The Transnationalism of Nephrological Treatises during the Middle Ages

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Abstract

The paper presents the history of the dissemination of knowledge about renal issues during the Middle Ages based on the transfer of manuscripts from the centres of knowledge of the then known world to the periphery. Starting from the Greco-Roman world it follows the transfer of manuscripts and ideas via three main roads. Firstly, the North Road extends till the remote Ireland on the West and Russia to the East, secondly, the South Road reaching Arabia and Central Africa and thirdly, the East Road otherwise named the Silk Road. Emphasis is given to the role of monks (Greek Orthodox, Catholics, and Taoists) and the Arab intellectuals. The ways by which this transport materialized and the people involved (merchants, pilgrims, soldiers) is also discussed. Allowances are made for the merging of historical and mythological data, all of which represent the way society then was viewing the kidney, its role and its ailments.

Key words: Medical Manuscripts, Medieval scribes, Spoils of war, Transnationalism

During the 21 years of the IAHN’s existence 311 papers had been promoted by it. Analyzing it further, it occurred that 114 of them came from Italy and Greece while the rest from all the other countries [1]. Thus, it looks that from the former Greco-Roman culture the knowledge of the History of Nephrology was transferred via these papers to every end of the world. This is the modern equivalent of the transnationalism of manuscripts. In order to understand what was happening in the past it was decided to trace back the path of manuscripts in our field by reconstructing its history. But this method will not have well defined sharp edges because as they say in Tibet: “When I walk on snow-laden paths of hills my each footprint appears clear, deep and distinct through which I can trace my path back without effort. But after a while due to wind and fresh snowfall all traces of my footsteps were wiped out in the snow. The logic of today recalling the events of past times with inductive evidences must surely be inaccurate in many different ways.[…] The line of demarcation between history and legend is too thin to observe while writing: the two overlap each other unconsciously and unknowingly” [2]. Hence, this paper will be well documented in parts and walk in a haze in others while still trying to present a coherent briefing of the transnationalism of Nephrological Treatises during the Middle Ages. As the beginning of wisdom is the examination of names, we start this article by examining the historical meaning of the terms Middle Ages and Nation. The same instructions to start a lecture on medical topics with the nomenclature gave the 1st century AD Greek author of the treatise “Diseases of the Bladder and the Kidneys” Rufus of Ephesus, who said:”[…] for the smith, the cobbler, and the carpenter first learn the words for metal, tools and such like. Why should it be any different in more noble arts?”[3][4]. The first term “Middle Ages” refers to the historical period that started with the Fall of Rome to the Goths and ended with the Renaissance. It roughly covers the time between the 5th and the 15th cent. AD. Regarding the latter term, we should distinguish between this noun, and the concept of state. A nation was – and is - characterized by the use of the same language, religion and morals, while a State is a political construction, based on the acceptance, directly or indirectly, of a ruling class as the main biding force of the people. In the Middle Ages, we had huge states with many different nations [Byzantine, Holy German, Papal, Arabic, Mongol, and Persian] and many states within the same nation [Italian, Russian and German principalities]. Indicatively, in Figure 1 we see the changes in the political map of Europe during the greatest part of the period under discussion. It is evident that huge states appeared and collapsed, while the nations remained more or less intact. Thus, when we speak about the transnationalism of the medical treatises we mainly, but not exclusively, mean a trans - state transport. Departing from the field of philology, we discuss the means of the transport of manuscripts and the people involved.Contrary to what is now believed about static populations in that era, people moved around a lot. The difference with today’s mass movements is the limited number of those on the go then. Another difference is the speed of transport. We seldom remember that, until almost two centuries ago, the main mode of transport was by horse and camel via various roads or by ore or mast via the sea [5]. Thus, travelling was slow and consequently so was the dissemination of medical treatises. This was not a great obstacle, as anyway, developments in medical science then were very slow. Thus, a few more weeks of delay made no difference. We can classify itinerant people in the following groups, with considerable
overlapping between them: a) Merchants, b) Soldiers, c) Pilgrims and Monks, d) Scholars. Classical texts, i.e. Greek treatises on medicine, reached Western Europe during the Middle-Ages by various tongues, mainly either directly from the Hellenistic world – including Byzantium –, or indirectly through versions of the languages of the Middle-East, especially (Syriac)-Arabic. There, they were translated into Latin and much later in the vulgar local dialects. All of them were based on similar medical traditions. These were the Hippocratic/Galenic and their variations as created by Avicenna, Razes, Maimonides and others and the botanical traditions either as descendants of Dioscurides or as local “peasant” formularies. When the political and financial conditions allowed, many scholars – and treatises – gathered in the same place and a form of medical school was established [Constantinople, Samarkand, Salerno, Monte Casino, Bologna, Cairo etc]. Thus, the political patronage had always been the condition sine qua non for a great collection of manuscripts. Beside the genuine interest in science and art, the establishment used these collections as a propaganda tool. It aptly has been said the “The culture of power found its legislation on the power of culture”.

From the very beginning, medical codices were meant to travel. Hippocrates’s and Galen’s treatises were transported through the then known world since their own age. Hippocrates was the first keen medical traveller, reaching as far north as Scythia in the Black Sea and Egypt in the South. Rufus of Ephesus was the first medical author to devote a whole book to kidney problems in the first cent.AD. He was highly respected and extensively quoted by Byzantine, Arabic and Latin authors. In his description of diseases of the kidneys, he makes a concerted effort to correlate structure and function, and to provide a rational explanation of the altered function of the kidneys in disease. Galen moved forwards and backwards from Asia Minor to Rome and Egypt and the same is true for many celebrated doctors in the Greco-Roman world. Their manuscripts, exclusively or partially containing nephrological issues, were the basis upon which medieval authors elaborated and extended the related knowledge. Theirs and other medical authors’ works made the transnational journey either as companions of travelling scholars, the so-called Vade Mecum, or by being bought and exchanged from other monasteries or collectors, and as gifts. Dioscurides’ Materia Medica, containing, amongst else, many pharmacological substances affecting renal function, is a characteristic example of the latter. The most famous copy, the Codex Vido- nensis. Med. Gr 1 was given as a gift to the Imperial Princess Juliana Anicia in Constantinople in the 6th century. Another such copy made the transnational journey to Cordoba as a gift from the Emperor Constantinos Porphyrogenetos to the Caliph Ald-Al-
Rahman III in 949 AD handed down by the monk Nicolaes who later translated it [11]. The last mode was via spoils of war and looting, the most well known was the infamous Fall of Constantinople to the Crusades. Actually, looting was a much more common practice than thought. Conquering war-lords were fond of seizing manuscripts in the Islamic countries [12]. Even today, many valuable manuscripts are disappearing from the great Libraries of Syria, Iraq, Timbuktu and it is highly probable that these will reappear after few decades in the respectable libraries of Great Western Institutions, as had happened frequently in the past [13][14].

Four were thee routes through which medical manuscripts reached the outer world. The first route was the well known Mediterranean travel. All these had been extensively discussed in our Association and I will not discuss them further. Naturally, the role of the Salerno School of Medicine and of the Monte Casino friars was rightly praised as the melting pot where Greek, Jewish and Islamic medicine merged. The contribution of the Byzantines [an unhappy and inaccurate term] has also been reviewed in our meetings [15][16][17]. Instead, we will discuss three other less well-known routes. Those to the South, to the North and to the East.

The North route roughly starts from the Mediterranean and reaches as far as Ireland on one hand and the Balkan countries and those around the Black Sea on the other [Figure 2]. From the first branch, we will present only the Irish phenomenon. The Irish contribution to medieval intellectual life has been given little attention. In the early and middle Middle Ages when the European mainland was a backwards area, Irish monks starting from their remote, poor and rocky island travelled all over Europe and the Mediterranean preaching their style of Christianity and absorbing the cultures of the lands they visited. It is interesting to note the similarities between early Irish Christian and Byzantine art in works like the magnificent Book of Celts. Many Cathedrals and bishoprics in Europe were founded by those itinerant Irish monks like St. Columbamus, St. Cathaldus or St. Brendan [Figure 3] [18]. Thus, the classical medical heritage reached Ireland. Even now many relevant manuscripts are still stored there. 25 medieval medical manuscripts are catalogued in the Dublin Trinity College Library, the Royal Irish Academy, Dublin, in the King’s Inns Library, Dublinare, most of them copies of Greek texts [19]. Of special interest are those on urines, and on the Hippocratic Aphorisms many of the latter dealing with renal issues [20].

Two fragments of medical texts dated: c.1400-15207 are written in Early Modern Irish Language, the local vernacular, in an era when Latin was the standard medical language [21] [Figure 4]. It is intriguing to see the names of Galen and Hippocrates written in this forgotten language. From the countries around the Black Sea, a brief reference will be made to Russia, Georgia and Azerbaijan. The first contact of the Russian people with Greek medicine took place through the religious establishments. As Christianity was imported to the Russians via the Greek Orthodox Patriarchate in Constantinople, it was natural for medical texts to also be imported from there and copied in the local monasteries. These manuscripts included works of Classical Antiquity like Hippocrates’ Galen’s and Rufus’ and purely Byzantine works such as Ioannes Zacharias Actuarius’ and Theophilos Protospatharhos’ On Urines. The former had even dedicated his treatise “De methodo- dendi” to the Grand Duke Ioannis Apocauces when the latter started for his campaign in South Russia. In the 11th and 12th centuries, the first translations of medical works from Greek to Russian were written by Greek monks [22]. In Georgian medical manuscripts, dating to the VI century, the description of diseases, treatment methods and tools are mostly in line with the structure and conceptual basis described in Greco - Roman and Arabic sources of the relevant period. The aforementioned refers also to nephrologic [urologic] diseases that are mostly described in the Georgian Karabads of medieval - XIII-XV centuries. Certainly, a conceptual basis is the Theory of Humoral Pathology [23]. During the Middle Ages, urological diseases in Azerbaijan were treated with the methods of Islamic or Greco-Arab medicine. The rich heritage of this medical school is reflected in the manuscripts of the 11th-18th centuries that are preserved in the Institute of Manuscripts of the Azerbaijan National Academy of Science. More than 11,000 of them are ancient manuscripts works. These texts tell us about thoughts of people in the Middle Ages on medicine, astronomy, mathematics, poetry, philosophy, law, history and geography [24]. From Serbia in the Balkans it is known that the first to translate medical treatises from Greek to Old Slavonian was the monk – and later Saint – Naoum of Ochid who died in 910 AD [25]. Gordana Subaric Georgjevna has published the famous Chilandari Medical Manuscript. This is a collection of medical texts, written in Old Serbian Church Slavonic, discovered in 1952 in the Library of the Chilandari Monastery in Mount Athos, Greece. Presumably, these were translated from the Greek originals. The section on Uroscopy is considered to have been written in the 13th or 14th century, although there are some doubts about it, and consists of 35 text pages divided into 62 paragraphs. In the Chilandari Medical Codex, there are about one hundred descriptions of kidney and urinary tract diseases and disorders. Many symptoms and syndromes such as hematuria, dysuria, pyuria, renal colic, anuria, polyuria, edema and dropsy, urine retention and fever, are incorporated in the broader clinical pictures of lithiasis of the kidney and/or bladder, pyelonephritis, cystitis, necrotic renal disease indicative of renal tuberculosis and tumors, acute and chronic nephritis, renal failure, and gout. Specific pharmacological prescriptions, mostly simple or compound herbal medicines, are given for each of those renal ailments [26]. The South Route includes the Arabic Peninsula and extends to the heart of Africa. Although the Arab’s contribution to the transnationalism of classical and medieval medical manuscripts with nephrological interest is invaluable, for brevity and for reasons ex-
plained at the beginning of this paper will be omitted. Instead, the focus will be on the rather neglected contribution of Syrian doctors and translators, on the St. Catherine Monastery at Sina, and on the surprisingly rich heritage of medieval medical manuscripts in Timbuktu, Mali. Syrians, those Middle Eastern Christians, constituted in the immediately pre-Islamic period the majority of the populations of Syria, Palestine and Iraq, with substantial numbers also in Iran, Arabia and the Gulf, as well as in India and China. The majority of these Christians [those outside Egypt] read their Bible and conducted their worship of God in the language called Syriac, which is a dialect of Aramaic [which itself goes back to the second millennium BC]. Therefore, Middle Eastern Christians came to be at home in two cultures, their own, native and very ancient culture [with its roots in ancient Mesopotamia and the world of the Bible] and that of the intellectual tradition of the Greeks. There is one person, above all, who embodies this Nestorian Christian involvement in the transmission through translation of Greek science. This is Hunayn ibn Ishaq [809-73], who with his family and associates did more than anyone else in this field. He translated almost 130 medical treatises from Greek into Syriac and from Syriac into Arabic. One of them being Rufus of Ephesus [Thus spreading his treatise “On Bladder and Kidney Diseases” into the Arabic medical literature [27]]. The next entity about a manuscript at the Sina monastery is very interesting to the author. During restoration works in this 15 centuries old fortified building in May 1975 a hidden suite of rooms was discovered in the North-Western section, containing a large number of parchment codices and fragments. In the collection of Slavonic manuscripts there were several written in the glagolitic language. This is the oldest written Slavonic language, almost one century before the Old Slavonic Church of the Chilandari Medical Manuscript. One of them was the 11th century religious text called *Psalterium Demetrii* [Sin. slav. 3/N]. For no apparent reason, there were inserted 3 double ff. parchment, with 22 recipes of practical medicine, without end [28]. The only references in the international literature about their content describe some treatments for cancer and nothing else. On a first reading of their German translation, we traced several passages with renal interest. Soon we will start in-depth research on the subject. It is stimulating to think about itinerary Slav clerics of the 13th century reaching Sina and carrying amongst their Prayers’ Books medical recipes for kidney problems. This is transnationalism at its best!

Going even farther South, we reach the Eastern - Central African State of Mali and its ancient city Timbuktu. The literary heritage of Timbuktu dates back to the 15th and 16th centuries, when the gold-rich kingdoms of Mali and Songhai traded across the Sahara with the Mediterranean world. It took two months for merchant caravans to cross the desert, and while gold and slaves went north, books went south [14] [29]. The scholarship focused on Islam but also encompassed mathematics, astronomy, law, geography, botany, medicine, and music. Plato, Aristotle, Ptolemy, and Hippocrates were studied in Arabic translations. This golden age ended brutally in 1591 with the invasion of a mercenary army sent by the Sultan of Morocco. Their muskets shredded Timbuktu’s defenders and the town’s libraries were plundered. In fact, the conquered inhabitants saved many manuscripts, hidden in villages, desert camps, and houses on dusty side-streets in Timbuktuin the
1970s, scholars began trying to find and preserve these precious relics before they were destroyed by—bugs, mould, neglect, time. The result was a flood of recovered manuscripts—according to the Ford Foundation, more than 700,000 of them, several on Medicine. However, there are sad reports that the recent rebels in Mali destroyed many of these manuscripts [30].

And now on the last branch of the journey, the Eastern Road. Since the 19th cent. it has been called the Silk Road, although in reality it comprised three roads [Figure 5]. We will omit again the repeatedly presented transfer of medical knowledge from the Eastern Mediterranean and Arabic areas [mainly Syria] into Persia and India. I will focus on a tiny spot of China, the Magao Caves in the Dunhuang region very similar to the monastic caves of Cappadokia [Figure 6]. Similarly to the uncover of manuscripts from a sealed monk’s cell in the Sina Monastery, in 1900 the Taoist monk Wang Yuanlu [Figure 7] accidently demolished a wall in a small cell which was sealed in 1035 bringing to light a huge collection of early medieval manuscripts dating from the 5th to early 11th centuries [31]. In between the several religious texts were scattered medical treatises. Dunhuang was a hive of activity where everything—from the works of famous Chinese medical authors to anonymous Tibetan collections of recipes for contagious illnesses—were copied, translated into many languages and taken away for the peoples of the Silk Road by itinerary Buddhist Monks. In Chinese medicine, the internal organs in a human body can be classified into five viscera organs [Wu Zang] including the kidneys and six bowel organs [Liu Fu] [32]. One common mode of treatment for them was moxibustion [Figure 8] [33].

Approaching the end of this paper, two fables and an enigma will be discussed. There is a recurrent story about three wise men who, coming from faraway countries, bring with them precious old manuscripts from their homelands settle themselves to a particular place, translate the manuscripts, thus starting a medical tradition there. The most well known such tale concerns the establishment of the Salerno School. There, a Greek, an Arab and a Jew transferred medical manuscripts and initiated the Medical studies in South Italy and thence to the Latin West. A similar story is told about the origins of medicine in the other end of the world, Tibet. There, in the 7th century three doctors were invited from India—Bharadvāja, from China—Hen-weng-hang-de and from Khrom of Stāg-gzigs, Galenos [imagine! The 1st/2nd cent. AD Greek doctor to supposedly to visit...
Tibet 5 centuries later] [36]. Although these stories are imaginary in their details, still they represent the stored in the common memory the fact of the transnational journey of medical treatises in Middle Ages. Relevant to our topic is the finding that only in Medieval Tibetan medical literature, mainly in the treatise Lunar King, uroscopy play a central role in contrast with what was happening in neighbouring India and China. This is due to the absorption there of the Greek, Arabic and Persian medical treatises, which were translated in Tibet [35] [36]. The second such fable concerns a poisonous girl who was brought up consuming larger and larger quantities of poison, became immune but her biological fluids, being them perspiration, saliva, urine or vaginal excretions killed anyone who came in contact with them. Thus, she was used as a lethal gift to be sent to anyone’s illustrous adversary, to make love with him and lead him to his death. In the Arabic lore, the author of this story was Rufus of Ephesus, the composer of the treatise “On the Diseases of the Kidneys” [37]. This was a false attribution but it shows the high regard Arabs had about Rufus and his works that reach them by translations.

The enigma is about the Voynich manuscript. This is an illustrated codex hand-written in an unknown writing system. The vellum on which it is written has been carbon-dated to the early 15th century [1404–1438], and may have been composed in Northern Italy during the Italian Renaissance. The manuscript is named after Wilfrid Voynich, a Polish book dealer who purchased it in 1912. Some of the pages are missing, but about 240 remain. The text is written from left to right, and most of the pages have illustrations or diagrams. The Voynich manuscript has been studied by many professional and amateur cryptographers, including American and British codebreakers from both World War I and World War II. No one has yet succeeded in deciphering the text, and it has become a famous case in the history of cryptography. An intriguing feature of the book is the abundance of illustrations showing water-pools connected with canals and several nymphs swimming inside them. There is a speculation that the whole manuscript is a hidden medical treatise and it had been even suggested that one of the illustrations in a cryptographic reference to the renal anatomy [Figure 9] [38].

Before concluding, it is proper to pay tribute to all those medieval monks [Greek Orthodox, Italian Friars, Irish pilgrims, Buddhist hermits] who laboured for years on end copying and illustrating all those manuscripts we admire today by hand. They were heroes. But even heroes sometimes despair and cry out. And Lewis Lapham has collected some relevant marginalia in medieval manuscripts:

“New parchment, bad ink; I say nothing more - I am very cold - That is a hard page and a weary work to read it - Let the reader’s voice honor the writer’s pen - This page has not been written very slowly - The parchment is hairy - The ink is thin - Now, I’ve written the whole thing: for Christ’s sake give me a drink” [39].

References

[1] www.iahn.info


