with European books of this type, reflects the diminishing presence of vegetable materials, especially of various species. Thus while in the first Polish Pharmacopoeia of 1817 (Pharmacopoeia *Regni Poloniae*)¹³ most of materials and drugs were of plant origin, its second edition contained already their reduced number (the Polish Pharmacopoeia was issued in 1937 and listed 336 monographs (43%) on herbs and drugs made from them. Then the third edition (Farmakopea Polska III, 1954, Supplement I, 1956, Supplement II, 1959, Supplement III, 1962) comprised 243 monographs (35%) on herbs and drugs made from them, thus 93 of them had been crossed out. For the most part exotic materials¹⁴ were eliminated having been replaced by the home ones.

The sources under investigation indicate that there are three tendencies: 1. reduction of herbal drugs in favour of chemical ones, this tendency being characteristic of the majority of European countries; 2. exotic herbs are replaced by the home ones of a similar chemical composition and similar effects; 3. a tendency to introduce new, modern forms of herbal drugs replacing the old ones.

The currently accepted Polish Pharmacopoeia IV lists 158 plant monographs (85 less than in the Pol. Phar. III, because 94 have been crossed out and 9 added). And as regards the Official List of Drugs¹⁵, 16% are herbal drugs.

2. CONTEMPORARY PHYTOTHERAPY

All these official data give only a theoretical picture of this field in Poland. The fact is that in the official medicine herbal drugs are prescribed by physicians only very seldom. This can be put down to the inadequate training of doctors in this area and their scepticism regarding such medicines. Besides the effects of synthetic drugs are much quicker. Still, there is a tendency to change this attitude in the major urban centres, in Cracow and Warsaw, where new specialist dispensaries are

being established which employ physicians specializing in phytotherapy. This trend in medicine seems to be developing.

This reason for it is probably the growing interest in natural medicine, especially in phytotherapy. Polish society is particularly open to this sort of treatment. It may have something to do with the old tradition of herbal treatment mentioned above. It also reflects the world-wide tendency, described as "Green Pharmacy" or "Come Back to Nature".

There is in Poland a well organized herbal industry, based mainly on materials obtained from natural collection and lately also increasingly from field cultivation. It has to do with the increasing pollution of the environment which affects also medicinal plants growing in the wild.

Until recently the only producer of herbal drugs was the "Herbapol" state enterprise. Currently however more and more private and cooperative factories of this kind are being set up.

3. EXPERIMENTAL WORKS AT NEW HERBAL DRUGS

The investigations into the composition and effects of herbs done by Polish scientists have a long history. Their work has been analysed in numerous papers by the historians of science. As regards the present time, experimental studies concerning mainly the phytochemistry of herbs are conducted at special sections in nine medical academies, at the Institute of Plants and Herbal Products in Poznań, Pharmacological Institute at the Polish Academy of Sciences and the Main School of Rural Economy (cultivation and acclimatization).

There is no doubt about it that these lines of investigation are similar to the tendency in this field in the world science. It is a known thing that the reports of the last years indicate that some medicinal herbs have immuno-stimulating properties. These features appear in some of the herbs which were used in the folk medicine and then were rejected by science because they did not contain a strong chemical compound (the phytochemical tendency). There is now also a clear line of research aiming at the discovery of new natural drugs which may show immuno-stimulating¹⁶ activity.

Such a drug, obtained recently owing to the investigations of the Polish scientist Prof. Stanislaw Tolpa is a medicine derived from peat¹⁷. This is a new biostimulator strengthening considerably the hidden defensive mechanism of the sick person. For several years there has been quite "a battle of scientists" over the efficacy of this drug. Eventually it has been introduced into apothecary shops.

Among the bio-stimulating herbal drugs now very popular ones are the products of *Enothera*, *Echinacea angustifolia*, *Ginkgo biloba* L., as well as of the forgotten in our therapy *Cassia angustifolia* Vahl which was present still in the Polish Pharmacopoeia II.

4. HISTORY OF NATURAL MEDICINES AND ETHNOPHARMACY — THE INTERDISCIPLINARY RESEARCHES AT THE POLISH ACADEMY OF SCIENCES

The growing interest in phytotherapy has created new areas of historical studies. In the forgotten tradition of folk medicine and in the species of medicinal herbs rejected by science (absence in them, according to phytochemical investigations, of an active element) there are in fact values, which being now recalled and interpreted by modern science, may prove very useful indeed.

In view of these facts scientists all over the world initiate numerous studies of the old phytotherapeutical knowledge, as well of exotic medicinal plants unknown in Europe. Very useful in these investigations is the bank of data NAPRALERT¹⁸.

In Poland for over a dozen years interdisciplinary investigations into the history of natural medicines and ethnopharmacy have been conducted. They are the concern of the Department of the History of Pharmacy in the Institute of the History of Science, Education and Technology at the Polish Academy of Sciences. A part from analytical works and monographs, published by a team of researchers of various specialities, within the Ethnopharmaceutical Seminar of this Department a serial work is being published entitled *The History of Natural Drugs*, editor Barbara Kuźnicka. It includes collective works (with an English summary). So far three volumes¹⁹ have appeared, the fourth is in the press²⁰. The particular volumes are monothematic.

Currently the Department is concerned with a line of research which is connected with the history of man's ecology: biological and social functions of medicines in various historical epochs. Drugs in man's history²¹ are a problem which indicates the age-long coexistence of man with nature. This conception has stimulated also our current investigations into the significance of the hallucinatory herbs in the Polish cultural tradition²².

NOTES

1. ARBER A., *Herbals, their Origin and Evolution*, Cambridge 1953.
2. FALIMIRZ S., *O ziołach i o mocy ich (On Herbs and their Healing Power)*, Cracow 1534. Cf. the monograph by SZOSTAK J.: *Zielnik Stefana Falimirza z roku 1534 (The Herbal of Stefan Falimirz of 1534)*. "Ze Skarbca Kultury" ("From the Treasury of Culture") 1977, Part I, b. 28 p.7-50; Part II, b. 29, p. 5-42.
3. Mention must be made here of the Mainz edition: *Herbarius* (1485) and *Ortus (Hortus) Sanitatis* (1491).
4. Marcin of Urzędów: *Herbarz polski to jest o przyrodzeniu ziół i drzew rozmaitych, i innych rzeczy do lekarstw należących, księgi dwoje (A Polish Herbal, i.e. about the nature of herbs and various trees, as well as about other kinds of medicines, two books)*. Cracow 1595. Cf. the work by FURMANOWA M., MICHALSKA Z., PARCZEWSKI A., ZAREBSKA I.: *Lecznictwo renesansowe w Polsce na podstawie Herbarza Marcina z Urzędowa (Renaissance Medicine in Poland after the Herbal by Marcin of Urzędów. "Studia i Materiały z Dziejów Nauki Polskiej" ("Studies and Materials on the History of Polish Science") 1959, series B., b. 2, p. 233-312.*
5. Szymon Syreniusz: *Zielnik (Herbal)*, Cracow 1613, 1540 p.
6. Cf. the monograph on this subject by Adam Paluch: *Świat roślin w tradycyjnych praktykach leczniczych wsi polskiej (The World of Herbs in the Traditional Treatment in the Polish Countryside)*. Wrocław 1988.
7. GRMEK M.D.: *Ancient Slavic Medicine Journal of the History of Medicine and allied Sciences (amer.) 14: 1959, No. 1, p. 18-40.*
8. HENSŁOWA M.: *Realne podstawy wiedzy ludowej o roślinach w Polsce. W: Etnobotanika Materiały I Ogólnopolskiego Seminarium Etnobotanicznego. Kolbuszowa 19-20 VII 1980. Pod red. PALUCHA A. (The Real Foundations of Folk Herbal Knowledge in Poland. In Ethnobotany. Materials from the 1st National Ethnobotanical Seminar. Kolbuszowa 19-20 July 1980. Editor PALUCH A.), Wrocław 1985, p. 25-42.*
9. HENSŁOWA M.: *Rośliny dziko rosnące w kulturze ludu polskiego (Plants Growing in the Wild in the Culture of Polish People)*. Warsaw 1963.
10. Apart from the afore-mentioned writers, those concerned with the subject are also among others: Danuta Penkala-Gawęcka, Danuta Tylkowa, Anna Spólnik and Ludwika Wajda-Adamczykowa.
11. LEHR U.: *Rosliny jako magiczne środki apotropieczne w polskiej demonologii ludowej i magii. W: Etnobotanika... (Herbs as the Magic Apotropeic Means in the Polish Folk Demonology and Magic. In Ethnobotany)... p. 57-82.*
12. *Farmakopea Polska IV (Polish Pharmacopoeia IV)*. Vol. I, 1965, Vol. II, 1970. Supplement I, 1973; *Farmakopea Polska V (Polish Pharmacopoeia V)* Vol. I, 1990. Cf. the work by STRZELECKA H.: *Surowce roślinne w Farmakopei Polskiej IV (Herbal raw materials in the Polish Pharmacopoeia IV)*. *Farmacja Polska (Polish Pharmacy) 27: 1971, No.7, p. 485-490.*
13. *Pharmacopoeia Regni Poloniae, auctoritate Ministerii Administrationis Rerum Internarum et Disciplinae Publicae, edita a Consilio Supremo Sanitatis, Varsoviae Anno MDCCCXVII*. The list of drugs is regarded as the first official Polish pharmacopoeia (the previous ones used to be issued either for the army or as urban pharmacopoeias. Like most of the European books of this kind it was published in Latin. Only the second edition (Warsaw, 1937) appeared in Polish. It was *Farmakopea Polska II (the Polish Pharmacopoeia II- Pharmacopoeia Polonica, editio II)*. In 1954 appeared *Farmakopea Polska III (the Polish Pharmacopoeia III, Pharmacopoeia Polonica, editio III)*, and the supplements: Supplement

I, 1956, II, 1959, III, 1962. Cf. MUSZYŃSKI J.: Surowce roślinne w Farmakopei Polskiej III (Herbal raw materials in Polish Pharmacopoeia III). *Farmacja Polska (Polish Pharmacy)* 27: 1971, No. 7, p. 485-490.

14. Cf. SZCZEPANSKA M.: Egzotyczne (pozaeuropejskie) surowce lecznicze w czterech wydaniach Farmakopei Polskiej. (The Exotic (non-European) medical raw materials in the four editions of the Polish Pharmacopoeia). Warsaw 1983 (typescript).

15. *Urządowy Spis Leków (The Official List of Drugs)*. Warsaw 1986.

16. The world literature on this particular subject is very vast indeed. As regards Polish writers mention must be made first of all of the views of the pharmacologist Andrzej Danysz (cf. his article *Krytyka współczesnej farmakoterapii (Criticism of the Contemporary Pharmacotherapy)*, "Biuletyn Informacyjny Instytutu Przemysłu Farmaceutycznego" ("Information Bulletin of the Institute for Pharmaceutical Industry") 1985 No. 4 as well as of the pharmacognost Aleksander Ożarowski and his work *Ziołolecznictwo — stan obecny i możliwości rozwoju ("Phytotherapy — the current state and possibilities of development")*. *Wiadomości Zielarskie (Herbalist News)* 1983, No. 2, p. 11-13.

17. The Tołpa Peat Drug (PTT) is an original Polish medicine. It is a typical immunomodulator, drug stimulating the tissue renewal. Obtained as a result of many-year-long researches of the Section of Peat Studies at the Agriculture Academy in Wrocław. The medicine, already sold officially in chemist's shops, is produced through a complex water and alcohol extraction from peat.

18. NAPRALERT — an acronym for *Natural Product Alert*. As it appears from the prospectus — a programme carried through by the Department of Pharmacognosy and Pharmacology, College of Pharmacy, University of Illinois and is a unique data base of the world literature on the chemical constituents and pharmacology of plants, microbial and animal extract. Very interesting is information on the ethnomedical profile and the collection of data synonymus names, common (vernacular) names for the plant, ethnomedical (folkloric, traditional) medical uses for the plant and complete list of literature indicating the source of information provided in the NAPRALERT print out of ethnomedical data.

19. *Historia leków naturalnych*, pod redakcją Barbary Kuźnickiej. (The History of Natural Drugs, editor Barbara Kuznicka).

T. I, *Zróżdła do dziejów etnofarmacji w Polsce (Sources for the History of Polish Ethnopharmacy)*, Warsaw 1986.

T. II, *Natura i kultura — współzależności w dziejach lekownawstwa (Nature and Culture — Interdependence in the History of Pharmacy)*, Warsaw 1989.

T. III, *Zioloznawstwo w dawnej i współczesnej kulturze Rzeszowszczyzny (The Knowledge in the Ancient and Contemporary Folk Culture of the Rzeszów Area)*, Warsaw 1993.

20. *Historia... T. IV, Z historii i etymologii polskich nazw roślin leczniczych (From the History and Etymology of Polish Names Given to Medicinal Herbs)*, Warsaw 1993 (in print).

21. Cf. B. Kuźnicka: *Lek w dziejach człowieka — uwagi metodologiczne (Medicines in Man's History — Methodological Remarks)*. *Kwartalnik Historii Nauki i Techniki (Quarterly Journal of the History of Science and Technology)* 36: 1992, No. 1 p. 3-9.

22. KUŹNICKA B., *Znaczenie roślin halucynogennych w polskich tradycjach kulturowych. Zarys problematyki (The Significance of Hallucinatory Plants in Polish Cultural Tradition. An Outline of the Problems)*. "Analecta" 1992, z. 1, p. 111-122; cf. also ARABAS I., *Badania opioidów oraz ich rola w rozwoju nauk o leku w Polsce XIX wieku (Investigation into opioids and their role in the development of pharmaceutical sciences in Poland in the 19th century)* (typescript).