

REVIEW

on a dissertation for obtaining the educational and scientific degree "Doctor"

Professional direction: 2.1. Philology

Doctoral program: Classical languages

Author: Kalina Yulieva Boseva

Form of doctoral studies: Independent preparation

Topic: *Ignis sacer* across the literary and medical traditions (1st century BC – 11th century AD). Study of the Term's Semantic Transformations; Identification of Associated Diseases and Therapeutic Methods.

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The statement was prepared on the basis of the Law on the Development of the Academic Staff in the Republic of Bulgaria (LDASRB), the Regulations for the Application of LDASRB and Order № ПД-38-103/19.02.2024 r. of the Dean of Faculty of classical and modern philology, for appointment of the scientific jury for the competition.

1. Biographical data

Kalina Yulieva Boseva was born on 17.07.1985. She graduated from with a bachelor's degree in "Classical Philology" and the master's program "Ancient Literature and Culture" at the Faculty of Classical and Modern Philology (FCMP) of Sofia University “St. Kliment Ohridski” in 2010 with excellent grades. Since 2010, she has been working at the Faculty of Medicine of the Sofia University “St. Kliment Ohridski” as an assistant professor in Latin. She was enrolled as a doctoral student of independent preparation in the Department of Classical Philology, FCMP in 2022.

2. Actuality of the dissertation work

The dissertation work presented to me for review, developed by Kalina Yulieva Boseva, includes an enormous study in terms of volume and period, with extremely precise and thorough analyses. The research is interdisciplinary and has a very high scientific value, both in the field of studies for the needs of classical philology and in the field of the history of medicine. I would recommend that the study be shaped into a textbook or monographic work in the history of epidemiology and infectious diseases and of medical science in general, which will be extremely useful to scientists and students in the above fields.

3. Characteristics of the dissertation work

The dissertation has a volume of 470 pages, of which 361 pages are main text, 33 pages are bibliography and 74 pages are appendices. It is well illustrated with 215 figures and 9 tables, with high resolution, correct and complete descriptions.

The purpose of dissertation presented to me for review is clearly formulated, as follows: tracing the semantic transformations of the term *ignis sacer* and its diachronic development since its first use in the 1st century BC from Lucretius and Vergilius to its disintegration in the 11th century and its replacement by *ignis sancti Antonii* and other similar expressions in the various languages and the identification of the diseases that at a certain time were called by this name, the applied therapies and medicinal ingredients.

The specific tasks for the realization of the set goal are described in detail and logically.

In the dissertation, the author has consistently and thoroughly traced the current state of research in relation to the studied term, and the evolution of objective knowledge of the religious and philosophical perception of a large part of widespread infectious diseases and ergotism. The differences between medical and non-medical sources in the descriptions of diseases and the severity of the epidemics caused by them are outlined. The etiology and pathogenesis of anthrax, measles, variola, erysipelas, syphilis and a number of other infections have been systematically examined, along with the pathophysiological and pathoanatomical features of the various forms of the disease. All medical terms and descriptions used in the dissertation are used correctly.

Methods and materials include the used sources, which includes 255 quoted passages in Latin and 45 in ancient Greek from ancient and medieval authors, and the created relational database as a tool for multiple factor analysis of medical, botanical and pharmaceutical terminology in the studied sources. The chosen principles in the formulation of the corpus of sources and the methods of analysis are well chosen, based on tracing the development of the concept of disease and diagnosis, which can be applied retrospectively when working with written sources. With the created database, a quantitative assessment and multi-correlation analysis of the used sources is possible. It allows to analyze the peculiarities in the syntax of the combination *ignis sacer* in a specific context for the different types of sources and to determine its phraseological status. Differences in the use of *ignis sacer* in medicinal and non-medicinal sources can be clearly distinguished. The separate semantic fields of the two components of the term were examined, the connotations related to symptomatology were differentiated from those related to the etiology of the disease.

An analysis of the correlations between the symbolic imagery in the group of non-medical sources and the tracing of the connections between the authors from additional lexical markers and borrowed images was made, which allows to highlight the semantic features observed in the

quoted sources, which are absent in the medical ones. In order to identify the disease that is meant by the different sources and authors, the applied therapy for the medical source group was traced in detail.

From the way of describing all the studied sources and authors, the idea of creating a database and its application in the analysis of the research done for the dissertation work, precision, accuracy and thoroughness in the planning can be seen.

4. Researches and results, conclusions and contributions

The doctoral student has studied 30 Latin authors from the period of the 1st century BC to the 11th century, two anonymous monastery medical collections and some Greek authors, and as a second additional corpus of citations related to the identification of therapeutic substances, about 350 references are included mainly to Plinius Secundus, Dioscorides, but also Theophrastus, Cato, Varro, Columella, Vitruvius, Galen, Pseudo-Apuleus, Pseudo-Dioscorides.

The secondary literature in the main European languages related to the terms *ignis sacer*, *ignis Sancti Antonii* and ergotism from the 16th century to the present is presented comprehensively, systematically and chronologically. The main cited sources, which most often gave a description of the disease, are highlighted. Additionally, a large volume of hitherto uncited passages were found in which only therapy was proposed, without nosography, and which have not yet been identified.

The relation with other disciplines has been carefully analyzed and a tool has been constructed to process the accumulated large volumes of data. The architecture of the created database is in accordance with the fact that the material with which the PhD student works implies a degree of hypotheticality of the identifications, inasmuch as there is no physical patient, no pathogen, or available ingredients of therapy, therefore modern methods and technologies cannot be applied for diagnosis, used in the field of medicine or botany, for identification of the listed objects, and only can be referred to a certain modern category. The created tool makes it possible to count and classify according to certain signs and indicators and to extract various source dependencies, through which points of contact between the modern taxonomic description and the ancient or medieval source for identification are sought. Significant differences have been noted between ancient and modern features of taxonomic descriptions of plants, since the principles of phytography were not codified before the 19th century. It is considered that not only the classification of species diverges from the ancient one, but also the marks by which they are defined and steps are proposed to overcome these difficulties. Without the database created by the doctoral student, a study of such volume and quality could not have been done in practice.

In the section "Terminological and methodological basis of the study" the ancient and modern descriptions and concepts of the concepts of "disease" and "diagnosis" are compared. The main modern methods of diagnosis and the impossibility of their application on written sources are examined, the type of data necessary for a more accurate identification of pathological conditions in the sources is systematized. Important aspects that should be considered when trying to identify are reported, such as that each epoch, community and geographical area has its own characteristic pathocenosis – a combination of pathological conditions present in a specific population at a given moment in time and in a given space.

For the needs of the created database, the types of objects to be worked with and the hierarchical relationships between them, their distribution by tables in order to avoid duplication of data, as well as what type of information should be able to be retrieved, have been clarified.

For this purpose, the primary tables were created: Authors; Works; Quotes (quotes with a wider context, including therapy); *Ignis sacer* quote (citations containing the phrase *ignis sacer* with minimal context, which serves to trace morphological, syntactic patterns and variations); Identified diseases (in this table enter the information for all pathological conditions mentioned in the secondary literature as a possible identification for *ignis sacer*); Affiliated species of medicinal plants; Other therapeutic products; Therapeutic procedures; Bibliography. A number of supporting and linking tables have also been created.

The thesis examines the structure of each individual primary table in ISDB with a description of all fields. All the main relational database objects and functions (types of relations used) implemented in ISDB are described and explained in detail. Special forms have been created to meet specific needs for visual on-screen placement of fields from various related tables, grouped as most convenient to enter and/or display.

Based on the entered and processed data with the help of the created database, the next section of the dissertation describes the transformations in the development of the term *ignis sacer* in the studied sources, namely *ignis* and *sacer* and their semantic spheres, whether *ignis sacer* can be defined as a phraseology or a two-component medical term, as well as the formation and development of the word combination in poetic and prose non-medical sources (1st century BC – 11th century) and in specialized medical literature (1st century BC – 11th century). In the above-mentioned sections, the semantic fields of the two parts of the phraseological unit, as well as the proposed meanings in basic dictionaries, are examined in detail. The evolution of the meaning of *sacer* is traced, which developed positive connotations of "sacred, holy, divine" during the imperial period in Rome (VIII-VI centuries BC), but even after that it did not lose the earlier layer, related to the idea of "accursed" and "unclean".

On the basis of the studied sources, it was concluded that in the phrase *ignis sacer* its substantive part *ignis* covers the semantic circle, which is related to the tangible with the symptoms of the disease, such as high temperature, inflammation, burning sensation, red color of the skin (the same red, which we see as a color in red-hot coal), black color of the skin, for example, in gangrene (the same as seen in cold coal), pale.

For *sacer*, the results showed that the embedded divine origin of severe epidemics was transferred from pagan classical authors such as Vergilius and Seneca to Christian authors such as Alcimus Ecdicius Avitus, Rufinus of Aquileia, and Sigebertus Gemblacensis, and later found widespread Christian lands.

It has been found that in medical sources the combination *ignis sacer* replaces terms from the Greek medical tradition and has a persistence of use.

A vast account in volume and quality has been made of the development of the phrase *ignis sacer* in poetic and prose non-medical sources and specialized medical literature since its first noted use in the didactic poems *On the Nature of Things* by Titus Lucretius Carr (influenced by Thucydides' description of the epidemic in Athens from 430 BC and probable identification – measles with possible secondary infection from typhoid fever) and Vergilius's *Georgics* (influenced by a historical event in the 1st century BC or earlier – the cattle plague in Norik and probable identification – anthrax), which later found wide reception in the non-medical literature. The works of Scribonius Largus, Plinius Secundus, Celsus, Pseudo-Plinius, Sammonicus and many other authors who wrote on medical topics are also examined chronologically, from the descriptions in whose works a wide range of diseases such as eczema, dermatophytosis, smallpox, skin form is assumed of syphilis, psoriasis, erysipelas, cellulitis, measles, herpes zoster and others. It is noteworthy that in the works referred to specialized medical literature, the concepts of treatment of the respective diseases are examined in detail, citing rich source material. The evolution of ideas about the treatment of diseases among different authors has been skillfully traced. The descriptions of the diseases and the diagnosis, and the correlations with the established modern medical terminology are completely accurate and correct. It shows the high level of knowledge of the dissertation student in the field of biology and medicine, despite the fact that she is a specialist in another field.

Crosspoint between medical and non-medical literature are found and the mechanisms by which this wide-ranging term, which plays rather the role of a phraseology in non-medical sources, takes on new meanings and is used for pathological conditions uncharacteristic of earlier pathocenoses and for earlier sources. The mechanism by which the word combination began to be used for ergot fungus (*Claviceps purpurea*) poisoning (ergotism) in chronicles is revealed, and errors made in the secondary literature in the translation and analysis of medieval sources are pointed out, while

the differences observed between non-medical and medical sources in the same era are not taken into consideration.

Original recipes for the preparation of medicines are cited, including multi-component prescriptions, and all ingredients of plant, animal and mineral origin components are identified. From the point of view of the history of medicine are the linguistic references traced in detail from ancient Greek and Latin to the use of the various terms in modern medical practice.

In the dissertation work, 16 contributions are formulated, which are systematized well and emphasize on the studies done for the first time on the subject and the created database. The present study is of a markedly interdisciplinary nature and of high scientific value in the field of philological and medical sciences. Methodical models have been proposed and implemented for retrospective diagnosis of pathological conditions, under the name *ignis sacer*, which have a description in the sources, and also for determining the scope of the term based only on the prescribed therapy in authors who give little or no description. In addition, methodical models for the identification of plant, mineral and animal substances are proposed. If the interdisciplinary methods presented in the dissertation work with a cumulative evidence approach are widely applied on a sufficiently large volume of sources, this would make it possible to differentiate the pathocenoses in the individual periods, and to search for the mechanisms by which the dominant pathogens were overcome.

The relational database created by the dissertation with precise correlations has the potential to be used to perform more such studies, with which to track and analyze large data sets of source material, and after combining them to allow the making of various diachronic and synchronic slices, which will be used in the field of linguistics, history of medicine and pharmacy.

In relation with the dissertation, 3 scientific publications have been published, two of which in collections (edited collective volumes) and one in a peer-reviewed journal. In all three scientific articles, the doctoral student is the single author. The dissertation student participated in 10 national and international scientific conferences, at 7 of which she presented a sectional report.

These scientific indicators fully meet the national minimum requirements for awarding the educational and scientific degree "Doctor", included in the Regulations for Application of Law for Development of the Academic Staff in the Republic of Bulgaria (RALDASRB) and the Rules terms and conditions for acquiring scientific degrees, for holding academic positions at Sofia University „St. Kliment Ohridski” (RTCASDHAPSU).

The abstract is designed precisely and corresponds to the content of the dissertation.

5. Conclusion

The materials presented in connection with the dissertation work are in full compliance with the

required scient indicators according to the LDASRB, the Regulations for Application of the LDASRB and RTCASDHAPSU. The above analysis is a convincing reason to give my positive assessment and to recommend to the Scientific Jury to award the educational and scientific degree "Doctor" in professional field 2.1. Philology (Classical languages) to Kalina Yulieva Boseva.

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April 22, 2024

Sofia