

Doctoral Thesis Evaluation

Mgr. Stanislava EISOVÁ:

Cranial morphology and variability of the craniovascular system

1. Introduction

Basic data:

The submitted dissertation consists of 226 pages, of which 122 pages are the main text, and the remaining 103 pages include six appendices in the form of copies of previously published works and two conference abstracts. All of these titles form the research foundation of the dissertation. The work is written in English. The text is supplemented with five figures and eight tables. The dissertation is divided into typical chapters (Introduction, Objectives, Materials, Methods, Results, Discussion, Limitations of Research and Results, Conclusions, Bibliography). As a special appendix, the last chapter includes an Atlas of Craniovascular Structures consisting of 60 color images over 26 pages.

Quantification of selected data:

- Number of cited publications: 350.
- Author's publications: The second part of the dissertation includes six published titles, the first of which is a chapter in a monograph and the remaining five are articles published in significant morphological and anthropological journals, all with impact factors (ranging from 1.966 to 3.263). In five of the mentioned publications, the doctoral candidate is listed as the first author. All of the mentioned publications have a close connection to the dissertation topic.

2. Evaluation of the thesis

The thesis has a typical "sandwich" structure: the first main text section precisely defines all the basic components of the vascular supply of the cranium, assesses the level of existing knowledge of morphology of both normal and pathological states, discusses anthropological-phylogenetic aspects and extensively covers its variability in relation to skull size, gender, age, interpopulation differences, craniosynostosis, artificially modified skulls, and its manifestations in Neanderthal skulls.

The following chapter defines the planned objectives of the work and establishes five fundamental hypotheses that are to be tested through this research. Regarding the material and methodology, the author planned to conduct a study on a sample of over 500 skulls or their significant parts; the used sample was divided into six subsets, and in addition to the classical study of natural skeletal objects, the author chose to evaluate their 3D models obtained from CT scans as the fundamental working method. In the results the author provides a summary overview of the findings obtained from the study of the author's own sample. Paragraph 5.7, titled "Results summary," is particularly significant as it concludes that the validity of the first and third hypotheses has been confirmed, while the remaining three hypotheses will require further thorough research. The remaining three chapters

comprehensively illustrate the entire breadth of the discussed issues while objectively defining the limitations of the obtained results.

The overall evaluation can be summarized as follows: the dissertation is written in a very clear and engaging manner. It is formally impeccable, free of any technical flaws. An example of this is the completely remarkable treatment of literary references, especially in terms of their perfect consistency between the text and the reference list. The work addresses an extremely important anthropological topic with broad interdisciplinary implications, and the author's evaluation of the obtained results and further perspectives is highly objective. Therefore, I have no negative criticisms to make.

Opponent's questions:

1. Are there any other castings of the intracranial space of Neanderthals from different sites similar to the one from Gánovce, or is this a completely unique discovery?
2. What are the interpopulation differences between the Prague and Roman sample?

3. Conclusion

Based on the evaluation of all the presented facts, I believe that the doctoral dissertation of Mgr. Eisová is a highly quality work that fully meets the relevant standards. It also attests to the author's ability to conduct independent scientific research, even at an international level. Therefore, I am convinced that the high quality of this dissertation, as well as the value and quantity of its existing research results and publications

meet all the legal requirements for granting the Ph.D. degree to the author.

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