Croat Med J 2005;46(4):712-716

Zupanič Slavec Z. New Method of Identifying Family Related Skulls. Celje (Slovenia): Springer-Wien; 2004. 255 pages; 101 pictures; ISBN 3-211-22044-5; price: €69.00

Field of medicine: Forensic medicine, bioarchaeology, physical anthropology, epigenetics.

Format: Hardcover book.

Audience: Physical anthropologists, historians, forensic medicine doctors, radiologists, archaeologists, and paleopathologists. This study would be of potential interest not only to such specialists, but also to a wider circle of readers interested in forensics or medieval Slovenian history.

Purpose: The book presents the results of the analysis of 18 skulls attributed to the counts of Celje, currently stored at the Celje Regional Museum. It shows how positive identification of historical individuals can be achieved through various research strategies drawn from physical anthropology, radiology, stomatology, anatomy, palaepathology (paleopathology), genetics, history, and forensic medicine. Furthermore, this book demonstrates that molecular DNA analysis is not a prerequisite for identification and kinship analyses.

Content: The book is divided into six chapters. The first chapter is an introduction written by Prof Igor Grdina. The introduction provides the reader with the historical background and highlights the importance, as well as the role that the counts of Celje played in Slovenian medieval period. In the second chapter, the author introduces the main scientific hypotheses and the aims of the study – to achieve positive identification of specific individuals based on cranial morphology and epigenetic traits of the skull and to establish kinship relationships between the skulls based on the assumption derived from historiographic data that the skulls were hereditarily linked from Friedrich I to Ulrich II of Celje. The third chapter is divided into 18 subchapters dealing with the methodology of work. The methodology included standard methods for determining sex and age at death from the skull, radioactive carbon ^{14}C dating, paleopathological methods for determining the presence of infectious diseases and trauma, the analysis of epigenetic traits, and standard forensic methods for positive identification of skeletal remains – analysis of maxillary sutures, and frontal and maxillary sinuses. The fourth chapter describes the results of the study separately for each skull. This chapter is divided into three main segments. The first part collects and critically evaluates the necessary historical and genealogical data; the second identifies the skulls by gender, age, and epigenetic features; the third searches for family relationship between the skulls and compares the historiographic and identification results. The fifth chapter discusses the results, whereas the final chapter provides a conclusion.

Highlights: In this study, the author used classical methods derived from physical anthropology and forensic medicine to positively identify human skeletal material from the medieval period. To achieve this, the data collected from the skulls were compared with historical, genealogical, and archaeological data. Kinship between the skulls was established by comparison of X-ray images of the paranasal cavities (frontal and maxillary sinuses, orbital and nasal cavities), whose shape and size are autosomal dominant inherited characteristics. The comparison also extended to other inherited epigenetic traits and similarities on the skull. This study is therefore an important example of how the identification and verification of kinship from archaeological skulls collectively interred in family vaults can be achieved without the use of DNA analysis – an occurrence that is

frequent in archaeological analyses because of the non-existence of surviving relatives.

Limitations: Although each method used for positive identification of the skulls is briefly described at the beginning of each subchapter, the author does not provide a detailed overview of the rather complex methods used. This is because this study was not intended to serve as a student textbook, but to present data, methods, and the results of the analyses of medieval skulls attributed to the counts of Celje. Because of this, this book is primarily oriented towards specialists in forensic medicine and physical anthropology, as well as to historians, archaeologists, and readers interested in medieval Slovenian history.

Related reading: Šlaus M. The bioarcheology of continental Croatia: An analysis of human skeletal remains from the prehistoric to post-medieval periods. Oxford (UK): Archaeopress, Publishers of British Archaeological Reports; 2002; Ortner DJ. Identification of pathological conditions in human skeletal remains. 2nd edition. San Diego (CA): Academic Press; 2003; and Krogman WM, Iscan MY. Human skeleton in forensic medicine. 2nd edition. Springfield (IL): CC Thomas; 1986.

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Schäfer M, Stein C, editors. Mind over Matter – Regulation of Peripheral Inflammation by the CNS. Basel, Boston, Berlin: Birkhäuser Verlag; 2003. 204 pages; ISBN 3-7643-6918-3; price: US$159.00

Field of medicine: Immunology, neuroscience.

Format: Hard cover.

Audience: Researchers in immunology, neuroscience, pharmacology, and pathology.

Purpose: To provide recent developments in the field of neuro-immunology with a focus on the brain-to-immune system communication.

Content: This book is a part of Birkhäuser's series "Progress in Inflammation Research," intended to bring up-to-date information on the latest developments in the pathophysiology, pathology, and treatment of inflammatory disease. Our readers are probably familiar with these books, because the *Croatian Medical Journal* has published reviews of some of the available volumes.

This volume was edited by Michael Schäfer and Cristopher Stein, both from Charité – Universitätsmedizin, Berlin, Germany. Along with eighteen other contributors, who all work on brain-to-immune interactions, they tried to present some of their recent data and to give us an overview of the current research in the field. The book is divided into four major sections, Central Nervous System and Inflammation, Stress and Inflammation, Sympathetic Nervous System, and Peripheral Nervous System and Inflammation, each dealing with a different aspect of central regulation of immune response.

The Introductory Section focuses on the inflammatory mechanisms within the CNS and their systemic consequences. The first chapter provides evidence against the prevailing belief that the inflammation in the CNS is detrimental. The author introduces the concept of "protective autoimmunity," referring to the physiological role of T-cells in the brain's response to insult. This chapter is followed by the one outlining the role of brain-derived cytokines, such as interleukin (IL)-1β, IL-6, and tumor necrosis factor-α. Interest-

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ingly, cytokines produced in the brain after infection, injury, or ischemia can trespass into the circulation, when the blood brain barrier is disrupted after injury. This "leak" may generate systemic inflammatory response syndrome, leading to the further aggravation of the patient's condition and systemic immunodepression.

The Section Two elucidates the relationship between stress and inflammation. Another popular belief, that physical activity can actually "boost up" the immune response, thus improving the person's health, is dissected in the first chapter of this section. Various changes in the immune system during exercise, including circulation of the immune cells, proliferation and activity of immune cell sub-types, and plasma levels of cytokines are discussed in detail. Unfortunately, no sound evidence in favor of beneficial effects of physical activity is given. However, it seems that regular exercise has some protective effects against immune paresis with chronic psychosocial stress. One of key features of inflammation – pain and its impact on the immune response is a topic of the following chapter. The author gives direct evidence that pain mechanisms mediate the well-know immunosuppressive effects of the experiences such as recovery from injury or major surgical procedures. Consequently, the adequate pain management should become a matter of physiologic necessity. This is particularly important in the context of cancer surgery, because of the well-documented promotion of cancer spread due to the immune depression associated with the operative stress.

Although the title of the book implies that the emphasis is on the effects of central nervous system on the inflammation, Sections Three and Four deal with the peripheral nervous system. Section three consists of two chapters, and sympathetic arm of autonomous nervous system is discussed in both. The first chapter focuses on the role of several neurotransmitters (catecholamines, neuropeptide Y, and adenosine) in the regulation of immune response. I believe that most of our readers would be interested to know if there are any clinical consequences of sympathetic-mediated immune regulation. Yes, there are consequences, and they seem to be relevant: abnormalities in the sympathetic-immune interface activity may play a role in the pathogenesis of infections, autoimmune and allergic reactions, atherosclerosis, and tumor growth. The following chapter provides an insight into the functional role of sympathetic nervous system in inflammatory pain. Interestingly, the sympathetic part of the vegetative system has been shown to participate in hyperalgesic as well as analgesic mediators involved in the development of inflammatory pain. The net effect of sympathetic activation thus depends on the receptor subtypes and localization, microenvironment, and type and duration of inflammatory stimulus.

The final, and the largest, section deals with the peripheral nervous system and inflammation. The first chapter provides evidence on the physiological and pathological role of the immune reaction in the peripheral nerve injury. The activation of the immune cells is a prerequisite for successful nerve regeneration but, on the other hand, cytokines produced after a nerve injury may promote the development of naturopathic pain. The second chapter is entitled Neuronal Mechanisms of the Recruitment of Upload Peptide Expressing Immune Cells. The author introduces the immune cells, particularly granulocytes and macrophages as major producers of opioid peptides in the periphery and gives evidence that immune-derived opioid peptides inhibit inflammatory pain. The following chapter discusses a quite similar topic and takes us deeper into analgesic and anti-inflammatory effects of opioids in the periphery. The title of the introductory part of the fourth chapter is Skin as a Neuro-Endocrine-Immune Organ. The authors hypothesize that the cutaneous response to stress is mediated by the local signals based on corticotrophin-releasing hormone. Sound evidence supporting this hypothesis is given and discussed in detail. The book is concluded by a chapter on a role of adenosine in modulation of peripheral pain and inflammation. Different adenosine receptors, including tissue distribution and biochemical consequences of activation are discussed in depth.

Highlights: Although I think that the target population of this book are scientists involved in immunology or neuroscience, the book introduces quite a few interesting concepts relevant to much wider audience. Therefore, I can recommend it to a variety of medical specialists, especially intensive care physicians and anesthesiologists.

Limitations: Unfortunately, it seems to me that the editors should have done their home-

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work better. The book looks like a collection of review-papers and, besides that, there is quite a lot of redundancy. Index at the end of the book is basically useless. Having these limitations in mind, the price is rather high.

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Fatović Ferenčić S, Plewing G, Holubar K, editors. Skin in Water-Colours: Aquarelles from Hebra's Department in Vienna 1841-1843 1841-1843. Oxford-Berlin: Blackwell Publishers; 2003. 157 pages; ISBN 1-4051-1901-2; price: €99.50

Field of medicine: Dermatovenereology.

Format: Hardcover book.

Audience: Dermatovenereologists, medical historians, art historians, and lovers of art and medicine.

Purpose: The book is a collection of paintings by two prominent Austrian dermatologists of the 19th century, Carl Egyd von Rzehaczek (1816-1897) and Lorenz Matthäus Carl Rigler (1815-1862). It is also an exercise in bridging past and present: the editors sent 58 watercolors of different dermatovenereological diseases to 29 eminent dermatologists all over the world, from North and South America to Japan, and from Sweden to Australia, to evaluate the paintings and establish the diagnosis according to modern criteria.

Content: The book is actually an atlas of most common skin diseases in the 19th century. The 58 reproductions of Rzehaczek and Rigler's watercolors are presented on the recto pages, and the original diagnosis of the authors is inscripted below the reproduction. The facing (verso) pages opposite the paintings contain a description of the skin changes as seen by today's eminent dermatologists, together with the diagnosis used in modern medicine. The book also contains a preface by Martha Schärf-Kyrle, Austrian dermatologist, and an introduction by Darrell S. Wilkinson, UK dermatologist, the editors' description of the work of Drs Rzehaczek and Rigler, as well as the historical and artistic context of their work in medicine and art in the 19th century.

Highlights: The best way to describe the message of this book is the sentence from Dr Martha Schärf-Kyrle preface: "Skin – the human body's biggest organ – is a mirror of our inner life as much as of the life around." It is fascinating to look at the paintings and discover not only the skin diseases shown, but to learn about the life, social status, and even geographical location of the patients. As Dr Rigler worked for 13 years in Constantinople (today's Istanbul in Turkey) at the medical school modeled after Vienna school of medicine, it is not surprising to find paintings of a patient in oriental robes, with a turban on his head. The book presents three allegedly Rigler's paintings, although they cannot be attributed to him with certainty. The paintings have a label "sent by Prof Rigler from Constantinople," but have no signature, so it is possible that they were made by an artist, after Rigler's instructions. The rest of the paintings in the book are the work of Dr Rzehaczek, the first professor and head of surgery after the re-establishment of the Medical School in Graz in 1863. Rzehaczek was also a true artist, and continued to work as a sculptor after his retirement in 1886. The disorders he showed are abundant in type, and one of the expert dermatologists asked to evaluate the paintings claimed that Rzehaczek was the first dermatologist who made

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the illustration of a vascular skin disease, telangiectasia. The paintings also illustrate the prevalent skin diseases of their time: there are several pictures of syphilis and leprosy, which medical students cannot see today at dermatology rounds.

Related reading: There is really no related reading to this book. There are many modern dermatology atlases today, and computer technology has even more increased the perfection of photography and details of skin lesions by making them interactive. But, as Dr Wilkinson wrote in his introduction to the book, "... a good portrait is still often a better indication of a disease process than a good clinical photograph". The doctor-artists of the 19th century captured in their paintings not only the colorful detail of a skin disease, but also its epidemiology and most of patient's medical history.

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