

Paleoradiology, future perspectives

Mislav Čavka

Guest Editor

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Editorial

In the introduction editorial of the special issue of Canadian Association of Radiologists Journal dedicated to Paleoradiology in 2004 Chhem defined Paleoradiology as the study of bioarcheological materials using modern imaging methods, such as x-ray radiography, computed tomography (CT), magnetic resonance imaging (MRI), and micro-CT. I would like to add that it is the study of all archeological materials and not just bio-archeological. Paleoradiology got its name in 1987, when Notman published his famous study of sailors frozen during Franklin's Arctic expedition.

Paleoradiology as a science is almost as old as radiology; established when a child mummy in Frankfurt was scanned only three months after the discovery of x-rays. Dragutin Gorjanović Kramberger has put Croatia on the paleoradiological map of the world by scanning the fossilized remains of Neanderthal man from Krapina at Sisters' of Mercy Hospital in Zagreb and published the results in Vienna at an Anthropology conference in 1901. Following the pioneers from the 80's, our group began paleoradiological research in 2008 with the analysis of the Egyptian Collection from the Archaeological Museum in Zagreb which led to important published findings; we were the first to use CT guided endoscopy, the first to scan the entire ancient Egyptian mummy and Late Bronze Cremation urns using MRI and we were first to use MRI in differential diagnosis.



Despite the use of paleoradiology through three centuries it is still under-utilized in everyday settings. One of the reasons is that the paths of anthropologists, archaeologists, historians, and radiologists do not often cross. We have tried to rectify this, by organizing workshop in Zagreb annually during the first week of Advent. The first such introductory workshop was held in Zagreb during the 2018 Paleopathology Association (PPA) event. The workshops, under the organization of the Croatian Society for Medical Anthropology and the University Hospital Centre in Zagreb are held as „hands-on“ training/learning sessions in a hospital environment. Frank Rühli, Nataša Šarkić, Fabio Cavalli, Fabrice Dédouit, Patrick Eppenberger, Igor Erjavec, Ivan Jerković and Katherine Van Schaik have participated as lecturers through these past 5 years. In addition to professional workshops, the Croatian Society for Medical Anthropology, along with the Institute of Archaeology (Hrvoje Kalafatić

as *spiritus movens*) are responsible for organizing a bi-annual scientific event called “Paleoradiology meets Archaeology”, which is now looking forward to its 4th such gathering in 2023.

Now is the moment for Paleoradiology to take a step forward and to bring the research focus to a new level. Case reports and radiology as just one feature of anthropology can be educational and visually attractive, however, goals for this decade should include: „Paleo PACS (picture archiving and

communicating system), population studies, standardization of technical parameters and artificial intelligence (AI) for paleoradiology.

I hope that this special edition of Journal of Bioanthropology will foster a collaborative spirit between other paleoradiologists and bio-anthropologists worldwide, similarly to that which has grown between Mario Novak and myself over the last 13 years.

***Assist. prof. Mislav Čavka, M.D.,
Ph.D, specialist of radiology***

