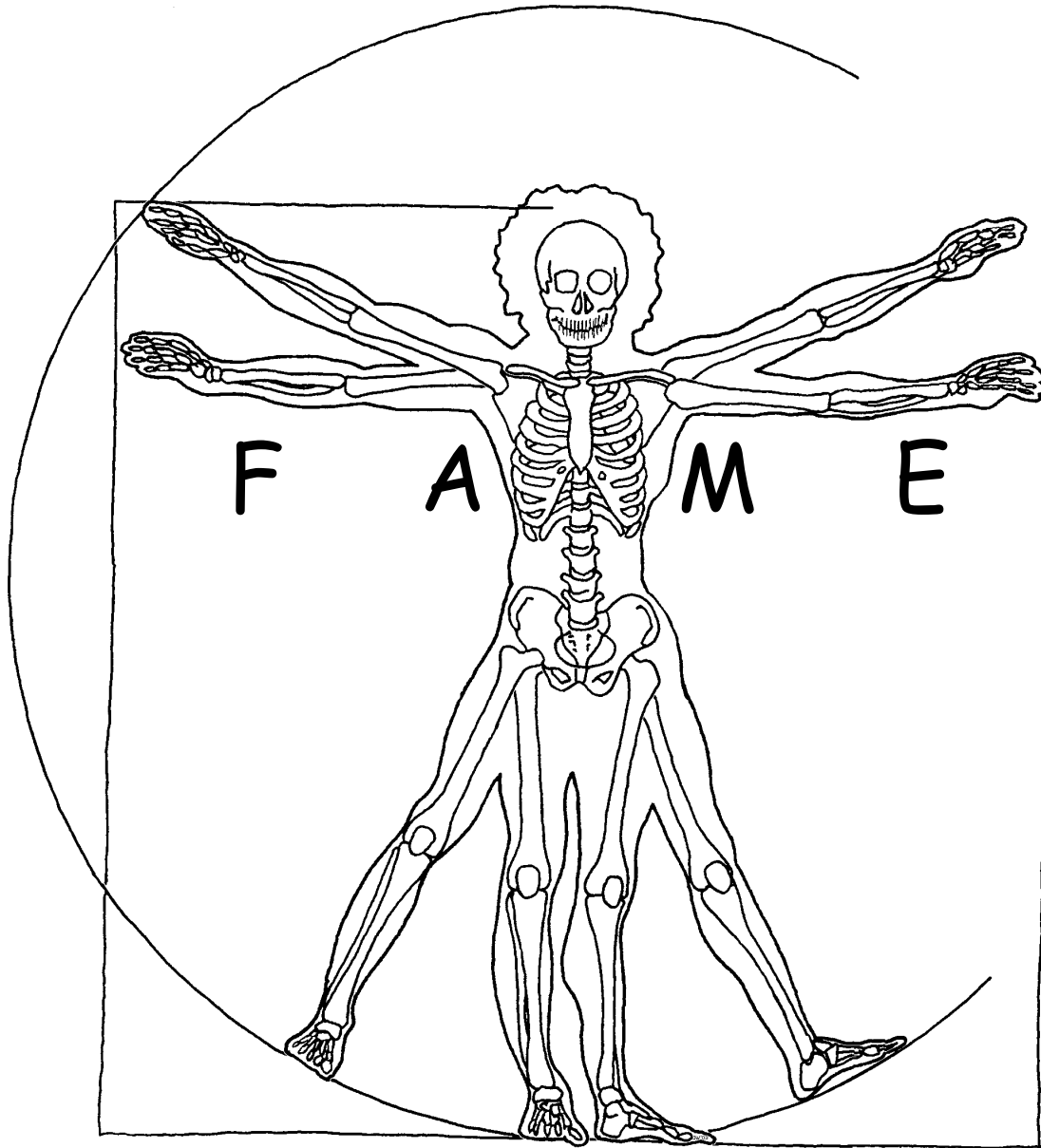


Fysisch-Anthropologische Mededelingen



Newsletter of the Dutch Association of Physical Anthropologists

No. 18, January 2010

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From the editor

In this new FAME you will not find the usual abstracts of the very successful and well-attended (about 200 people!) symposium at the end of November, as the speakers did not provide abstracts and your editor was so delighted that at last there was a whole symposium dedicated to her speciality that she forgot to make notes for Fame. But included are the introduction of the programme, and the names of the speakers and the title of their lectures.

This is followed by the usual sections of abstracts, articles, forthcoming events, and membership list.

Thank you members for your useful and interesting contributions this year.

Symposium abstracts

On 27th November 2009, the very well-attended Autumn symposium “Neanderthals aan de Noordzee” was held at the LUMC, chaired by our chairman George Maat.

Taken from the programme (and translated):

For the first time a fossil of a Neandertal has been found in the Netherlands. The fossil, a landmark in Dutch archaeology, is a piece of the cranium of a young male Neandertal, with the heavy browridge so characteristic of the extinct hominid.

So far finds in the Netherlands had only yielded Neandertal stone tools.

The cranium, dating between 100,000 and 40,000 years, was found in Zeeland in 2001 by an amateur palaeontologist, and originates from the bottom of the North Sea. It was hauled to the surface by a shell dredger from the Middeldiep, 15 kilometres off the coast of Zeeland.

Speakers:

Prof. Wil Roebroeks: “Neandertals in Doggerland: on the Early Prehistory of the North Sea basin”

Prof. Jean-Jacques Hublin: “The Zeeland Ridges specimen: a Neandertal of the higher latitudes”

Dr Phillip Gunz: “The biology of cranial diversity: why we can identify even small Neanderthal fragments”

Dr Darlene Weston: “Health and Disease in the North Sea Neanderthal”.



Abstracts of articles, books, presentations, and theses

GEZONDHEID, DIEET EN MIGRATIE IN MIDDELEEUWS GENT

Marieke Gernay

Professor Charlotte Roberts (Durham University)

Gent, België was een grote speler in de verstedelijking van Europa in de Middeleeuwen. De Dienst stadsarcheologie te Gent heeft verschillende collecties in bewaring. Voor dit doctoraatsproject (begonnen 2009) zal de gezondheid, het dieet en migratie worden vergeleken door middel van macroscopische analyse en stabiele isotopen onderzoek.

De grootste collectie komt van een opgraving van de Sint Pietersabdij (7-18de eeuw); 500 skeletten waarvan er 300 uit het atrium komen en 200 van het grafveld buiten de abdij. Die eersten werden geïnterpreteerd als hoge status en de anderen van de gewone bevolking. Verder zijn er 150 skeletten van de Sint Baafsabdij (7de eeuw tot 1540). De skeletten die in deze periode gedateerd zijn kunnen beschouwd worden als monniken. Na de ontbinding van het klooster werd de grond echter gebruikt door de Spaanse overheersers onder leiding van Karel V. Het materiaal van de St. Veerlekerk (12 – 16de eeuw) zal gebruikt worden ter vergelijking. Dit werd al bestudeerd voor mijn masterproef aan de universiteit van Durham.

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HISTOLOGISCHE FRACTUURDATERING VAN VERS EN DROOG BOTWEEFSEL

Maat, G.J.R. and N.M. Huls

In: Forensische aspecten van fracturen op de kinderleeftijd (Bilo, R.A.C., Robben, S.G.F. and Van Rijn, R.R., eds.). Isala, Zwolle, 278-286, 2009. ISBN: 978-90-74991-58-2

In de forensische praktijk wordt men regelmatig geconfronteerd met de vraag om een histologische datering van skeletfracturen afkomstig uit forensisch-pathologische secties

of uit illegale deposities/begravingen van menselijk materiaal. In de eerste plaats wil de aanvrager weten of de fractuur antemortaal of perimortaal is ontstaan. En verder, als er sprake is van een antemortaal ontstaan, wil men weten hoeveel tijd er is verstreken tussen het ontstaan van de fractuur en het intreden van de dood. Onderliggende systematiek en praktijkvoorbeelden worden gepresenteerd.

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DENTAL HEALTH OF 19TH CENTURY MIGRANT MINeworkERS FROM KIMBERLEY, SOUTH AFRICA

Merwe, A.E. van der^{1,2}, M.Steyn², and G.J.R. Maat^{1,2}

¹Barges Anthropologica, Department of Anatomy and Embryology, Leiden University Medical Centre, Leiden, Netherlands

²Department of Anatomy, University of Pretoria, Pretoria, South Africa

Accepted for publication in the International Journal of Osteoarchaeology

Dental health may deteriorate in populations exposed to economic growth as a result of easier access to refined carbohydrates and sugars. Such changes affected migrant labourers working in Kimberley, South Africa, during the late 19th century. A rescue excavation salvaged several skeletons from paupers' graves dating from this period, and the purpose of the study was to assess their dental health to determine whether it concurs with historical statements suggesting that the skeletal population sample being investigated was migrant labourers with limited access to a healthy diverse diet. According to historic sources their diets mainly consisted of ground carbohydrates and occasional meat.

The permanent dentition of 79 males and 13 females (majority between 20 and 49 years of age) were examined. Carious lesions were observed in 57% of males and 46.2% of females with an average of 2.7 and 3.8 carious teeth per mouth. The anterior teeth were significantly less affected than the posterior teeth. Periodontal granulomata ('abscesses') were observed in 17.7% of males and 15.4% of females, and periodontal disease affected 40% of those investigated. Antemortem tooth loss (AMTL) was recorded in 29% (N=27) of the sample with an average of 3.5 teeth lost per mouth. It was concluded that the prevalence of dental caries, periapical granulomata and periodontal disease as well as the pattern of AMTL observed concurs with dietary descriptions for paupers in historical documents. The relatively low prevalence of

carious lesions can be ascribed to the limited time migrant labourers spent in Kimberley and the labour restrictions they had to comply with during their stay in the compounds.



MESOLITHIC AND NEOLITHIC HUMAN REMAINS IN THE NETHERLANDS: PHYSICAL ANTHROPOLOGICAL AND STABLE ISOTOPE INVESTIGATIONS

Smits, Liesbeth and Hans van der Plicht

In: *Journal of Archaeology in the Low Countries* 1-2
(available online at www.jalc.nl and www.jalc.be)

This article presents an overview of the interdisciplinary study of skeletal remains from Late Mesolithic and Middle Neolithic sites in the Lower Rhine Basin. The combination of archaeological, physical anthropological and chemical analysis has led to a better understanding of the treatment of the dead, demographic parameters and diet of the populations during the transition from forager to farmer in this area. Burial ritual was variable during this whole period, with an above-ground treatment of corpses alongside the burial of deceased. The physical anthropological study has revealed that the sites were inhabited by family groups. Stable isotope analyses have indicated that immigrants were sometimes present and that diet varied per population. Intersite variation in diet is explained by the exploitation of the local habitat. Intrasite variability in diet can be influenced by cultural and social factors as attested by the burial traditions and the isotope study of provenance. It is posited here that the Neolithisation process was not as unambiguous as in some other parts of Europe, but diverse with small-scale variations at the site level.



STABLE ISOTOPE DATA FROM THE EARLY CHRISTIAN CATACOMBS OF ANCIENT ROME: NEW INSIGHTS INTO THE DIETARY HABITS OF ROME'S EARLY CHRISTIANS

Rutgers, L.V., M. van Strydonck, M. Boudin, and C. van der Linde

In: Journal of Archaeological Science 36:1127–1134, 2009

This study reports on the first attempt that determines the diet of a small but conceivably representative section of Rome's early Christian community by means of $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ measurements on collagen extracted from twenty-two samples of human bone. Samples derive from the Liberian Region in the catacombs of St. Callixtus on the Appian Waydan area that has been radiocarbon dated to the period from the mid-3rd through early 5th century AD. Comparing our results to those produced for several other sites, we argue that this population's typical diet included freshwater fish. We also briefly discuss breastfeeding and the freshwater reservoir effect, to then explore the dietary, art historical, and possible sociological ramifications of our results.



KORTE HOEKTANDEN, LANGE BENEN EN EEN SEZY BREIN. HET ONTSTAAN VAN DE MENS DOOR NATUURLIJKE EN SEKSUELE SELECTIE

Storm, Paul
(2009). Uitgeverij DrukWare: pp. 1-19

De mens is een opvallende, zich slechts op twee benen voortbewegende, intelligente, naakte mensaap, die op dit moment de aarde naar een catastrofe lijkt te doen afstevnen. Is voor het ontstaan van een dergelijk wezen nog een logische natuurlijke verklaring te bedenken? Het antwoord is: ja. In dit boek geeft Paul Storm een model over het ontstaan van de mens. Een zienswijze die gebaseerd is op de ideeën van Darwin over natuurlijke en seksuele selectie.

De evolutie van de mens wordt vaak ervaren als een complexe materie. Velen zien door de vele stambomen het bos niet meer. Daarom wordt de evolutie van de mens eenvoudig uitgelegd, zodat het toegankelijk is voor een breed publiek. Dit is geen dikke pil waar u zich doorheen moet worstelen, maar het is een kleurrijk pilletje dat zich concentreert op de hoofdlijnen.



MENSELIJKE KENMERKEN EN HUN CONSEQUENTIES. OVER

MENSAPEN, AAPMENSEN, OERMENSEN EN MENSEN

Storm, Paul

In: Bio-Wetenschappen en Maatschappij, Evolutie zit in je genen: pp. 30-37.
(2009)

Waarom wordt de aarde op dit moment gedomineerd door een rechtopstaande mensaap? Gezien de onzekere, mogelijk dramatische consequenties geen onbelangrijke vraag. Vragen naar de oorsprong van de mens is in wezen vragen naar het wezen van de mens. Wat maakt ons anders dan andere mensapen en welke kenmerken zijn verantwoordelijk voor ons “succes”?

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DEGRADED DNA SAMPLE ANALYSIS USING DNA REPAIR ENZYMES,
MINI-STRS AND (TRI-ALLELIC) SNPS

Westen, A.A., and T. Sijen

Department of Human Biological Traces (R&D), Netherlands Forensic Institute,
P.O. Box 24-44, 2490 AA The Hague. The Netherlands

In: Forensic Science International: Genetics Supplement Series 2 (2009) 505-507

DNA degradation may cause the loss of the longer short tandem repeat (STR) markers, resulting in DNA profiles with lower discrimination power. We compared standard STR profiling with DNA repair enzyme incubation, and genotyping with mini-STRs or (tri-allelic) single nucleotide polymorphisms (SNPs) in progressively degraded, UV-irradiated DNA samples. In highly degraded DNA samples, most of the standard STR markers fail to amplify, while mini-STRs and especially (tri-allelic) SNPs still provide valuable information.

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TRI-ALLELIC SNP MARKERS ENABLE ANALYSIS OF MIXED AND DEGRADED DNA SAMPLES

Westen, A.A., A.S. Matai, J.F.J. Laros, H.C. Meiland, M. Jasper, W.J.F. de Leeuw, P. de Knijff, and T. Sijen

In: Forensic Science International: Genetics 3 (2009) 233-241

For the analysis of degraded DNA in disaster victim identification (DVI) and criminal investigations, single nucleotide polymorphisms (SNPs) have been recognized as promising markers mainly because they can be analyzed in short sized amplicons. Most SNPs are bi-allelic and are thereby ineffective to detect mixtures, which may lead to incorrect genotyping. We developed an algorithm to find non-binary (i.e. tri-allelic or tetra-allelic) SNPs in the NCBI dbSNP database. We selected 31 potential tri-allelic SNPs with a minor allele frequency of at least 10%. The tri-allelic nature was confirmed for 15 SNPs residing on 14 different chromosomes. Multiplex SNaPshot™ assays were developed, and the allele frequencies of 16 SNPs were determined among 153 Dutch and 111 Netherlands Antilles reference samples. Using these multiplex SNP assays, the presence of a mixture of two DNA samples in a ratio up to 1:8 could be recognized reliably. Furthermore, we compared the genotyping efficiency of the tri-allelic SNP markers and short tandem repeat (STR) markers by analyzing artificially degraded DNA and DNA from 30 approximately 500-year-old bone and molar samples. In both types of degraded DNA samples, the larger sized STR amplicons failed to amplify whereas the tri-allelic SNP markers still provided valuable information. In conclusion, tri-allelic SNP markers are suited for the analysis of degraded DNA and enable the detection of a second DNA source in a sample.

✱

N.B.: Toineke Westen presented this research at the June 2009 6th ISABS Conference on Human Genome Project Based Applications in Forensic Science in Split Croatia, and was given the Young Investigator Award by Dragan Primorac, Minister for Science, Education and Sport.

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ARE THE ALLEGED REMAINS OF JOHAN SEBASTIAN BACH AUTHENTIC!
A CRITICAL ASSESSMENT OF THE REMAINS ANALYSIS

Zegers, R.H.C., M. Maas, T.A.G. Koopman, and G.J.R. Maat

In: Medical Journal of Australia 190: 213-216, 2009

A skeleton alleged to be that of Johann Sebastian Bach (1685–1750) was exhumed from a graveyard in Leipzig, Germany, in 1894, but its authenticity is not established. In 1895, anatomist Wilhelm His concluded from his examination of the skeleton and reconstruction of the face that it most likely belonged to Bach. In 1949, surgeon Wolfgang Rosenthal noticed exostoses on the skeleton and on x-rays of 11 living organists and proposed a condition, *Organistenkrankheit*, which he interpreted as evidence that the skeleton was Bach's. However, our critical assessment of the remains analysis raises doubts: the localisation of the grave was dubious, and the methods used by His to reconstruct the face are controversial. Also, our study of the pelvic x-rays of 12 living professional organists failed to find evidence for the existence of *Organistenkrankheit*. We believe it is unlikely that the skeleton is that of Bach; techniques such as DNA analysis might help resolve the question but, to date, church authorities have not approved their use on the skeleton.

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AANWIJZING VOOR GEBARENTAAL BIJ NEANDERTHALERS

Couwenbergh, Frans
humanoosof

Al jááren tracht ik er achter te komen of de terloopse opmerking van P. Moerman in zijn *Op het spoor van de Neanderthalmens* (Baarn, 1979) hout snijdt. De opmerking volgt op de bespreking van het anatomische onderzoek aan het meest volledig gevonden NT-skelet van La Chapelle-aux-Saints, waarvan ook de handbeentjes bestudeerd kunnen worden. “Het bleek daarbij dat de Neanderthaler een grote en sterke hand bezat, die gezien de polsgewrichten naar alle richtingen veel beweeglijker moeten zijn geweest dan de hand van de tegenwoordige mens”.

Met die laatste bedoelt Moerman de AMM (Anatomisch Moderne Mens), ontstaan in het Afrika van rond 200.000 jaar geleden uit de plaatselijke Vroege Mens. De AMM was vermoedelijk de eerste mensenpopulatie die op voornamelijk spraakklankencommunicatie (met ondersteuning van gebaren) overging in plaats van andersom. De gedachte hierachter is dat mensapen geen neurologische controle hebben over hun stem en dat de vroegste symbolische communicatie derhalve als proto-gebarentaal begonnen moet zijn. Dat gebarentaal ons oorspronkelijke communicatiemiddel geweest is wordt ondersteund door het feit dat wij vooral bij emotionele communicatie onze handen nog moeilijk kunnen missen en dat woorden ook beter ‘los’ komen bij vrije gesticulatie.

Wanneer het opgemelde onderzoek aan de handbeentjes inderdaad valide is, hebben we een ‘hard’ bewijs voor de gebarentaalcommunicatie van de Neanderthalers. Hopelijk heeft een lezer deskundige opmerkingen in deze in huis.



Forthcoming events

2010 – date and title to be announced

Kroonvoordracht: Prof. dr J.W.M. Roebroeks
KNAW, Kloverniersburgwal 29, Amsterdam

2010 – date to be announced

Summer course Physical Anthropology
LUMC, Leiden

2010 – date to be announced (usually first Saturday in July)

Barge Forum – Speaker and title to be announced
LUMC, Leiden

April 14-17, 2010

79th Annual meeting of the American Association of Physical Anthropologists
Albuquerque, New Mexico, USA

Info: Lorena Madrigal, Department of Anthropology, University of South Florida,
Tampa, FL 33620-8100

email: madrigal@cas.usf.edu

<http://www.physanth.org/annual-meeting/2010>

August 23-26, 2010

18th European Meeting of the Paleopathology Association
Vienna, Austria

Info: Maria Teschler-Nicola, Natural History Museum Vienna, Austria

email: ppa2010@nhm-wien.ac.at

<http://www.klbg.com/ppa2010>

August 29-September 2, 2010

Poznan, Poland

17th Congress of the European Anthropological Association

“Biological, Social and Cultural Dimensions of Human Health”

Info: Maria Kaczmarek, Institute of Anthropology, Collegium Biologicum,
Umultowska 89, 61-614 Poznan, Poland

email: eea2010@amu.edu.pl

<http://www.eea2010.eu>