

## NOBEL SYMPOSIUM „ARGUMENTS ON EARLY MAN“

The Royal Swedish Academy of Sciences has organized the Nobel Symposium "Current Arguments on Early Man" which took place in Bofors, Sweden, from 21–27th May 1978.

- The 17 invited scientists gave following lectures:
- Richard E. F. Leakey, National Museums of Kenya, Kenya: "How many species of Hominids at Lake Turkana";
- Donald C. Johanson, The Cleveland Museum of Natural History, USA: "Early hominids from Hadar, Ethiopia: Clues to the origin of the genus Homo";
- Philip Rightmire, State University of New York at Binghamton, USA: "The bearing of East African Homo erectus fossils in human evolution in the African Middle Pleistocene";
- Philip Tobias, University of Witwatersrand, South Africa: "A Survey and synthesis of the African hominids of the Late Tertiary and Early Quarternary periods";
- Mary Leakey, Olduvai Gorge Research Project, Kenya: "Early hominids: Environment and tools";
- Jan Jelinek, Anthropos, Moravské muzeum, Czechoslovakia: "European Homo erectus and the Origin of Homo sapiens";
- Björn Kurtén, University of Helsingfors, Finland: "Pleistocene mammalian faunas in Holarctic region";
- Marie-Antoinette de Lumley, Université de Provence, France: "Le premier peuplement de l'Europe";
- Henry de Lumley, Université de Provence, France: "Les premières civilisations humaines dans le Sud-Est de l'Europe";
- Vselovod Yakimov, Institute and museum of Anthropology, USSR: "New discoveries of ancient man in USSR";
- Teucu Jacob, Gadjah Mada University, Indonesia: "Pithecanthropus: The Phenotype genetics and ecology";
- Woo Ju-kang, Academia Sinica, Peoples Republic of China: "Palaeoanthropology of New China";
- Yves Coppens, Muséum National d'Histoire Naturelle, France: "The limits between Australopithecus and Homo";
- Glyn Issac, University of California, USA: "Casting the net wide — a review of archaeological evidence for early proto-human land-use and ecological relations";
- Georg Todaro, National Cancer Institute, USA: "Evidence using viral gene sequences suggesting Asian origin of man";
- David Pilbeam, Yale University, USA: "Major trends in human evolution";
- Philip Tobias, University of Witwatersrand, South Africa: "From Linné to Leakey".

The discussions centered round two focusses. The new east African finds and the Origin of Homo. Here the Ethiopian finds of the oldest Australopithecus were recognized as a new species Australopithecus afarensis. Most of the participants accepted this new species as ancestral to later Australopithecus and Homo. The other focus was in the later formation of Homo sapiens and his relationship to Homo erectus finds. Even when the opinions is not united, the ancestral position of Homo erectus is more and more supported. Professors Ju-Kang Woo and Vselovod Jakimov presented new finds from their countries and Georg Todaro lectured on new discoveries of the viral genes importance for the study of human origins. This new method shows in a very clear way that Homo sapiens originated in Euroasia or in near East, in the regions where the fossil baboons were not present. Oposite to prevailing contemporary idea of African Origin of Man Georg Todaro propose that contemporary man could not originate in Africa. Jan Jelinek joins the European ante-neanderthal hominid finds into one species considering their difference from Homo sapiens sapiens on the subspecific level only. Richard Leakey pre-

sents three distinct groups of hominid plio-pleistocene finds from East Turkana in Africa corresponding broadly to Australopithecus boisei, Homo and Australopithecus africanus. However the views in this point were not united. Professor Tobias considers two taxa present only, namely robust Australopithecus and Homo.

An important event was the visit of H. M. King and Queen of Sweden. At this occasion Mrs. Mary Leakey obtained the C. Linnaeus golden medal from the kings' hands.

Well organized Symposium brought together specialists from very geographically distant areas. The results will be published by the Pergamon Press.

J. J.

## SCIENTIFIC CONTRIBUTION OF SYMPOSIUM ON METHODS OF FUNCTIONAL ANTHROPOLOGY

The first Symposium with international participation mainly on the topic of anthropology of physical education but also of anthropology of ergonomics, took place in the House of Medicine in Prague from 5.–8. 9. 1977. The organiser of the Symposium entitled "Methods of functional anthropology" was the Czechoslovak Anthropological Society of the Czechoslovak Academy of Sciences. It was organized in cooperation with Faculty of Science and Medical Faculty, Charles University in Prague, the Czechoslovak Society of Sports Medicine, and the Medical Council of the Czechoslovak Association of Physical Culture. The actual importance of the theme was manifested by the suggestion of the International Research Committee of ICSPE, consult body at UNESCO to take part in the Symposium by taking over the sponsorship.

Opening the Symposium dr. J. Jelinek, president of the Czechoslovak Anthropological Society of the Czechoslovak Academy of Sciences greeted the participants and stressed in his address that functional anthropology is an important and perspective trend in modern anthropology and that it needs even in the future a higher attention. Further addresses were presented by ing. Stourač, president of the Comm. for Scient. Societies of Presidium of Czechosl. Acad. of Sc. on behalf of the Czechoslovak Academy of Sciences, doc. F. Čech, dean of the Science Faculty, on behalf of his Faculty, prof. M. Máček on behalf of the Central Committee of the Czechoslovak Association of Physical Culture, prof. S. Čelikovský on behalf of the Scientific Council of the Central Committee of the Czechoslovak Association of Physical Culture and doc. J. Horák on behalf of the Czechoslovak Society of Sports Medicine.

The scientific program of the Symposium was aimed exclusively at methods of work in functional anthropology. In each of two thematic groups were presented, within the given sphere, two main reports summing up from different points of view and critically evaluating methods used until the present time. The main reports were followed by short methodical contributions presenting new methods, suggestions or comparison of different work procedures. In the following panel discussion the advantages and drawbacks of individual methods were discussed. Finally certain methodical procedures to be generally used in practice were recommended.

The opening lecture "Functional Anthropology and its Problems" (V. Novotný) outlined the aim of the Symposium and tasks and perspectives of anthropology of physical education and kinetics. It stressed that anthropology of physical education is not only anthropology of sports which

concentrates its interest mainly on testing of sportsmen but that it is a branch whose aims are much wider and are supposed to contribute — beside other things — on the basis of directed physical education and sports, to correct physical development of the highest possible part of general population.

In somatometry the attention was drawn to some particularly striking discrepancies which occur in consequence of different methods of procedures used. The panel discussions of experts can help considerably to solve these questions. It is similar with the method of biological age determination. It is necessary to take a standpoint to some standards evaluating the growth and the dental age, to try to unify procedures when evaluating maturity of secondary sexual characters and bone age as well as opinions on complex evaluation of biological age characters. In very up to date problems of body composition it is necessary to speak about the possibility of suggesting an optimal caliper from the number of those used at present and to recommend a method which though technically more demanding, e.g. hydrometry, offers in acquired knowledge about body composition deeper and wider possibilities. The question of method of body type assessment is very old and not simple. There are many procedures, each of them has its advantages and disadvantages. It is necessary to consider where the advantages exceed the disadvantages and to come to an agreement about the most advantageous method regardless of the interests of prestige. In dynamometry the presented contributions ought to indicate perspective trends, draw attention to the latest apparatuses which enable testing of the muscle strength in sportsmen, and even to difficult conditions which we meet in this field and which can impair the results. The problems of kinetic anthropology which intervene in human daily activities are very close to the activities in physical education and sports. That is why the methodical contributions in the sense of special apparatus technology as well as in work processes do not bring progress only in ergonomic application of anthropology but also in new outlook on anthropology of physical education.

### *I. Somatometric Methods*

The main reports were presented by dr. Prokopec and doc. Hajniš. In a wide view of the problems of somatometric methods they aimed their attention on their historical development and their application in varied branches of science — beside the anthropology itself — quite especially in medicine. They called attention to advantages of the generally applied somatometric method described by Martin and completed by Saller, and recommended unification of main measurements to make concrete comparison of various results.

In short methodical communications were the presented suggestions on methods advantageous to use when examining sportsmen (M. Hebbelinck and all., Belgium, J. Brůžek and all.), suggestions on methods of body height prediction (S. Komenda and J. Klementa, M. Prokopec and P. Šrámková), suggestions for evaluation of foot arch formation (R. Linc, M. Bavor), description of the original method of thorax shape evaluation (M. Nováková), comparisons of methods of direct measurements with results obtained from RTG pictures (K. Hajniš), and comparison of different methods used when measuring length and circumference of the lower extremity (P. Bláha, L. Vitek).

### *II. Methods of the Determination of the Body Composition*

Main reports were presented by prof. Novak (USA) and prof. Eiben (Hungary). The first report was concentrated on modern methods of body composition determination where isotopic methods make it possible to acquire information not only about body fat or about lean body mass but also about body water, the amount of extra and intracellular liquid, cellular mass and individual minerals. The other main report concentrated its attention to simpler pro-

cedures for body composition determination and first of all to their relation to body type.

Further reports stressed importance of comparison of skin-folds thickness measured by various types of calipers (J. Pařízková), further a very interesting check up of original Mategka's equations for body composition determination at the present time (P. Bláha), relationships of body composition to the nutrition (M. Möhr, GDR), relationships of subcutaneous fat measured by different calipers to the somatotyping (M. Řezníčková), the working out of a new hydrometric method for total body fluid determination and body fat by means of deuterium oxide (V. Novotný and A. Ženíšek) etc.

### *III. Typological Methods*

Main reports were presented by prof. Correnti (Italy) and prof. Tittel (GDR). The first report summarized comprehensively the whole problematic of typology, its history and most important methods. It mentioned relations to functional parameters and application of typology in sports activities. The second report submitted to brief criticism some of methods still used especially those in sport practice and presented extensive analysis of Conrad's method. It drew attention to its advantages especially in the possibility of evaluation of primary and secondary indices of body type.

In short methodical contributions the attention was drawn to the report on the application of factor analysis of body built determination (A. Haleczko, S. Socha, Poland) the report on application of Wanke's indices for body type determination (K. Hajniš and all.), the reports on using Heath-Carter method for somatotype determination in youth (M. Duquet and all., Belgium), and in sporting people (J. Štěpnička), the original suggestion of method for body type assessment according to Šlajmer (M. Šlajmer, Yugoslavia), check up of Poarnells' method in relation to functional indices (K. Daněk), use of cluster method in determining women somatotypes (S. Titlbachová and all.) analysis of methods for body type determination in children (F. Omelka) and method of body type determination in Hungarian sportsmen (J. Mészáros and all., Hungary).

### *IV. Methods of Biological Age Determination*

The main reports were presented by prof. Grimm (GDR) and prof. Hebbelinck (Belgium). Both extensive and theme covering lectures have analysed the different procedures when determining biological age. They evaluated and suggested procedures for estimation of body growth, for secondary sexual characters, dental, and home age maturation where attention was drawn mainly to its importance in connection with the physical load in sports.

In the part of short methodical contributions there were presented the reports of diagnostic significance of bio-anthropologic method when tracing disorders in development (M. Ciovirnache, Roumania), new standards for tooth age evaluation in Czech youth (F. Škaloud), new procedures for assessment of secondary sexual signs of maturity evaluating them not only — as it was done so far — by development stages but by age to which a certain stage corresponds (F. Tvaroh, L. Kuška), and comparison of different methods used in bone age evaluation (I. Drobná). Further reports dealt with methodical questions concerning growth evaluation (H. Helwin, GDR) and problems of complete evaluation of results of individual age indices examination.

### *V. Methods of Dynamometry and Methodical Varia*

Main reports were presented by prof. Molbech (Denmark) and Dr. Vaverka (Czechoslovakia). Both reports suggested strongly the ways in which methods of muscle strength determination proceed nowadays. The first report after having mentioned the methods based on physiological experiments, concentrated on presenting certain standards of muscle strength in various muscle groups of men and women. In the second report the attention was aimed at the description of measuring and fixing mechanisms which are

necessary when measuring muscle strength under isometric regime of muscle contraction.

In short contributions methodical procedures were completed especially in the section of progress in the section of progresses in the electrodynamic measuring methods (A. Čech), and experiences of dynamometric measuring in children were summarized (F. Omelka and A. Gerylová). Methodical varia brought a number of suggestions and experiences with different methods used in anthropological examinations in physical education. To these belong some papers on the methods of spine curve and pelvis parameters evaluation (J. Čermák, J. Kovalčíková, D. Hellerová), report on method of mamma volume determination (H. Zlámalová), proposal of procedure for classifying and including of bodily defective individuals in sport activity (J. Gutvirth), comparison of body characters relation with movement tests (J. Mészáros and all., Hungary), a methodical proposal for procedure of following up of somatometric characteristics in patients (J. Leontovychová, J. Šorba) and others.

## VI. Methods of Kinetic Anthropology

The main reports were presented by dr. Batogowska (Poland) and doc. Troníček (Czechoslovakia). Both reports stressed the great practical importance of anthropological methods in different manual activities of men as well as their specific application. In the report of dr. Batogowska somatometric methods deviating from general anthropometric practice but having exceptional importance in ergonomic application of anthropology, were proposed. Also some new measuring apparatuses were recommended.

In further methodical contributions professor H. Dumitrescu (Roumania) presented a comprehensive report on methods and biochemical aspects of the contemporary research of population, further a project of an original examination equipment for ergonomic and other functional anthropology was submitted (S. Mutafov, A. Načeva and all., Bulgaria), and a project of special equipment for determination of spatial reach area of upper extremity (E. Nowak, Poland). The following report dealt with similar thematic (Ch. Troníček), while other papers were concentrated on questions of application of functional anthropology in ergonomics (M. Hanulík) or they were concerned with problems of observing body position during different work activities (J. Chmelař, D. Tihelková, Z. Roth).

The lectures and panel discussions were simultaneously interpreted in Russian, English, French and German. Altogether there were read 13 comprehensive reports, 47 methodical papers and in the panel discussions there were 92 contributions. In the Symposium took part 121 experts, 33 from abroad from 15 countries. The social programme of the Symposium was rich and well organized.

The Symposium made possible the first international meeting of anthropologists of physical education, it gathered a great number of new original methods and critically evaluated a number of methods generally used. Beside the scientific contribution of the Symposium it isn't possible to omit even the social contribution given by the possibility of mutual contract of experts in the same scientific field.

Vladimír Novotný

## EINE WISSENSCHAFTLICHE TAGUNG ÜBER FRAGEN DER PALÄODEMOGRAPHIE UND HISTORISCHEN DEMOGRAPHIE

Die Anthropologische Abteilung des Prager Nationalmuseums veranstaltete in Zusammenarbeit mit der Čs. demographischen Gesellschaft und der Čs. anthropologischen Gesellschaft bei der ČSAV am 2. und 3. März 1978 ein Symposium über Fragen der Paläodemographie und historischen Demographie. Die Aufgabe war, Grundinformationen über die neuesten Forschungsergebnisse dieser Wissenschaftszweige in der Tschechoslowakei zu bringen und sie nicht nur einer Versammlung von Wissenschaftlern der beiden verwandten Fächer, sondern auch Anthropologen, Demo-

graphen, Historikern und Archäologen zur Diskussion vorzulegen. Daß derartige Treffen nützlich sind, haben die Erfahrungen aus dem Jahr 1977 bewiesen, als man unter ähnlichen Bedingungen im Nationalmuseum eine Tagung über die Anthropologie der Bronzezeit organisierte und gerade der Meinungsaustausch zwischen Vertretern verschiedener Fächer zum Schwerpunkt der Verhandlungen wurde. Das Interesse für die Tagung äußerte sich schon in der unerwartet hohen Zahl von dreißig angemeldeten Referaten.

Der erste Sitzungstag war der Paläodemographie gewidmet und umfaßte 16 Referate, die man in zwei Gruppen teilen könnte, abgesehen von der kurzen Einführung des Organizers der Tagung und dem Eintrittsreferat Prof. J. Korčáks „Příspěvek prehistorické demografie k teorii etno-genese“ (Der Beitrag der prähistorischen Demographie zur Theorie der Ethnogenese). In die erste Gruppe wurden Arbeiten von Anthropologen eingereicht, die sich mit der Untersuchung osteologischer Überreste aus archäologischen Grabungen befassen und diese vom paläodemographischen Standpunkt werten. Es handelte sich um die Mitteilungen von M. Blajerová „Příspěvek k demografické charakteristice českých Slovanů“ (Beitrag zur demographischen Charakteristik der tschechischen Slawen), J. Jakab „Demografický rozbor slovanských pohrebisk z území juhozápadného Slovenska“ (Demographische Analyse slawischer Gräberfelder aus der südwestlichen Slowakei), H. Hanáková „Demografický rozbor pohřebiště v Ducovém“ (Demographische Analyse des Gräberfeldes in Ducové) und E. Holnerová „Problematika demografického rozboru žárových pohřebišt (Die Problematik der demographischen Analyse von Brandgräberfeldern). Mit derselben Thematik, allerdings bei nichteuropäischem Material, befaßt sich das interessante Referat E. Struhals „Paleodemografie pozdněřímských pohřebišt v Saláje, egyptská Nubie“ (Paläodemographie der spätrömischen Gräberfelder in Salaja, Ägyptische Nubien). Die Mitteilung von B. Bílý und M. Pokorná „Stomatologické nálezy ze staroslovanských pohřebišt“ (Stomatologische Befunde aus altslawischen Gräberfeldern) stand scheinbar am Rande der Problematik, überraschte jedoch mit Hinweisen auf die Möglichkeit, aus stomatologischen Befunden Schlüsse auf die Bevölkerungsstruktur zu ziehen. Schließlich gehörten in diese Gruppe auch das Referat von J. Anděl „K problematice některých demografických aspektů na území Československa v 6.–12. století“ (Zur Problematik demographischer Aspekte der Populationen auf dem Gebiet der Tschechoslowakei im 6.–12. Jahrhundert); in diesem Fall bearbeitete der Demograph anthropologische Literaturangaben.

Die zweite Gruppe des ersten Sitzungstages bildeten Referate von Archäologen, die sich auf Grund eigenen Materials mit wichtigen demographischen Fragen befassen, oder von ihrem Standpunkt aus die Ergebnisse paläodemographischer Forschungen betrachten und sie den Aussagen archäologischer Quellen gegenüberstellen. Es waren die Mitteilungen von M. Buchvaldek „K otázce hustoty obyvatelstva v eneolitu“ ((Zur Frage der eneolithischen Bevölkerungsdichte), J. Waldhauser „Konfrontace anthropologického a archeologického určení mužských laténských kostrových hrobů“ (Konfrontation der anthropologischen und archäologischen Bestimmung latènezeitlicher männlicher und weiblicher Skelettbestattungen), Z. Cilinská „Obyvatelstvo Poipolia v 7. a 8. stor. vo svetle demografického bádání pohrebiska v Želovciach“ (Die Bevölkerung von Ipel-taal des 7. und 8. Jh. im Lichte demographischer Analysen des Gräberfeldes in Želovcie) und J. Justová „Jihozápad Plzeňské kotliny (Stodsko) v ranném středověku“ (Der Südwestteil des Pilsner Beckens [Stodsko] im frühen Mittelalter). Den Übergang zur historisch-demographischen Problematik bildete dann das Schlußreferat von J. Honc „Nárůst terénní vlny u kostelů od 14. století“ (Das Anwachsen der Geländewelle bei Kirchen seit dem 14. Jahrhundert).

Der zweite Sitzungstag galt der historischen Demographie und brachte 4 selbständige Referate. Nach dem Einleitungsvortrag von E. Maur „K metodice studia mortality ve středověku“ (Zur Methodik des Studiums der Mortalität im Mittelalter) war es die interessante Mitteilung von J. Křivka „Celková produkce obilí, vlastní spotřeba a podíl tržní výroby obilí velkostatku a podanského hospodářství na zajištění výživy obyvatelstva 18. století v Čechách“ (Gesamtgetreideproduktion, Eigenverbrauch und Anteil der Ge-