

Diagnosics in Late Medieval Sources

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Abstract: In this paper I focus on the nature of diagnosis in the Czech written medical sources. In the first part, the character of medieval medicine is described. Further, I deal with contemporary definitions of disease and some important aspects of diagnostic; finally, I adduce the signs of diseases described in examined sources: primarily the manuscript texts created in the first half of the 15th century and old printed books from the 16th century. I come to conclusion, that the medieval medicine was oriented on health problems instead of concrete diseases. For non-university trained physicians, the methods of healing were more important than quest to find the concrete disease.

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Introduction and Sources

In this paper I would like to speak shortly about the nature of medical diagnoses in medieval and early modern Czech written medical literature, which I have studied in recent years. The oldest manuscripts containing Czech medical texts are dated to the first half of the 15th century, but in greater numbers they were written in its second half and during the 16th century. Printed books with Czech medical texts were published for the first time in the 16th century. They were used as handbooks by non-graduated medical practitioners and also served as manuals for personal use of well-situated men. A genre composition of these books is manifold. They consist of texts about phlebotomy (blood-letting), uroscopy, healing of specific diseases, diets, qualities of herbs and other topics. The manuscripts are usually anonymous, some of them were written by clergymen, and printed books were created by university-trained physicians. For the purposes of this paper, I will use primarily following medical sources:

- Manuscripts from the first half of the 15th century: so called “Jádro” (*Core*) and “Františkánovo lékařství” (*Franciscan’s Medicine*).
- Books printed in the 16th century: “Gruntovní a dokonalý regiment zdraví” (*Fundamental and Complete Regime of Health*) written by John Kopp of Raumenthal, “Lékařské knížky” (*Little medical books*) attributed to Křišťan of Prachatice and “Nařízení a správa velmi potřebná” (*Very Needful Rules and Regime*) written by Bartholomeus Schwalb [1].

Medieval medicine and a definition of a disease

Medieval medicine as a scientific discipline was constituted generally in the 11th and 12th century on the basis of Latin translations of Arabic and Greek medical texts. Among the centres of translation activity excelled Southern Italy (Salerno and Monte Cassino) and Spain (Toledo), where Constantinus Africanus and Gerhard of Cremona worked [2]. Both scholars did not practise medicine, and perhaps this is the reason why they were interested in theoretical thesis about medicine rather than practical ones. For example, Constantinus translated *Liber Isagogarum in Tegni Galieni* (*Introductions to the book Techne written by Galenos*), which contains the definition of medicine and its parts. The same prevalently theoretical information can be found in Avicenna’s *Canon medicinae*, which was translated by Gerhard of Cremona [3]. The shift from the medicine as a mere craft to the medicine as a science, which has theoretical as well as practical branch, was important for the incorporation of the medicine into the curriculum of the medieval universities.

In the first half of the 12th century Hugh of St. Victor reflected the very same significant change, when he wrote that a physician performs interior and exterior operations: *The interiors are those which are introduced through the mouth, nostrils, ears, or anus, such as potions, emetics, and powders, which are taken by drinking, chewing, or sucking in; the exterior are, for example, lotions, plasters, poultices, and*

surgery, which is twofold: that performed on the flesh, like cutting, sewing, burning, and that performed on the bone, like setting and joining.

But he must also consider the occasions: *Air, motion and quiet, emptiness and satiety, food and drink, sleep and wakefulness, and the reactions of the soul*, which are in fact similar to *res non naturales* (things unnatural to men) – one topic of medieval medical theory. The direct source of Hugh's knowledge about medicine was above mentioned *Liber Isagogarum in Tegni Galieni* [4].

The 15th and 16th century medicine was still predominantly medieval in its character. There were two main features: First it was based on Galenic theory about four humours or so called "humoral pathology" in which a disease was seen as a result of disturbed balance of bodily humours [5]. This was naturalistic medical interpretation. The second important feature has its fundamentals in religious concepts. A disease was seen as a result of a supernatural intervention and therefore was comprehended as a manifestation of special favour or as a punishment [6]. In fact, not only God but also the devil (with God's permission) could cause a disease and in this case he himself was present in a human body and caused damage. Moreover, in some cases a single disease was seen as a personified entity. We can observe this approach in late medieval healing charms. In one of them, a personified entity of infantile convulsions called "Božec" walks along a road in search for a potential victim and meets the God. A short dialogue between both follows and then Božec is banished [7]. The charm depicts a battle between good and evil, something a patient or those involved in the care could use to understand the suffering. And it is in stark contrast with academic or religious explanation of the same illness. Different points of view were not unusual, for example a nightmare could be understood as an *incubus* in religious context but the folk medicine refers sometime to a nightmare in form of an elderly woman, and the academic ambient sees the same illness as a result of a nocturnal suffocation caused by putrefied humours [8].

All the main approaches – natural, religious and popular – represent certain cultural constructs. In the academic medicine a disease is rather an absence of health, a consequence of a bad diet, living manners or sinful behaviour, the religious and folk medicine perceive a disease in this case as an independent unit. Giorgio Cosmacini in his recent work *Le spade di Damocle* outlines two primary concepts of disease which accompany the human society since the very beginning: The first one is phenomenological, because disease as much as health is an integral part of human life. Thus health and disease are phenotypes of a subject. This concept is typical of Galenic theory. The second concept is an ontological one, because disease is a unit existing as such, and this concept is typical of the view that disease is for example a punishment [9].

Medical diagnosis in the middle ages and Czech written texts

Generally speaking, a medical diagnosis was based on an observation, examination and experiment, and was closely connected with prognosis. Even the single symptoms, like runny nose, fever, indigestion were often denoted as specific diseases.

“Breathlessness” (dyspnoe), as a label for a diagnosis, could in fact cover many diseases, but the medieval medicine was not able to distinguish them. Therefore, the number of diseases (i.e. subjects of diagnoses) was relatively small. Apart from external signs, like boils or stains, disease was indicated also by internal symptoms, for example quality of pulse, blood, urine and faeces. An important factor for identification of a diagnosis was also patient’s medical history, so a mediaeval physician asked sick about their condition, temperament and living manners [10]. The mediaeval medicine was seen as both powerful and weak by contemporary observers. There were diagnoses which meant basically a social death (the leprosy for example). Therefore the famous scholar and physician, Arnaldus de Villanova, advised his students to make such diagnosis very carefully, if they are uncertain about the nature of patient’s illness. A good physician was bound to use a table and conscientiously note good and bad signs before he made a judgement [11]. On the other side, contemporary authors were painfully aware of the weakness of medical diagnostics. Francesco Petrarca is known to harshly criticize papal physicians, because they were not able to come to an agreement about the illness of pope Clement VI, although his bed was literally besieged by physicians [12].

Czech written diagnostic texts are related above all to uroscopy and taking of pulse. In case of urine, physician considers its colour, smell, density, taste and occurrence of alien particles. In the same manner he examines also excrements, again according to their consistency, colour or smell. In the late medieval uroscopic text “O vodě každého člověka” (About the water of every man) we can read, that changes in quality of urine can signify an illness but only indirectly. Immediate causes of those changes are anger, sadness, fasting, rest, vigil, coitus, gaiety, bath, food and drinks, and taking specific medicaments [13]. This is a reflexion of traditional theory about *sex res non naturales*: disease is a consequence of imbalance of bodily humours caused by inadequate way of life.

Dietetic manuals advise users to examine their urine regularly every morning [14]. From civic correspondence we have evidence, that flacons with urine were sometimes transported to a large distance for diagnostic purposes [15]. Physicians often diagnosed a virtually unknown patient using just a written description of his or her status and a sample of urine. Only during the time of epidemic physicians refused to make a uroscopic examination, because they were afraid of contagion. The German physician Batholomeus Schwalb explicitly advised his readers not to send urine samples in plague times [16]. The importance of urine can be observed also in contemporary moralistic literature, where it is perceived as an important indicator of moral integrity and it is supposed to wield a power to reveal sins of a person – for instance adultery [17].

In case of a fatal disease it was possible to use urine as an indicator of the forthcoming death. A physician poured patient’s urine on nettle leaves (*urtica*) and observed the reaction. If the flower faded, the death was inevitable. If not, the patient could have survived [18]. But not only urine was an indicator of health

dangers. The immediate death was portrayed also in the face of the suffering person that is why a physician closely observed his or her eyes, nose, cheek and colour of skin [19]. Disease was indicated by the smell of sweat and changes in blood too. For example it was believed that, if the fresh blood changes its colour from red to ash-grey, the disease is syphilis [20]. A physician could pour grains of salt in the fresh blood of sick person and if the salt dissolved quickly, the patient was considered to be a leper [21]. The same diagnosis was confirmed by a test based on the lead powder and the doctor observed whether it sinks quickly into patient's urine [22]. Ridiculous as it may seem, those methods operate not only like traditional religious ordeals, but also reflect the principles of modern science, because in the context of modern scientific thinking, the experiment or observation is decisive, without regard to previous opinion. Reijer Hooykass wrote about the nature of modern science: "*In case of conflict between his rational expectations and his discoveries by observation, the investigator's reason must adapt itself to the data provided by nature*" [23].

In the medieval medical literature, diseases were often described according to threefold scheme: *signa, causae, curae* (signs, causes, and treatment) [24]. In this context, a list of signs facilitates particular diagnosis. Among Czech written medical text this scheme partly respects the therapeutic treatise called "Jádro" (the Core). It is a list of concrete diseases or health problems and their treatments marshalled according the scheme *de capite ad calcem* (from the head to the hallux). "Jádro" is probably text of the Czech origin. So far I have not been able to trace any outlandish German or Latin source of the manuscript. It was written in the middle of the 15th century by Czech author with the education from Prague medical faculty, which is obvious from several remarks on teachers of the Prague faculty as medical authorities. Although recently challenged, there is a theory advocated by Vinař, which attributes authorship of the work to a reputable scholar Křišťan of Prachatice [25].

Among the diseases of original and widely distributed text only leprosy is described in detail with a catalogue of symptoms, which correspond with the common tradition. Changes in voice, eyebrow loss, stains or boils on the face, bad breath (halitosis) and deformation of extremities are recorded [26]. In case of other diseases no more than two symptoms were registered. Bad breath and pallid face indicate putrefaction of lungs [27]. Swollen belly (abdomen) in contrast with general thinness indicates dropsy [28]. Red faeces are proof of dysentery (black or green faeces signify death). Numbness of extremities indicates a stroke (apoplexy) [29]. If a patient suffers from a loins-ache, he has got gout or a kidney stone [30]. Many records of diseases even lack any particular signs. Does it mean that the diagnosis was not important for medical practitioners in the context of Czech written medicine?

A Fundamental and Complete Regime of Health ("Gruntovní a dokonalý regiment zdraví") is the largest one among Czech medical printed books. It was composed

by John Kopp of Raumenthal in 1536. Doctor Kopp studied medicine at the university in Freiburg but later settled to live in Prague and he is known as a successful practitioner popular among local people [31]. Being a member of academic community it is not surprising that he supported his medical views with numerous references to ancient and medieval medical authorities. Therefore, this printed book is in a total contrast to the contemporary Czech written medical manuscripts, where references to medical authorities are rare. Kopp deals with specific diseases in the fifth chapter and in accordance with the tradition he also speaks about signs, causes and treatment. Signs of cold (*rhinitis*) are fever, reddish eyes, headache, sneezing, red nose, watery and frequent snot (*mucus*) running from nose. Signs of breathlessness (*dyspnoe*) are difficulties in breathing, tremor of extremities, sharp nose, pain in neck, sneezing of mucus, raising of head during breathing, irregular pulse, tiredness and faintness. Signs of consumption (*phthisis*) are fever, dry cough (*tussis sicca*), mucus in lungs, red face, pain in throat and chest, especially on the left side. A patient can't lie on his back.

Signs of urinary calculus are a painful urinating, pain in the lap, and white urine full of sediments. The blood running with urine indicates a lesion of urethra. Signs of renal calculus are backache and pain around kidney, hard stomach, lack of appetite, burping. Clean urine and an absence of sand indicates enlargement of stone (calculus) and that is the time to call surgeon. Signs of gout are pain in affected extremities, swellings, redness and hotness in sore spots, which could also be yellow and white depending on bodily humour which caused the disease. Signs of the French disease (*syphilis*) are hot swellings full of pus, sharp pain, headache, tumid eyes, smelly sweat, insomnia, itchiness, pustules and scabs on whole body, especially in genitals [32]. This extensive list of symptoms of six different diseases may look abundant. But the fact is that Kopp's book is the most extensive Czech treatises containing diognostical text from the 16th century.

Conclusion

A list of diseases and their symptoms from Czech written medical sources (both manuscript and old printed) clearly show a particularity of late medieval medicine. It was not primarily oriented on specific disease as an independent unit with specific symptoms; instead it dealt with spheres of health problems represented by few clearly visible signs. Some medieval diseases are symptoms nowadays, for example a fever. Medieval physicians knew many kinds of fevers, but only feverish condition itself was a decisive symptom for them. In case of diagnosis a health problem was easily observable by senses and this could be the reason, why there are only few symptoms in "Jádro" and even in Kopp's book.

Second, the way of physician's thinking was different. Instead of futile try to identify apart individual diseases it was oriented toward healing: I suppose, that this was typical chiefly for non educated practitioners, which did not speculate about changes in status of bodily humours.

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