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**Comparative analysis of medieval Georgian and European medical treatises and remedies**

***Abstract.** The practice of medicine in Georgia has its roots in antiquity and is deeply intertwined with the medical traditions of ancient Greece and Rome. This rich scientific heritage is clearly reflected in early medieval Georgian medical traditions. In medieval Georgian historical writings contain specialized medical texts and treatises, demonstrating the advanced state of medical knowledge at the time. Among these texts, the 11th-century Georgian medical text Ustoro Karabadini (“Incomparable Medical Handbook”) holds particular significance as an original Georgian medical treatise incorporating not only Georgian medical expertise but also insights from both ancient and medieval European medical traditions. The parallels between this text and Western European medical treatises are apparent from the very beginning. The text incorporates the Hippocratic and Galenic concept of the four humors, outlining the ailments linked to each humor and their respective treatments. Additionally, Ustoro Karabadini offers health recommendations based on seasonal*



*changes, describing the challenges the human body faces throughout the year and providing guidance on overcoming illness and maintaining proper nutrition. The treatise also includes noteworthy insights into pregnancy, gender prediction, and childcare practices. It places particular emphasis on a balanced diet, detailing the appropriate consumption of plant- and animal-based foods. A notable section is dedicated to the medicinal benefits of wine, a subject deeply ingrained in both Georgian and European traditions, where it was closely associated with daily life and sacred significance of Christian rituals. The analysis of these treatises clearly demonstrates that, similar to Europe, Georgia developed agricultural practices, particularly the cultivation of vines and cereals. Historical and archaeological research confirms that the tradition of cultivating grapevines and wheat in the Caucasus region dates back to the Neolithic era. The Georgian territory is considered one of the oldest centers of viticulture and wheat cultivation. An analysis of medical treatises reveals that prolonged engagement with these agricultural practices both in the Georgian and broader European contexts contributed to the discovery of similar medicinal properties associated with these crops. A comparative analysis of Ustoro Karabadini and European medical treatises suggests that Georgian medicine was significantly influenced by both European and ancient (Greek-Roman) medical traditions, sharing many common characteristics with them.*

**Keywords:** Middle Ages; medical book; Georgia; medical treatises; Ustoro Karabadini

### **Introduction.**

The history of medicine is divided into different periods with modern approaches linking its achievements to different civilizations or historical epochs. Western medicine, reflecting the dominance of Western civilization, originates from European history. However, it is widely accepted that medical progress is the result of collective efforts by different nations (Kashif, 2008, p. 154). Like other scientific fields, medicine underwent a complex and fascinating stage of development during the Middle Ages.

The daily life of medieval individuals and society as a whole was filled with dangerous challenges and threats. Coping with wounds, injuries, epidemics, and infections was a crucial aspect of everyday existence. The medical field of this period encompassed diverse elements, including traditional healing methods, incantations, magic, relics of saints, and even the phenomenon of the “royal touch” (Alford, 1979, p. 380). Despite these mystical aspects, medieval medical treatises preserved a wealth of essential knowledge that contributed to the foundation of modern medicine. These treatises contained extensive information on the nature and symptoms of diseases, often incorporating elements of magical beliefs (Luscombe, 2008, p. 484). They exemplified the synthesis of classical medical knowledge with local folk practices and traditional belief systems. (McVaugh, 1997, p. 55). The works of Hippocrates (c. 450–370 BCE) and Galen of Pergamon (129–200 CE) became the cornerstone of medical traditions for Mediterranean civilizations (Conrad, Neve, Nuton, Porter, & Wear, 1995). In

addition to ancient traditions<sup>1</sup>, medieval medical treatises from various European regions included extensive knowledge on the medicinal applications of plants, animals, and minerals specific to certain ethno-geographical environments (Stannard, 2013, p. 47). Comparable medical theories are documented in early and high medieval European treatises, such as Isidore of Seville's *Isidori Etymologiarum Sive Originum Liber IV: de Medicina*, the 6th-century treatise "On the Wisdom of the Art of Medicine" (*Sapientia Artis Medicinae*), the 11th–12th-century Salerno medical treatise (*Regimen Sanitatis Salernitanum*), as well as in the recommendations of prominent 13th–14th century Italian and Spanish physicians.

During the early Middle Ages, medicine was deeply intertwined with religious doctrines and magical beliefs. However, beginning in the 11th century, it gradually developed into a distinct scientific discipline, experiencing a revival unparalleled since the time of Galen (Cumston, 1926, p. 212). This period is considered a turning point when classical medical traditions were consolidated into treatises and integrated into university curricula. Simultaneously, folk healing methods and elements of magic began to fade into the background (McVaugh, 1997, p. 54).

From the 11th century onward, the study of ancient medical heritage became more active, with significant influence from the works of Islamic scholars. Karabardini texts gained widespread popularity and were also disseminated in Europe. These works played a crucial role in the advancement of medicine, serving as a bridge between Western and Eastern cultural heritage (Abuladze, 2010, p. 11). In Georgian medical science, it is widely accepted that knowledge from the classical Greco-Roman period was transmitted primarily through the Eastern Arab-Persian route, with Byzantine influences also playing a role to some extent. In turn, the Arab-Persian medical tradition was profoundly shaped by this classical heritage.

In the Middle Ages, the medical system, which included monastic professional medicine and folk medicine, also covered family-line and military medicine, bringing together practitioners of various statuses. This system united "skilled" professional doctors, "healers of the soul and body, physicians", folk healers, and military physicians. It was not uncommon for one individual to serve as both a healer of the soul and body or to hold roles as a military doctor and a practitioner of family-line medicine. (Mindadze, Antadze, & Chelidze, 2023).

In Georgia, which was once part of the ancient and Hellenistic worlds and later became a crossroads between Eastern and Western civilizations, early accounts of

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<sup>1</sup>Ancient authors such as Dioscorides (1st century AD) in his "De Materia Medica", Pliny the Elder (AD 23–79) in "Naturalis Historia", and Claudius Claudianus (4th–5th centuries AD) in "In Rufinum" noted the rich diversity of medicinal herbs found in Georgia, specifically in the region historically known as Colchis. They observed that identical or similar herbs were also present in regions such as Galatia and Messina, where these herbs were similarly employed for therapeutic purposes. Claudianus further remarked that the mythical figures Medea and Circe gathered various medicinal and toxic herbs in the mountainous areas of the Caucasus and Scythia (*Caucasus Antiquus. Encyclos Disciplina*, 2010, p. 311; p. 593; p. 687).

medical practices and diseases can be found, even during the early spread of Christianity.<sup>2</sup>

It is noteworthy that in the 10th century, considered a pivotal era for the development of medicine in Europe, a Georgian medical treatise known as Ustoro<sup>3</sup> Karabadini was created (Kanaanite, 1940). While it is not the only medical treatise<sup>4</sup> produced in medieval Georgia, it is distinguished by being an original work, rather than a direct translation, and is recognized as the oldest surviving Georgian medical text (Shengelia, 1980). Information about the evolution of medieval medicine can also be found in Georgian sources.

It is known that King David IV the Builder<sup>5</sup> “established a xenon<sup>6</sup> in a suitable and beautiful location, where he gathered individuals (brothers) suffering from various ailments and provided them with all necessary care” (Kaukhchishvili, 1955, p. 331). Similar to European traditions, Georgian medical practices were strongly influenced by religious institutions. Numerous medical and cultural centers, along with hospitals, were established both within Georgia and beyond its borders, including at the Iviron Monastery on Mount Athos, the Georgian Lavra of Sabatsminda, the Gelati Monastery, and the ecclesiastical-cultural centers of Tao-Klarjeti (Shengelia, 1980, p. 100). Moreover, Georgian medical treatises reflect a fusion of both Western and Eastern medical traditions, shaped by the region’s unique geographical position (Shengelia, 1999).

Medieval Georgian literature also contains medical texts that address topics in physiology and anatomy. These works include both original compositions and translated exegetical or apocryphal writings. Notable examples include at the “Creation of Man” translated by Giorgi Mtatsmindeli (11th century) and “On the Nature of Man” translated by Ioane Petritsi (11th century).

Additionally, it is worth mentioning that Chapter XXX of the significant 10th-century Georgian manuscript, the Shatberdi Codex (copied at the Shatberdi Monastery), titled The Creation of Man, is a translation of a Greek treatise. Also, various works by Georgian translators, editors, and philosophers.

The medical treatise mentioned above is quite voluminous and contains a wealth of interesting information. “Ustoro Karabadini” follows the traditional approach

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<sup>2</sup> The hagiographic work “The Life of Saint Nino” by Leonti Mroveli, the author of “The Life of Kartli”, contains references to these issues. According to him, folk healers existed in the Kingdom of Kartli during this period (Mindadze, Antadze, & Chelidze, 2023).

<sup>3</sup> Ustoro (Georgian: უსტორო) – Incomparable, flawless. There are differing views in historiography regarding the time of the creation of this work. Some believe it was written in the 10th century, although its creation dates do not go beyond the 10th-11th centuries (Kuchianidze, 1997. P. 51-52).

<sup>4</sup> It should be noted that “Tsigni Saakimoi” (the Book of Medicine) was created in the first half of the 13th century (1206). However, this treatise represents a translation of Eastern medical traditions. The book entered Georgia during the reign of Queen Tamar (1184-1210), following a battle between the Georgians and the army of Sultan Rukn ad-Din of Rum. Along with the vast spoils of war, the Georgians acquired this medical treatise, which had been translated from Arabic into Georgian by the former Khoja (Kotetishvili, 1936, p. XXIII-XXVI; Shengelia, 1980, p. 5; Samushia, 2023, p. 78).

<sup>5</sup> David IV Bagrationi, King of Georgia 1089-1125.

<sup>6</sup> Xenon is a Greek word: in ancient times in Georgia, it was the name for a place where patients were received, a hospital.

typical of manuscripts of this kind. It consists of three main sections and is divided into chapters (Heads, Georgian: თავი). These include a general philosophical description of medicine, medical advice, and then a list of diseases and their treatment methods, medical principles, anatomical, physiological, and pharmacological concepts, specific pathology and therapy, general gynecology, skin diseases, treatment methods for fractures, burns, and bites. It also covers hygienic and dietary concepts, as well as descriptions of medicines (Kanaanite,<sup>7</sup> 1940, pp. XI–XVIII; Kuchianidze, 1997, pp. 46–50).

The goal of this article is to identify parallels between the treatment methods outlined in the 11th-century Georgian medical treatise and those found in medieval European medical texts, as well as to examine the medicinal properties or potential harmful effects of various plants and food products. Based on these similarities, we aim to compare and analyze Georgian and European medical traditions. Furthermore, our research seeks to explore the extent to which Western medical knowledge, alongside Eastern influences, was incorporated into Georgian practice, and whether both traditions, by nature, followed similar approaches to treatment.

### **Research Methods.**

The methodology of our research is primarily grounded in source study, which has determined the use of both general scientific and specialized research methods. Analyzing medical treatises allowed us to apply various historical research approaches. Since the basis of the study was the selection of the original Georgian source, we attempted to compare it with corresponding European sources. Throughout the research process, we utilized methods of comparative and critical analysis of the sources.

In the European academic context, the history of medicine has long been a subject of extensive and multifaceted scientific research. In contrast, research into the history of Georgian traditional medicine has developed mainly during the second half of the 20th century. This research encompasses both the study of Georgian medical treatises and the analysis of rich medical knowledge embedded in Georgian ethnological traditions.

Significant contributions to the field have been made by scholars such as M. Shengelia, L. Kotetishvili and N. Mindadze, whose works have significantly deepened our understanding of the history of Georgian medicine. Medieval Georgian medical treatises contain a wide range of information and have significant potential for interdisciplinary study.

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<sup>7</sup> The author of this book is some person from Kanaan - Kanaanite, whose identity and origin remain unknown. On the margin of page 36 of the text, there is an inscription where the writer asks for God's forgiveness: "Whoever reads this, may God command forgiveness for the Kanaanite". Therefore, the author is referred to as "Kanaanite" in historiography. Scholars believe that he is Georgian. The references in the Karabadini reflect the Georgian reality of the time, which is confirmed by his extensive knowledge of the Georgian language, terminology, and customs. Although the Karabadini is heavily influenced by Byzantine and Arab medical knowledge, it also incorporates a significant amount of Georgian medical tradition in its texts (Kanaanite, 1940, pp. VIII-IX) (Samushia, 2023, pp. 34-35).

The subject of our research introduces a new perspective both in the Georgian and wider European scientific space. The originality of our research lies in its focus on a specific Georgian medical treatise and its deliberate goal: to identify parallels with modern European medical practices and to analyze the underlying reasons for these similarities.

### Results and Discussion.

During the study of this issue, it became evident that identifying and highlighting the similarities between Georgian and Western healing traditions was essential. One similarity, which is immediately noticeable in both the Ustoro Karabadini and Western European works, is the theory of the four humors<sup>8</sup> proposed by Hippocrates and Galen. According to this theory, the healthy human body is composed of a balance of four fluids: blood, phlegm, yellow bile, and black bile (Jouanna, 2012, p. 335). Disease was considered as the disruption of this balance of humors (Boylan, 2007, p. 212; Mendelsohn, 2013, p. 69).

It is stated in the Georgian medical treatise "...we have observed the signs and qualities of all four substances: blood, yellow bile, black bile, and phlegm" (Kanaanite, 1940, p. 8). Following this, the signs of diseases caused by each of these fluids and ways to address them are described. The information on the theory of the four humors is preserved in numerous written works from the early Middle Ages. Notably, a passage from Isidore of Seville (560–636) stands out (*Isidori Etymologiarum Sive Originum Liber IV: de Medicina*) (Sharpe, 1964, pp. 55–56), as well as the treatise *Sapientia Artis Medicinae* (Wisdom of the Art of Medicine) from the 6th century (Wlaschky, 1928, pp. 104–105). The most detailed similarity, however, is found in the 11th–12th century Salernitan medical treatise *Regimen Sanitatis Salernitanum* (The School of Salerno, n.d., pp. 115–121). The identity of these sections is an excellent illustration that, just like in European treatises, the Georgian medical work firmly reflects Greek and Roman healing traditions<sup>9</sup>.

To contextualize these findings, we should examine the European analogs of the general therapeutic recommendations outlined in the Georgian medical treatise. Although the *Karabadini* is extensive, notable parallels can be identified in several

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<sup>8</sup> Theory of the four humors.

<sup>9</sup> How did antique medical knowledge likely enter Georgia? It is presumed that Arab rule and the growing Arab community in Tbilisi had a significant impact on all aspects of Georgian society. One example of this influence is the famous 12th-century Tbilisi-based Arab scholar Abu al-Fadl Hubaysh al-Tiflisi (Japaridze, 2012, pp. 61–68). He wrote numerous works on philosophy, medicine, astronomy, and other fields. Of particular note is his *Kitab al-Adwiya* ("The Handbook of Remedies"), written in Arabic in the 1030s. It consists of tables listing medicinal substances' names, preserved in Persian, Greek, Latin, and Syriac. It is likely that the knowledge of this Tbilisi-based Arab scholar influenced Georgian medical treatises. In Georgian medical scholarship, it is widely accepted that antique knowledge spread through the Eastern Arabic/Persian route. The Arab-Persian medical tradition itself was profoundly influenced by ancient classical heritage. A clear example of this is the work of one of the most influential Arab physicians of the 10th century, Ibn al-Jazzar. His works were extensively used in medieval European and Jewish medical education, and his writings were considered a mandatory part of the European medical curriculum (Makaryan & Avetisyan, 2023, p. 223).

European medical texts, as evidenced by their shared discussions of general therapeutic principles.

“Ustsoro Karabadini” provides information on the changing of the seasons and the challenges that arise for the human body as a result. According to the Georgian source: “In March, April, and May, the blood boils [...] the mood is hot and moist, and similarly, during these three months, the mood is hot and moist, and the blood boils [...] the hands should be opened” (Kanaanite, 1940, p. 26).

According to *Sapientia Artis Medicinae*, “From March onwards, there is an increase in all bodily fluids, especially blood. This causes irritation and swelling in both the body and mind. To alleviate this unhealthy state, bloodletting from the vein is recommended” (Wallis, 2010).

The medical treatise known as *Regimen Sanitatis Salernitanum* also mentions that: “In spring, the blood boils twice as much (is more active) as in other seasons, in the spring, open the vein and let the blood out” (Harington, 1953, p. 90).

In this case, all three medical treatises highlight that, during spring, blood becomes the most active of the four bodily fluids, leading to various challenges for the human body. To address this issue, all sources recommend bloodletting as the solution. This practice, widely used in ancient Egypt, Greece, and Rome, continued to be a common treatment throughout the Middle Ages (DePalma, Hayes, & Zacharski, 2007, p. 132).

Similar advice appears in both the Georgian source and European medical treatises regarding sleep: According to *The Ustsoro Karabadini*, “A long sleep [...] harms a person, weakens his strength, burdens his head, and adds to the disease. [...] Sleep should be taken in such a way that first lie on the right side, then on the left, for the parts of body alignment. Lying on the back makes the body rest well, but all the illnesses from the stomach will settle on the back” (Kanaanite, 1940, pp. 418–419). The harmful effects of long sleep are also discussed in the aforementioned *Salernitan* treatise. According to *Regimen Sanitatis Salernitanum*, “Long sleep will burden the head, weaken the body, and add moisture” (Thorpy, 2011, p. 24). As for recommendations regarding the proper sleeping positions, a similar analogy can be found in a letter by the Valencian physician Pedro Pagarola, written in 1315 to his two sons. The Spanish physician advised his sons: “Except in rare cases, avoid sleeping on the back, as it can cause many problems. Sleep on your side or on belly. First lie on the right side, then on the left (Thorndike, 1931, pp. 17–18)”.

The Georgian treatise offers an interesting observation and method for determining the sex of an unborn child during pregnancy. According to *The Ustsoro Karabadini*: “If the right foot steps forward first while walking, it indicates a boy, and if the left foot steps forward first, it indicates a girl. If the right breast is clear and cheerful, and lightly swollen, it indicates a boy” (Kanaanite, 1940, p. 158).

While not entirely identical, a similar idea is found in several European treatises. A noteworthy example comes from the text of the 11th-century Italian physician, Constantine the African (also known as Monte Cassino). According to Constantine the African: “If the man's right testicle is larger, the offspring will be male, whereas if the left testicle is larger, the offspring will be female. [...] If the sperm reaches the left side

of the uterus, a female will be born; if it reaches the right side, a male will be born. [...] The organs on the right side of the body produce male progeny, while those on the left side produce female progeny” (Delany, 1969, pp. 58–59).

In the section on newborn care, the Georgian source emphasizes the selection of a wet nurse, detailing the specific criteria that the caregiver should meet. According to the Ustsoro Karabadini: “The wet nurse should be of good character, not old, [...] she should be intelligent, not heavy when walking, should not be unnecessarily pained, so that there is no hidden cause inside her body, neither fat nor thin, [...] should not eat harmful or spicy food, otherwise, her milk will be deficient” (Kanaanite, 1940, pp. 158–159).

Similar criteria for choosing a wet nurse are emphasized by the 13th-century Italian physician Aldobrandino of Siena. In his medical treatise *Régime du Corps*, he developed the idea that “When selecting a wet nurse, her age, body shape, character, and condition of her breasts must be considered. She should be 25 years old, neither very thin nor very fat, but most importantly, she should be healthy. [...] She should be intelligent, not sad, foolish, or shy. [...] She should not eat onions, wild mustard, garlic, mint, or other strong-tasting foods that would spoil the milk” (Landouzy, Pépin, & Thomas, 1911, pp. 76–77).

Similar parallels can be found in treatments for dog bites, particularly in dealing with bites from rabid dogs. According to the Ustsoro Karabadini, when a person is certain that the dog was rabid, it recommends the use of several products in treatment: “Apply honey on top, [...] two onions [...] mix with a bit of melted butter and apply it” (Kanaanite, 1940, p. 413)

The same substances and food products are suggested for treating victims of rabid dog bites in the X Anglo-Saxon medical treatise, known as Bald's Leechbook (also *Medicinale Anglicum*) (Getz, 1998; p. 48; Kesling, 2020). According to the Old English text: “For a rabid dog bite, first apply a mixture of agrimony and honey [...] Take onion, fry it, and mix with butter [...] Apply it to the wound to expel the poison” (Cockayne, 1865, p. 145).

In both Georgian and European treatises, plant-based and animal-based substances are presented as methods of treatment. There are cases where the incompatibility and harm of certain foods or drinks are discussed. Additionally, there are given recommendations to avoid the simultaneous consumption of two products. The author of the Ustsoro Karabadini states that: “If you eat cheese, it is not right to eat fish. [...] It is heavier than fish and will disturb the heart” (Kanaanite, 1940, p. 433). This incompatibility between the two foods is also noted in the previously mentioned Salernitan treatise: “If you eat eel and cheese on the same day, it will disturb your stomach and heart” (The School of Salerno; *Regimen Sanitatis Salernitanum*, n.d., p. 37). Additionally, the Valencian physician in his letter to his sons warns against combining fish and dairy products: “Beware of consuming dairy products and fish on the same day, as it leads to leprosy and other ailments” (Thorndike, 1931, p. 17; Wallis, 2010, p. 503).

It should also be noted that the Ustsoro Karabadini and the letter from Valencian physician Pedro Pagarola both share the same attitude on avoiding the combination of

milk and wine. The Ustsoro Karabadini advises: “If a person drinks milk and does not eat anything else he should not drink wine, until it digests and goes out” (Kanaanite, 1940, p. 433). “Beware of consuming milk and wine at the same meal, as the mixture causes indigestion and other misfortunes” (Thorndike, 1931, p. 17; Wallis, 2010, p. 503).

Extensive references to wine can be found in both Georgian and European treatises, as it was not only a common daily beverage but also held sacred significance in Christian society. According to the Ustsoro Karabadini, moderate wine consumption promotes bodily health: “A man who drinks wine in moderation preserves his health and avoids drunkenness”. (Kanaanite, 1940, p. 457; Kuchianidze, 1997. pp. 123–124). A similar assessment of wine's effect on the human body is provided by Aldobrandino of Siena: “If wine is consumed in moderation, it will calm the person's mood, strengthen the body, and slow down aging” (Landouzy, Pépin, & Thomas, 1911, pp. 19–20; Jones, 1984, p. 107).

In the “Ustsoro Karabadini”, there is also a discussion of the problems caused by excessive consumption of wine. From many examples, we can highlight one: “Wine can cause illness, as it can lead to a swelling of the throat” (Kanaanite, 1940, p. 458). Excessive consumption of wine is also mentioned as the cause of swelling in various organs in the Salerno treatise: “Wine, when consumed properly, is a good liquid; however, if consumed improperly, it may cause tumor wherever it reaches” (Harrington, 1920, p. 30). However, wine is still considered a beneficial drink, as Karabadini suggests that if a sick person craves wine, it is a sign of recovery (Kanaanite, 1940, p. 15).

In general, the medicinal properties of wine are described in detail in Karabadini. The author also provides recommendations on which type of wine - white or red - is beneficial to consume during certain seasons. At the same time, the author gives suggestions on which wine pairs well with different foods. Additionally, the author warns against the excessive consumption of wine, not only due to its effects on health but for its potential harmful effects. At the same time, wine infused with water, known for its medicinal properties, is highlighted as a remedy for various diseases (Kanaanite, 1940. pp. 15, 28, 57, 94, 98).

The main part of the text focuses on the medicinal properties of food products, both plant-based and from various animal or bird meats. It is also important to note that the main types of meats, fish, fruits and vegetables, herbs, and grains are similar to those found in Western European cuisine. Additionally, game meat was also used for food. Whenever similar parallels are found, we have attempted to identify analogies in both Georgian and European treatises regarding the medicinal uses of the same foods.

In addition to wine, analogies also emerge regarding other beverages, such as rose water (infusion). Ustsoro Karabadini suggests that if a person is suffering from a headache and fever, rose water can be used to cool them down: “Pour rose water [...] embrocate it, then spread it on clothing and apply it to the head” (Kanaanite, 1940, p. 26). Similar recommendations for rose water can be found in the *Tacuinum Sanitatis* (The Health Calendar), a treatise widely circulated in medieval Europe (Hoeniger, 2006). The medicinal properties of rose water are noted in the three editions of the

treatise—Parisian, Roman, and Viennese—and the text is identical: “Rose water is beneficial for headaches caused by brain inflammation” (Cogliati Arano, 1976, pp. 80–81).

Among edible plants, garlic was recognized for its broad medicinal properties. According to the treatises mentioned earlier, garlic was believed to possess numerous healing qualities, leading to many analogies. In Ustsoro Karabadini, it is stated that “garlic heals stomach ailments and removes harmful fluids from the body. It also helps with bites from snakes, scorpions, and rabid animals” (Kanaanite, 1940, p. 441). A similar reference can be found in the works of the 3rd-century Roman author Quintus Gargilius Martialis in medieval editions, where it is noted that “garlic protects a person from the harm caused by snakes, scorpions, and other dangerous creatures” (Maire, 1997; Gargilius Martialis, 2002; Wallis, 2010). A brief mention of garlic as an antidote to poison appears in the Roman and Rouen editions of *Tacuinum Sanitatis* (The Health Calendar) (Cogliati Arano, 1976, p. 116).

Almonds also stand out for their wide medicinal properties, which are given considerable attention in the written works we mentioned earlier. According to The Ustsoro Karabadin, “It opens the paths of the liver and lungs, relieves abdominal pain [...] and helps with kidney pain. [...] Eating it with honey cleanses the heart, lungs, liver, and kidneys” (Kanaanite, 1940, pp. 455–456). The combination of almonds and honey, which is said to cure diseases of the kidneys, stomach, and liver, is also discussed in the medieval edition of the treatise by Gargilius Martialis mentioned earlier: “Crushed and mixed with honey, it is good for coughs and colitis. [...] Its decoction alleviates pain in the liver and kidneys” (Gargilius Martialis, 2002, pp. 73–74). Similarly, the medicinal properties of almonds are described in the medical treatise by the German nun, St. Hildegard of Bingen (1098–1179). The Benedictine nun created invaluable written works, one of which, *Physica*, states: “If someone suffers from lung problems or has a weak liver, they should eat almonds often, both raw and cooked. It strengthens the lungs” (Hildegard of Bingen, 1998, p. 120).

An interesting parallel emerges regarding the medicinal properties of egg whites. In The Ustsoro Karabadini, it is advised that anyone with a hot head and forehead can use egg whites for medicinal purposes: “Grind coriander, mix it with egg white, and apply it to the head and forehead” (Kanaanite, 1940, p. 173). The use of egg whites, along with herbs, as a medicinal remedy is also suggested by the Patriarch of Jerusalem, Elias, and King Alfred the Great of Wessex (871–886), who was known for his fragile health. The medical recommendation addressed to the famous Anglo-Saxon monarch includes information stating: “Mix herbs with egg whites, [...] use this balm against all weaknesses of the human body, especially against fever and hallucinations” (Cockayne, 1865, p. 288).

In addition to the analogies mentioned above, several minor similarities in the medicinal properties of different plants have been identified. These similarities are not insignificant, especially considering that we have only presented one Georgian medical text. Now, we should focus on the reasons behind these similarities.

## **Conclusion.**

First and foremost, it is important to note that both Ustsoro Karabadini and the European medical texts referenced in this article are based on Greek and Roman medical traditions. A clear example of this is the mention of Hippocrates (Kanaanite, 1940, pp. 11, 18, 23) and Galen (Kanaanite, 1940, pp. 11, 29, 33, 45, 54) in Ustsoro Karabadini. Therefore, it can be asserted that, like the European medical tradition, Georgian medicine was also grounded in Greek-Roman practices.

The second factor to consider is the impact of Eastern, especially Arab, medical traditions. Considering the extended political and cultural influence of the Arab world in the Georgian region, it is understandable that Georgian medical practices were affected by this. This influence might account for the resemblances with Italian and Spanish medical treatises, as both the Iberian and Apennine peninsulas had significant, direct connections to the Arab world.

The third factor is the shared foundation of Christian traditions in medieval Georgian and European societies. Additionally, similar agricultural practices developed in both regions, influenced by comparable geographical environments. This facilitated the cultivation of crops such as vines, wheat, and others. Over time, the interaction with these plants and the observation of their properties likely led to similar conclusions about their medicinal benefits in isolated societies.

It is worth noting a brief yet significant passage from Isidore of Seville's treatise, in which he writes: "In Iberia, which lies to the east near the Pontus, adjacent to Armenia, many types of herbs grow, which are used in medicinal infusions" (Lindsay, 1911, p. 119; Kutalia, 2004). This passage highlights the recognition of Georgia's geographical space and its diverse natural landscape, as well as its medicinal plants, which were known since classical antiquity and passed on to the European world during the Middle Ages.

In summary, it can be said that the medical treatises of medieval Georgia and Europe share many common characteristics, including:

1. Both medieval Georgian and European societies were based on classical ancient (Greek-Roman) traditions, which also influenced the medical field.
2. Georgian and European medicine were both impacted by Eastern, particularly Arab, medical traditions.
3. Georgians and Europeans, as agricultural societies in similar geographical environments, interacted with many common plant cultures, through careful observation of these plants, they arrived at comparable insights regarding their properties and uses.

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## Порівняльний аналіз середньовічних грузинських та європейських медичних трактатів і засобів

**Анотація.** *Практика медицини в Грузії має корені в давнину та тісно пов'язана з медичними традиціями стародавньої Греції та Риму. Це багате наукове надбання яскраво відображене у ранніх середньовічних грузинських медичних традиціях. У середньовічних грузинських історичних джерелах містяться спеціалізовані медичні тексти та трактати, які свідчать про високий рівень медичних знань того часу. Серед цих текстів особливе значення має грузинський медичний текст XI століття «Уццоро Карабадіні» («Неперевершений медичний довідник»), що є оригінальним грузинським медичним трактатом, який поєднує як грузинський медичний досвід, так і знання з давньої та середньовічної європейської медичних традицій. Паралелі між цим текстом і західноєвропейськими медичними трактатами очевидні з самого початку. Текст містить Гіпократівсько-Галенівську концепцію чотирьох темпераментів, описуючи хвороби, пов'язані з кожним із них, та відповідні методи лікування. Додатково «Уццоро Карабадіні» пропонує рекомендації щодо здоров'я, засновані на сезонних змінах, описуючи виклики, з якими стикається людське тіло протягом року, а також даючи поради щодо подолання хвороб і правильного харчування. Трактат також містить важливі відомості про вагітність, визначення статі дитини та практики догляду за немовлятами. Особлива увага приділяється збалансованій дієті, де детально описано правильне вживання рослинної та тваринної їжі. Відзначається також розділ, присвячений лікувальним властивостям вина – темі, глибоко вкоріненій як у грузинській, так і в європейській традиціях, де вино тісно пов'язувалося з повсякденним життям та сакральним значенням християнських ритуалів. Аналіз цих трактатів чітко демонструє, що подібно до Європи, Грузія розвивала сільськогосподарські практики, особливо культивування винограду та зернових культур. Історичні та археологічні дослідження підтверджують, що традиції вирощування винограду та пшениці на Кавказі сягають неолітичної епохи. Територія Грузії вважається одним із найдавніших центрів виноградарства та землеробства. Аналіз медичних трактатів показує, що тривале залучення цих аграрних практик як у грузинському, так і в ширшому європейському контексті сприяло відкриттю подібних лікувальних властивостей, пов'язаних з цими культурами. Порівняльний аналіз «Уццоро Карабадіні» та європейських медичних трактатів свідчить, що грузинська медицина була суттєво під впливом як європейських, так і давньогрецько-римських медичних традицій, поділяючи з ними багато спільних рис.*

**Ключові слова:** *Середньовіччя; медична книга; Грузія; медичні трактати; Уццоро Карабадіні*

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