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Frontiers of human biology-Bridging scientific and political boundaries

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TITLE PAGE

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MAIN TEXT

The international conference “Frontiers of Human Biology” was held in near Seferihisar, Turkey from 15 to 18 September 2018. The organizers were Prof Elena Godina, Lomonosov Moscow State University, Russian Federation and Prof Barry Bogin, Loughborough University, United Kingdom. Mr Oktay Kaynak, an independent researcher, was in charge of local arrangements. The 20 participants included 7 from Russia, 8 from Turkey, 3 from the UK, and 1 each from Portugal and Japan.

One purpose of the conference was to highlight current research on human biological approaches in studies of human evolution, the health of archaeological samples of people from the Eurasian region, growth and development of ancient and living people, and human adaptation to ancient and current technologies. A second purpose of the conference was to bridge social and cultural divides between research communities, as well as to support and encourage researchers working in vulnerable political environments.

“Three leaps in human evolution” by Mr. Oktay Kaynak emphasized the pivotal roles in human evolution of shallow water bipedalism at ~4MYA, developmental modification of embryos and brain enlargement at ~2MYA, and cognitive thresholds leading to human cultural behavior. Dr. Andrej Evteev spoke about mid-facial growth patterns in boys from newborn to 5 years old and the associations between body and cranial growth. He also related these to practical implications in bioarcheology. “Height growth as a target seeking process; but who sets the target?” by Barry Bogin described the community effects hypothesis for height variation. Derived from Social Network Theory, this hypothesis tests the effects of membership within and between communities and how contention for status sets targets for adult height. Prof. Akira Yasukouchi presented “Adaptability to the artificial light in modern society from the perspective of non-visual effects”, such as cortical arousal level, autonomic nervous activity, and circadian cycles – with practical applications to sleep. “Inequalities in childhood obesity: the impact of the socioeconomic crisis in Portugal” by Dr Cristina Padez reported that from 2002 until 2016 the differences in obesity rates between families with low and high SES nearly doubled to prevalence of 33.1% and 18.4%, respectively.

“Effects of nutrition and sanitation intervention in North Nigeria on infant/child health” by Susan Ako, a UK PhD student, reported on a mixed-methods survey of 273 infants <36 months old and their mothers in several regions of Jigawa State, northern Nigeria. Her goal was to assess interventions to prevent malnutrition and growth failure. The success of the interventions depended more on the social and political organization of the region than on the provision of additional food, clean water, or hygiene education. Two presentations dealt with secular growth changes: Elena Godina and I. Khomyakova, “Secular changes in body morphology of Moscow children during the last decades”, Dr. Başak Koca Özer, “Secular changes in anthropometric measurements of schoolchildren in Ankara, Turkey (1950–2017)”. The Moscow children are taller and much fatter. The Turkish boys became much taller but now have narrower shoulder, while no significant changes were noted for girls.

Archaeological and skeletal research was presented by several participants: "Evaluation of Growth and Development in Havuzdere Medieval Population Infant and Child Skeletons" by Dr Ayşegül Özdemir and colleagues; "Pleistocene period human migration in western Anatolia", by Dr Ece Eren; "New radiological techniques in the study of the origin and adaptation of fossil and modern humans" by Maria Mednikova; "Life and health of the Late Bronze Age subadults from Southern Ural (a case of Neptyuevsky burial ground)", by Dr Marina Karapetian and colleagues; "Skeletal Sexing Standards of Human Remains in Turkey" by Dr Öznur Gülhan; "Growth processes in early Middle Ages group from mid-mountain area of Northern Caucasus, following the anthropological materials of the Mamisondon series" by Dr Natalia Berezina and Dr Alexandra Buzhilova; and "Growth patterns of ancient Russian groups from rural and urban areas" by Alexandra Buzhilova and colleagues. These presentations focused on paleopathology, the validity of dental hypoplasias and Harris lines as health markers, uses of archaeological data for current day forensic analyses, and patterns of aging.

The final group of presentation covered the topics of "On the Heath-Carter somatotype in Russian children and adolescents: toward the results of mass bioimpedance study" by Dr Sergey G. Rudnev and colleagues; "Morphological and functional features of Altai region wrestlers' bodies" by Dr Adu V. Makhalin and colleagues; "Patterns of physical growth, and early old age weight, BMI, body fat, grip strength and mortality in Guatemala" by Liina Mansukoski, a UK PhD student; and "Some preliminary results on the anthropometry of aged population in Turkey", by Dr Hasan H. Başibüyük & Dr Gülüşan Ö. Başibüyük. These presentations highlighted novel uses of technology for data acquisition and newer statistical methods for data analysis. Dr Rudnev's lecture also cautioned us about the use of routine school and hospital measurements, which he found to be inaccurate and, in too many cases, fraudulent (recorded but not really measured).

Biological Anthropology is very much alive and active in Russia and Turkey -- as well as Portugal, Japan and the UK -- but publication in non-English journals often limits the impact of high-quality research outside these countries. More direct engagement by Western European and North American anthropologists with colleagues in other nations is needed to keep evolutionary anthropology at the 'Frontier' of methods and theory. Direct engagement is very enjoyable, and a highlight of the conference was the opportunity each day for extended discussion and exchange of ideas at both the formal lecture presentations and during afternoon and evening social time.

We hope to repeat the experience in two years' time. A complete program with abstracts is available from Barry Bogin (b.a.bogin@lboro.ac.uk).

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