

Theses of Doctoral (PhD) Dissertation

**The Medical and Social History Background of Plague Epidemics
in Early Modern Hungary (1634–1770)**

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Doctoral School of History and Ethnography

2025

1. Objectives of the Dissertation and Definition of the Research Topic

Epidemics have been a constant part of everyday life since the dawn of history, significantly affecting every historical period. They have reshaped demographic, economic, or even political structures in various eras and influenced the outcomes of specific events. The plague, which reemerged periodically from the mid-14th century onward, was the most devastating epidemic of the medieval and early modern periods, impacting all segments of daily life.

This dissertation examines the development of plague-related handwritten and printed texts associated with the Hungarian territories during the early modern period, with particular attention to their medical perspectives, content, and narrative structure. It investigates how these medical texts aligned with contemporary Western European medical trends, and identifies earlier or contemporary texts and lines of thought that were frequently cited or paraphrased by physicians, clergy, and intellectuals active in Hungary or writing about the region.

The chronological framework spans from 1634 (the publication year of the first sources examined – Samuel Spillenberger’s *Pestis alexicacus renovatus* and Máté Csanaki’s *A döghalálról szóló rövid elmélkedés* [Short Meditation on the Plague]) to 1770 (the issuance of the *General Normativum in Re Sanitatis*). These endpoints also coincide with two major plague waves in Hungary (1632–1634 and 1737–1744) and the 1755 publication of *Tentamen de inoculanda peste* (Attempt to Introduce Inoculation Against the Plague) by István Wesszprémi – a significant work in the development of Hungarian medical science. In addition to texts by Hungarian or Hungarian-affiliated physicians (*hungarus*), the analysis also includes works by Central and Western European doctors of the period. This selection provides a solid foundation for a comparative study of these texts and dominant medical paradigms.

To explain the chosen timeframe, I consider it important to refer to Fernand Braudel’s concept of *longue durée*. In Western historiography, long-term analysis is a well-established approach, and it is also occasionally applied in the field of medical history. Thus, its use is justified and offers a novel perspective in this study. Braudel’s theory is particularly relevant as it moves away from event-based history and focuses instead on long-term developmental trends. Presenting such an arc of development cannot be confined within narrow chronological boundaries; doing so would result in only partial understanding, preventing any definitive conclusions from being drawn. According to this long-term perspective, individuals are essentially captives of their surrounding environment, level of education, and societal norms. Departing from these carries great risks, and progress – if it occurs – unfolds over extended periods. Consequently, I argue that the content-related evolution of medical texts from this era

could not have occurred within short time spans, although my research has identified occasional exceptional shifts.

My research therefore does not concentrate on a single century, but rather a longer period. In addition to the long timeframe, this dissertation is structured around two particularly relevant topics: first, the specific characteristics of epidemics, and second, the probable reasons for their disappearance. These two aspects also necessitate a long-term approach.

This dissertation prioritizes a text-centered approach, which forms the basis of its complex methodological framework. I wish to emphasize that, to my knowledge, a comprehensive analytical framework that includes the full spectrum of plague-related issues – from outbreak and transmission mechanisms to medical treatments and societal impacts – has not yet been elaborated in either Hungarian or Central European historiography. This framework provides an excellent opportunity to map significant transregional developments in epidemic history and also offers insight into a major medical transformation: the evolution of a healing tradition steeped in millennia-old customs and speculative or occult elements into a Baroque medicine characterized by empirical reasoning and rationality.

Naturally, the analysis is not limited to medical history alone. The comprehensive research perspective is expected to yield findings related to historical epidemic management strategies as well. These narratives are shaped by two perspectives. Firstly, they reflect how contemporary physicians formulated preventive and direct medical procedures. Secondly, though not less importantly, they shed light on the state's preventive and direct measures for managing plague outbreaks – illustrated in detail through the 1738–1743 epidemic wave in northeastern Hungary. Therefore, we may confidently state that the complexity of this analysis is fully realized, allowing the dissertation to make novel contributions not only to medical history but also to social history and the history of state administration.

This investigation is based on twenty medical and religious texts, supplemented by numerous primary archival sources.

2. The Source Base and Methodology of the Dissertation

Research on plague epidemics in Hungary has traditionally focused on the epidemic as a factor in social and economic history. These analyses typically examine the epidemic's historical impact—primarily its effects on population size and the structure of society. Therefore, the comparative study of early modern medical narratives related to epidemiological crises, along with the examination of their social impact and the responses of executive authorities, represents a novel contribution to Hungarian historiography.

The primary analytical method employed in this dissertation is a comparative, text-centered analysis based on specific criteria I have developed. The dissertation draws upon multiple types of sources, which can be grouped into three categories: medical sources, religious sources, and so-called lay sources.

Regarding the medical sources, the examined materials span from 1634 to 1755. The authors of these texts represent various levels of medical training and refer to a wide range of medical theories in their narratives. The physicians include German-speaking doctors from Hungary (such as Samuel Spillenberger, Johann Weber, and Carl Otto Moller), Transylvanian (Ferenc Pápai Páriz), and Hungarian (Dávid Madai and György Buzinkay) figures – each of whom contributed to the advancement of scientific knowledge in Hungary. For comparison, the works of two influential physicians from England and the Habsburg Monarchy, William Boghurst and Paul de Sorbait, are also analyzed. This category includes fifteen medical treatises in Hungarian, Latin, German, and English, offering insight into the evolving medical discourse on the plague during the period.

Religious sources include texts written by members of the clergy in response to the moral crisis and societal disorientation brought about by various plague waves. These sources reflect the religious interpretations and beliefs of the time, with each denomination producing narratives that mirror the spiritual mindset of the era. These works often include prayers, psalms, and sermons specific to plague times, and some focus on the moral education of the population. Regardless of denomination, all texts in this group share a common premise: the plague was seen as divine punishment for human sin and moral decay. Notable contributors in this category include Ábrahám Szenczi Kertész, András Szepsi Wendigh, György Komáromi Csipkés, Ferenc Soós, and Emericus Pfendner.

The lay sources provide insights into the rules and regulations implemented during major plague outbreaks and how they disrupted daily life. This category includes not only national but also regional and municipal decrees and quarantines. Alongside restrictive

regulations, some texts reflect on the relaxation of measures, while county assembly and city magistrate records highlight shortcomings and violations of health regulations. These documents not only inform us about legal frameworks but also reveal the experiences and responses of ordinary people. They shed light on the motivations behind noncompliance, the emotional states of the population, and the broader spectrum of social reactions to epidemics. The criteria for analysis were developed based on the specific features of Hungarian sources. One key aspect is how the sources explain the origin of the plague and what they identified as its primary modes of transmission. Next, the texts are analyzed for their descriptions of disease progression – from infection to death, and the possibility of recovery. A third analytical axis focuses on preventive measures and medical treatments: which methods were endorsed or rejected by the authors, and whether attitudes toward these methods evolved or remained stagnant over time.

Given the nature of the sources, the dissertation also explores the presence and role of physicians during treatment, the relationship between doctor and patient, and the moral implications of this interaction. It further investigates whether the activities of physicians contributed to the eventual eradication of the plague in Hungary. In examining these medical aspects, modern terminology – such as miasma theory, contagionism, *prophylaxis*, public health, and *curatio* – is also used to map contemporary equivalents in early modern texts.

It is important to emphasize that plague was a complex crisis with multiple interpretative layers. In addition to medical analysis, the dissertation necessarily adopts other perspectives. As noted earlier, religious narratives were essential in shaping how people understood and responded to the epidemic prior to the emergence of modern medical science. These narratives, grounded in theological interpretations of divine punishment, are vital to understanding the period's mindset.

The work of medical professionals should also be considered within a broader context, particularly in relation to governmental responses and societal dynamics during epidemic crises. Key questions include: What legal codes influenced state and municipal action? How did these regulations align with or complement medical practices? Since no effective treatment or cure existed at the time, public health policies are best examined through administrative and governmental lenses.

Ultimately, the ordinary person was the primary recipient of the executive authority's measures. Thus, it is essential to examine how society was affected by these regulations. The dissertation thus combines medical history with the history of governance and mentalities. A further methodological innovation is the interpretation of source narratives and societal

reactions using principles from modern psychology. For instance, the notion of „mental health” and social bonding, as reflected in discussions of preventatives (*praeservativa*), provides insights into historical responses that may inform our understanding of modern epidemiological crises. In this spirit, the dissertation explores the broader social dimensions of plague.

3. The Results of the Analysis

During the examination of the source base of the dissertation, I formulated several preconceptions and analytical frameworks, which served as the foundation for the structure of the dissertation's chapters. The analytical framework itself can be considered novel, as, in a historical context in Hungary – as I have previously mentioned – no complex research has been conducted that presents the intellectual background of medical and related texts associated with plague epidemics in Hungary, compares them, and interprets them alongside European analogues.

Medical thinking of the period was characterized by the parallel presence of two theories of disease origin. According to the miasmatic view, epidemics were caused by miasma in the air, which „corrupted” the air and thereby caused illness in humans. This theory had been part of the Hippocratic-Galenic medical narrative for centuries, and its legitimacy had long remained unchallenged within the medical profession. It is important to emphasize that this mindset was often supplemented by the idea of divine punishment. In the 16th century, due to the work of Fracastoro, the contagionist view emerged. According to this narrative, disease was caused by a so-called contagion material, which spread between people, among other ways, through direct contact.

Based on the analyzed 17th–18th century Hungarian plague treatises and the included European analogues, it can be stated that the miasmatic view was the most widespread among the physicians studied. All of them believed that corrupted air was the primary cause of illness. From Samuel Spillenberger (the author of one of the earliest sources examined chronologically) to Carl Otto Moller and Dávid Perlici (authors of some of the most notable 18th-century sources I analyzed), all shared this belief. They attributed the corrupted air – as Pápai Páriz also explained – to certain exhalations from nature. Alongside the miasmatic theory, more modern contagionist opinions also appeared. This is particularly evident in Dávid Gömöri's 1739 work, in which he, citing the contemporary medical narrative of the Dutch Isbrandus van Diemerbroeck, asserts that the sources of epidemics can also be sought in nature, and that population movements play a significant role in their spread.

During the analysis, an interesting duality emerged: the examined sources clearly blended the two schools of medical thought, giving rise to the so-called contagio-miasmatic view. This observation is further supported by the analyzed work of Johann Weber, who states that although the likely cause of an epidemic is corrupted air, during an epidemic, all forms of human contact should be restricted – including, for instance, visits to public baths.

During the investigation, the most consistent opinions were observed in the examination of the clinical features of the plague. All the analyzed sources outlined a progression of the illness from infection to possible outcome that closely resembles our current medical understanding. They recognized that infection is not immediately detectable in a person. Although early modern texts did not identify the concept of an „incubation period” by name, they nevertheless acknowledged the phenomenon whereby symptoms of the plague may only become visible in the final stages of illness. There was consensus in recognizing the universal symptoms of infection: fever, dehydration, and shortness of breath appear as common indicators. Some physicians, such as Weber and Gömöri, also described chest pain near the heart, which was likely attributed to an increased heart rate and, consequently, elevated blood pressure caused by the epidemic.

In addition to general symptoms, the descriptions also addressed physical alterations associated with the plague, notably the presence of swollen lymph nodes. Regarding the formulation of clinical features, the examined sources consistently emphasized the critical nature of the seventh day, during which buboes and carbuncles typically appear on the patient’s body. These swellings can be interpreted, based on the sources, as the body’s reaction to the infection—through these boils, the disease is expected to leave the body. This idea is particularly emphasized in the medical treatises studied: if these boils rupture naturally (a point made by both the English physician Boghurst, used as an analogue, and the Hungarian Gömöri), the patient’s healing process begins. If this does not occur, the physician must intervene, but the patient's fate is not yet sealed.

Additional observations appear in the texts of Gömöri and Ausfeldt, referring to other physical signs: if, in addition to the boils, dark spots or so-called petechiae appear, these may negatively affect the prognosis of the illness. Therefore, it can be stated that the sources uniformly report the symptoms and physical changes associated with the plague, with some physicians enriching the picture with additional observations. It is important to recognize that both the Hungarian („*hungarus*”) sources and those used as analogues align with the contemporary medical narrative while also foreshadowing a modern understanding of the plague’s pathology.

The range of preventive measures and remedies described in the sources reveals a more complex picture than expected, as all texts elaborate in detail on their importance and classifications. Based on Gömöri’s work, we outlined three categories: *prophylaxis politica* (i.e., public order measures applied during plague outbreaks, which also resonate with the

governance history discussed in Chapter 7); *prophylaxis theologica* (i.e., the preservation of spiritual well-being, which corresponds to the themes of Chapter 6); and *prophylaxis medica* (i.e., medical preventatives).

According to the consensus of the sources, the primary means of preventing infection during an epidemic is for individuals to diligently practice their faith, purify their soul of all sin, and live a life pleasing to God – thus allowing for the possibility of divine protection from the plague. *Prophylaxis theologica* also appears in the works of physicians who otherwise sought to distance themselves from discussing the religious aspects of the plague. For example, the English physician William Boghurst believed that fear of God was part of plague prevention. People should avoid any behavior that could defile the soul with sin and refrain from fornication, pride, and any blasphemous acts.

In addition to spiritual well-being, more modern-sounding narratives also emerge that emphasize the importance of mental health. It was recognized that if a person is overwhelmed by what we would today call stress, and their mind becomes dominated by thoughts of illness – particularly fear – this would have an impact on physical health, making one more vulnerable to becoming a victim of the plague.

Within the framework of *prophylaxis politica*, based on the available sources, it can be stated that physicians primarily advocated for public sanitation measures, directed both at the readership and the authorities, especially the purification of living spaces and the air therein. Some medical narratives – such as that of the English physician Boghurst – observe that people sometimes follow these political prophylaxes blindly and act with excessive caution during times of plague, thereby implicitly expressing a critique of such overzealous behavior.

In terms of *prophylaxis medica*, various agents and their recipes were provided that were believed to preserve the health of the body and thus enable it to resist the plague. The majority of *alexipharmaca* (health-preserving substances) recommended by physicians were based on herbs and other medicinal ingredients, and physicians were eager to share these recipes in their works. *Nota bene*: upon examining the ingredients, it can be concluded that all of the remedies were largely speculative. Nonetheless, physicians considered it important to publish them. The analyzed sources offered various powders, compounds, and substances for plague prevention, but no completely identical formulas were encountered. Each physician sought to prevent the epidemic according to their own system, though there was general consensus on one point: while some physicians – such as Boghurst, Dentulinus, Moller, and Perlici – were critical of *amuletum* (amulets), they nonetheless highlighted their popularity and occasionally mentioned

specific types (e.g., mercury-based variants, or those associated with superstitions involving animal remains).

In the analysis of *curatio* (treatment), an important focus was how the sources assessed popular contemporary medical procedures, which methods they deemed worthy of following, and how they interpreted the physician's role as the patient's condition evolved.

Contrary to some initial assumptions, it can be concluded from the sources that although a strong religious tone permeates the examined texts, the role of the physician is clearly emphasized and placed at the center. While they viewed strong faith as indispensable for both doctor and patient – believing it to aid the processes of healing and recovery – the relationship is not portrayed as hierarchical but rather as cooperative. The physician's role is depicted as crucial in freeing individuals from the grip of the plague; the patient must accept all treatments recommended by the physician. This idea is presented quite emphatically in some texts: Sorbait, for instance, declares in his writing that refusing medical assistance constitutes blasphemy, as such help is ultimately a gift from God. Similarly, Gömöri Dávid's 1739 treatise highlights the importance of the physician's role: once the infection is detected in a patient, it becomes the doctor's moral – and even Christian – duty to do everything in their power to assist in the patient's recovery.

As with preventive remedies against the plague, no universally agreed-upon curative medicine can be found in the sources. In fact, the texts of Moller and Perlici specifically emphasize that no entirely effective remedy for the plague had yet been discovered. This, of course, does not mean that no remedies should be used; on the contrary, various medicines must be tried to achieve recovery from the epidemic. Pápai Páriz and Ausfeldt echo this reasoning, recognizing that the body must not be habituated to a single remedy, as doing so may reduce its effectiveness, leaving the patient vulnerable to the disease.

Based on the sources, we gain a detailed understanding of how the examined medical narratives viewed the use of medicinal substances. A distinction can be made between remedies used to treat symptoms and those applied to physical manifestations of the disease. Like the health-preserving substances, all of these treatments are primarily based on herbs and naturally occurring ingredients. Their main effect is purgative – that is, they aim to cleanse the body. The remedies targeting physical changes in the body generally assist in the natural maturation and discharge of buboes, encouraging their spontaneous rupture rather than artificial intervention.

The analysis of *curatio* also overturned a common preconception: thanks to the developmental trajectory reflected in the sources, we can identify critical reflections on certain

procedures. However, even here, a clear evolutionary line cannot be drawn. For example, critiques of bloodletting appear as early as texts from the 1600s, yet in texts from the 1700s – both among *hungarus* and analogous sources – there are also writings that endorse and recommend it. The divergence in opinion is likely rooted in the differing levels of medical education and the variety of theoretical sources physicians relied upon. Some sources recognized that bloodletting could weaken the body and thereby make patients more vulnerable to the plague. Boghurst, in his work, and Pápai Páriz in his treatise, even emphasize the possibility of the patient dying during the procedure itself.

The sources also suggest that, in treating buboes, priority should be given to natural drainage. However, in extreme cases, artificial opening is required in the patient's interest – such as the use of a heated iron instrument, as described by Dentulinus.

Among the more direct procedures, a noteworthy novelty is the vision of *plague inoculation*, which could also be interpreted as a *preservative* intervention. This concept was formulated by István Weszprémi, making it one of the most radical procedures recorded. Drawing an analogy with smallpox treatment, he proposed that material taken from plague victims could be used to stimulate the body's defenses through a form of variolation. Although this procedure gained no traction and was not widely adopted, the theory represents a high point in the analysis: alongside centuries-old medical practices, we find a method that, while grounded in tradition, emerges as an innovative idea within the *hungarus* texts.

Regarding religious sources connected to the plague, it can be stated that, although medical texts show some variation in terms of procedures, the narratives found in the examined religious texts convey a significantly more unified opinion. Naturally, differences can also be observed among these texts, but these are primarily due to denominational distinctions.

Based on the religious sources related to the plague, it can be stated that while the medical texts display a degree of divergence in their procedures, the narratives of the examined religious texts convey a significantly more unified perspective. Naturally, differences can also be observed among these texts, but these are primarily due to denominational distinctions.

Both Catholic and Protestant texts examined express a unanimous view that the plague was a scourge, punishment, or chastisement sent by God upon humankind. This punishment is interpreted as a response to human sin. The Catholic author Pfindner, for instance, lists among the gravest sins blasphemy, the desecration of sacred buildings, rebellion against the authority of the Pope, and the violation of the sanctity of holy days. At the same time, he also identifies transgressions that breach basic ethical norms. These elements also appear in Protestant

writings, where sins include ungodly lifestyles, disbelief in the preachers' words, pride, and, more generally, disobedience toward divine authority.

Religious texts also address the question of fleeing from the plague. The principle of predestination permeates the narratives of the Protestant sources examined, leading to the view that fleeing the plague is inadvisable, as fate may find a person anywhere. This general statement is often supplemented by the idea that escaping the plague may also indicate an attempt to flee from repentance. On the other hand, if a person repents for their sins, there is no reason to flee, as God will not punish the penitent with the plague. These reflections are made in the context of the long-standing notion that fleeing from the plague was one of the most effective methods of protection, as expressed in the *cito, longe, tarde* principle, which remained relevant even in the 18th century.

The investigation of the governmental and social aspects of the plague demonstrates that, as the development of medical knowledge had not yet reached a level that could ensure fully effective defense against the epidemic, centralized state responses were indispensable in the fight against the disease. The early modern state, as evidenced by the sources, contributed significantly to the efforts to curb the spread of the epidemic in Hungarian territories. This effectiveness is more noticeable in the outbreaks of the 18th century. It was crucial to enforce national-level decrees (e.g., those issued in May 1738 and June 1739) on a local scale. The examined sources make it clear that this enforcement occurred not only at the national level but also regionally (as seen in documents from the Debrecen magistracy and the Borsod county council): the importance of enforceable regulations was recognized not only at the municipal level but at the county level as well. Cooperation between these entities and the sharing of observed phenomena were essential. The most widespread measures involved isolation, restriction of free movement, and the minimization of everyday human contact (e.g., through the regulation of markets and trade). The state often undertook to provide the necessary financial support for these efforts, thereby enhancing their effectiveness.

The dissertation also places strong emphasis on the societal reactions to strict regulations as reflected in the sources. It can be stated that the phenomena reported in the sources parallel modern societal responses to epidemics. Moreover, modern terminology allows us to interpret these reactions further, identifying factors such as stress, hopelessness, depression, and fatalism. Nevertheless, positive reactions are also evident, as prosocial behaviour is demonstrable based on the sources. Society found it difficult to accept that, during the epidemic, communal interests overruled individual ones, which led to minor or more

significant infractions across all social strata. However, unlike in other parts of Europe, no major plague-related uprisings occurred. It is also clear that the early modern state's involvement in plague defense significantly supplemented the often outdated but at times advanced insights of contemporary medical thought.

Although the medical texts do not present a linear trajectory of development, they reflect both traditional and modern ideas. The effectiveness of many procedures remained questionable even in the 18th century, yet state intervention played a substantial role in driving the plague out of Hungary.



Registry number: DEENK/25/2025.PL
Subject: PhD Publication List

Candidate: Endre László Kerekes
Doctoral School: Doctoral School of History and Ethnology
MTMT ID: 10075534

List of publications related to the dissertation

Hungarian book chapters (2)

1. **Kerekes, E. L.:** I. Ferdinánd 1562-es Pestordnungja és előzményei.
In: Metszéspontok. Tanulmányok a középkorról és a kora újkorról. Szerk.: Véber Zoltán, Virágh Ágnes, Debreceni Egyetem Bölcsészettudományi Kar Történelmi és Néprajzi Doktori Iskola, Debrecen, 176-188, 2023. ISBN: 9789634905325
2. **Kerekes, E. L.:** Az 1708-1712-es pestisjárvány szegedi eseményei: Johann Christoph Ausfeldt szegedi tevékenysége.
In: Testek és szövegtestek. Szerk.: Schäffer Anett, Babos Orsolya, Szolnoki Zsolt, Miskolci Egyetemi Kiadó, Miskolc, 22-31, 2020, (Pro Scientia Füzetek ; 6.) ISBN: 9786155626517

Hungarian scientific articles in Hungarian journals (4)

3. **Kerekes, E. L.:** A pestis, mint társadalmi jelenség vizsgálata Északkelet-Magyarországon (1739-1743).
Orvostört. Közl. 266-269, 61-79, 2024. ISSN: 0010-3551.
4. **Kerekes, E. L.:** A pestis Zemplén vármegyében 1770-1771-ben.
Gesta. 19, 50-64, 2022. ISSN: 1417-2569.
5. **Kerekes, E. L.:** Egy felvidéki polihisztor pestis elleni Amulettje: Johann Weber: Amuletum, azaz rövid és szükséges oktatás a Dög-halálról.
Fons. 28 (1), 79-102, 2021. ISSN: 1217-8020.
6. **Kerekes, E. L.:** "Lord Have Mercy Upon Us!": Az 1665-ös londoni pestisjárvány orvostörténeti források tükrében (William Boghurst: Loimographia).
Tört. tanulm. 28, 90-104, 2020. ISSN: 1217-4602.





List of other publications

Hungarian book chapters (1)

7. **Kerekes, E. L.:** A magyarországi nemzetiségi törvények története, különös tekintettel az 1868. évi XLIV. törvényekre.
In: Egyenlő esélyek, lehetőségek és megoldások : Válogatott tanulmányok az Esélyért Társadalmi Műhely munkáiból. Szerk.: Bartók Boglárka; Ferencsik Marcell; Kegyes Erika; Fekete Sándor, Miskolci Egyetem Bölcsészettudományi Kar, Miskolc, 83-91, 2017. ISBN: 9789633581377

Hungarian scientific articles in Hungarian journals (1)

8. **Kerekes, E. L.:** Kora újkori magyar pestisjárványok társadalmi és vallási háttere.
Miskolci kereszt. szle. 17 (2), 77-81, 2021. ISSN: 2676-8127.

Informational/educational articles (2)

9. **Kerekes, E. L.:** A "magyar Marseillaise": a Rákóczi-nóta és a Rákóczi-induló.
Palócföld. 63 (3), 115-119, 2017. ISSN: 0555-8867.
10. **Kerekes, E. L.:** A rapszodiáról.
Palócföld. 63 (4), 97-102, 2017. ISSN: 0555-8867.

The Candidate's publication data submitted to the iDEa Tudóstér have been validated by DEENK on the basis of the Journal Citation Report (Impact Factor) database.

24 January, 2025

