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From the editors

This issue of our newsletter starts on a sad note with an obituary of Cees Klaassen, who had become our treasurer only last December. His enthusiasm to join in whenever he could and put in his word will be sorely missed.

The main body of the newsletter is, as usual, formed by the abstracts but what is striking is the absence of input from our younger and perhaps less well-established members. Don't students write essays or theses ('scripties') anymore?

It was very satisfactory though to be able to include an article again, as well as a solid book review.

Thanks to one of your editors not being totally organised, you will have to forego the item Future Meetings this year, for which our apologies.

Copy for the next issue can be submitted to (one of) the editors any time during the year. Copy not in the possession of the editors a fortnight before the autumn meeting is unlikely to be included in the issue distributed at that meeting. Please submit as a Word or WordPerfect file for Windows, with any pictures or illustrations as a separate file.

In Memoriam

We were very sad to hear that our treasurer Cees Klaassen unexpectedly died on 7th July 2000. Many attended his cremation in Rotterdam on 12th July. Because of the person he was, there was great willingness to say a few words on that occasion, also on behalf of our association.

The man with the square character was suddenly no longer there. Incomprehensible and still difficult to grasp. The man whose presence at meetings could not remain unnoticed by his direct and candid approach to every problem. At the same time, a man with sympathy for the imperfections and amusing foolishness in every human being. In particular because of this last quality, his 'recommendations' were always received with a smile and taken to heart. Do we not often linger too long before saying what we mean? The example was set by this 'Old Giant'. Without Cees, it will be difficult to continue in the same way.

for the NVFA,
George Maat

TRAUMATIC INJURIES IN SKELETONS FROM THE ANTWERP CATHEDRAL, BELGIUM

Bruintjes, Tj.D.

Posterpresentation at the XIIIth European Meeting of the Paleopathology Association in Chieti.

From 1987 to 1989 archaeological excavations were conducted in the Antwerp Cathedral, Belgium. These excavations revealed a total of 854 individuals, dating from the 15th to 18th century. The skeletons were investigated by the late Paul Janssens and A. Marcsik, who reported on their findings in a hitherto unpublished manuscript. Pathological findings included various cases of traumatic injuries.

C. 5% of the individuals shows one or more fractures of the skull, long bones or vertebrae. Among these, the number of femoral fractures is striking. Furthermore, several fractures show healing in a position of poor alignment, which suggests that in many cases medical treatment was either absent or poor.

**THE SECULAR TRENDS IN MALE:FEMALE RATIO AT BIRTH IN POSTWAR INDUSTRIALIZED COUNTRIES**

Jongbloet, P.H.

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The Finnish researchers (T. Vartainen et al., Environmental Chemicals and changes in Sex ratio: Analysis Over 250 Years in Finland. Environ Health Perspect 107: 813-815 [1999]) presented the sex ratio of all newborn babies from 1751 to 1997, in order to evaluate whether Finnish long-term data are compatible with the hypothesis that the decrease in the ratio of male to female births after World Wars I and II in industrial countries is caused by environmental factors. They found an increase in the proportion of males from 1751 to 1920, which was interrupted by peaks in male births during World Wars I and II and, in analogy with many other countries, followed by a decrease thereafter. However, the turning point of male proportion preceded the period

of industrialization or introduction of pesticides or hormonal drugs, rendering a causal association unlikely. In addition, none of the various family parameters (paternal age, maternal age, difference of parents, birth order) could explain the historical time trends. They concluded that at present it is unknown how these historical trends would be mediated.

The postwar secular decline of the male:female ratio at birth is not an isolated phenomenon and parallels that of perinatal morbidity and mortality, congenital anomalies and of various specific constitutional diseases. This parallelism indicates a common aetiology and may be caused by reduction of conceptopathology, as a correlate to increasing socio-economic development. 'Inverted dose-response' or 'dose-response fallacy' due to 'vanishing male conceptuses' explains the low sex ratios at birth before World Wars I and II, in children from black parents or low socio-economic classes.



LET JUSTICE BE DONE

Maat, G.J.R.

A forensic-anthropological report on the collection of material evidence in Kosovo, 7-28 July 1999. In: *Criminalistiek, forensische deskundigen en strafrechtpleging* (K. Boonen, A.C. 't Hart and Th.A. de Roos, eds). Gouda Quint, Deventer, pp. 135-138, 2000.

As a result of the official end to the acts of war between on the one hand Serbia and on the other NATO and the KLA (Kosovo Liberation Army), a number of investigations were started with regard to alleged crimes against humanity. This took place on the authority of the ICTY (International Criminal Tribunal for the former Yugoslavia) of the United Nations. This report describes the forensic-anthropological investigation which was part of the examinations by the Metropolitan Police (New Scotland Yard, London) during the period 7-28 July 1999. Under the supervision of Detective Superintendent Bill Gent, and under the protection of the Dutch KFOR (Kosovo Forces), material evidence was collected near the town of Prizren in three villages (Celina, Krushna E Vogel and Krushna E Madhe) which had been hit by Serbian acts of revenge. These acts of revenge against the Albanese civilian population would have been a reaction to the start of the NATO bombardments of Serbian targets at the end of March 1999. The aim and the working conditions forced decisions in the field with

regard to the criminalistics (the application of scientific techniques in the collection and analysis of physical evidence for criminal cases), on which ideas could be exchanged. See 'discussion points'. The report presented here is concise and without illustrations as the extensive commentary is still under embargo. Criminal proceedings for which the material evidence was collected have not yet taken place.



ADOLESCENTS EXAMINED II. THE ONGOING ADVANCE OF RADIOGRAPHIC METHODS FOR AGE ASSESSMENT

Maat, G.J.R.

(Adolescenten doorgelicht II. De verdere opmars van Röntgenologische leeftijdsbepalingen). Modus 8: 5, 21-23, 1999 (issued 2000)

This article is a sequence to the earlier article "Adolescents examined. The advance of radiographic methods for age assessments" (Modus 4, 1997). The previous article dealt with age assessment with the aid of an X-ray of the hand-wrist. Here it concerns examination with the aid of an X-ray of the collarbone.

The national papers have given this quite some attention because of the age assessment of underage asylum seekers. In order to prevent any misunderstanding, the anatomical background and the diagnostic scope of the investigation is discussed.



THE IMPACT OF DIET ON AGE AT DEATH DETERMINATIONS BASED ON MOLAR ATTRITION. THE CASE OF THE LOW COUNTRIES

Maat, G.J.R.

In: Forensic Odontology (G. Willems, ed.). Leuven University Press, Leuven, pp. 49-553, 2000.

(publication in book)

To elucidate the impact of diet on age at death determinations based on molar attrition, a comparison was made between the found rate of attrition in a pre-medieval (British), a late medieval (Dutch) and a 17-18th century (Dutch) West-European population. It appeared that the rate decreased dramatically throughout this time span. Most likely this change was diet related, i.e. to the coarseness of foodstuffs. This result strongly indicates that molar age-attrition tables should only be used for age at death

determinations if its application is restricted to a particular cultural period and diet.



MANUAL FOR THE PREPARATION OF GROUND SECTIONS FOR THE MICROSCOPY OF BONE TISSUE

Maat, G.J.R., R.P.M. van den Bos and M.J. Aarents
Leiden, *Barge's Anthropologica* 7: 1-18, 2000.

It is becoming increasingly necessary for osteoarchaeologists, palaeo-pathologists and forensic anthropologists to have light microscopy as a diagnostic tool within easy reach. Because bone tissue seems very hard to prepare, it is understandable that one tries to avoid the use of microscopy as an aid in the determination of age at death, the diagnosis of diseases, the assessment of bone tissue decomposition, mineralization and metabolism. Refraining from the use of microscopy is often based on the widespread misunderstanding that the preparation of ground sections is expensive, demands a lot of time and sophisticated instruments, knowledge of plastics and stamina to face failed attempts to produce a useful section. As early as 1958, Frost recommended an elegant procedure for the "preparation of thin undecalcified bone sections by rapid manual method" (Frost 1958). The technique was developed for the processing of fresh bone tissue "to provide a means for the microscopic observation of bone that appears close to the ideal of observation *in vivo*". We have also been applying for many years and to our great satisfaction Frost's original technique on regular dry bone tissue of moderate to good preservation. It has proven to be a very cheap and reliable technique. Over time we have made and tested some modifications which further improved the technique and which also made it very suitable for less well-preserved inhumed and even cremated osteoarchaeological and forensic material. As in the original method, the modifications require only a few extra yet still very basic and cheap products.



AVULSION INJURIES OF VERTEBRAL ENDPLATES

Maat, G.J.R. and R.W. Mastwijk

International Journal of Osteoarchaeology 10: 142-152, 2000.

To gain insight into bone changes resulting from avulsions involving vertebral bodies, two archaeological skeleton collections covering the period AD 1455-1824 were examined. A quarter of the 44 adults who had sufficient numbers of vertebrae of all spinal levels showed minor to major changes. The male/female ratio was 7/4. The ratio of individuals with injuries contracted during their youth and during their adulthood was 3/8 (N=11). About half of the affected individuals showed such changes in multiple vertebrae. In about one third of the cases concomitant vertebral fractures not involving the vertebral body were recorded. A classification of vertebral body changes from avulsion injuries is proposed. A series of differential diagnoses is discussed briefly.



MANUAL FOR THE PHYSICAL ANTHROPOLOGICAL REPORT. SECOND EDITION

Maat, G.J.R., R.G.A.M. Panhuysen and R.W. Mastwijk

Leiden, Barge's Anthropologica 6: 1-50, 2000.

Summary as the first edition.



PHYSICAL-ANTHROPOLOGICAL INVESTIGATION OF SKELETAL MATERIAL OF THE WESTMONSTERKERK

Meijer te Meij, L.G.A.

In: De onderkant van de Markt. De Westmonsterkerk van Middelburg in archeologie en historie. ISBN 90 6825 255 0 ROB

(no abstract available)



CULTURAL ECOLOGY RELEVANT TO ARCHAEOLOGICAL RESEARCH IV:
LATE GLACIAL - EARLY POSTGLACIAL HUNTING STRATEGIES AND
LAND-USE PRACTICES IN THE SWABIAN ALB AND SURROUNDING
REGIONS (SOUTHWESTERN B.R.D.). Assen: van Gorcum & Comp. 1999

Newell, R.R. and T.S. Constandse-Westermann

The most direct and diagnostic indicators of prehistoric economic systems and subsistence practices are the fauna remains left behind and archaeologically recovered from abandoned settlements. When the fauna data are combined with locational and seasonal data, it becomes possible to identify functionally specific and seasonally discrete occupations of systematically chosen locations in the landscape (= structural poses) and then to reconstruct successive stages in part or all of the annual cycle of prehistoric land-use. With sufficient time-depth, diachronic changes can be measured and assessed for directional process.

Proceeding from a data-base of representative and mutually comparable fauna assemblages from 37 largely cave and abri settlements in the Swabian Alb and surrounding regions (B.R.D.), the composition of and change in resource strategies and land-use patterns from the Early Magdalenian to the end of the earlier Mesolithic (= 16,000 - 7,500 BP) are revealed. This is accomplished through a cumulative and hierarchical series of multivariate statistical analyses. Those analyses demonstrate a shift in the practice of Major and Subordinate Resource Strategy from the Early Magdalenian to the Magdalenian and then a reversion to the original pattern during the last two stages of the Palaeolithic.

These adaptations occur in situ, as locational and seasonal patterns of occupation and abandonment remain largely unchanged. The greatest discontinuity in composition, location and scheduling of subsistence activities transpires at the Late Palaeolithic - earlier Mesolithic boundary, with the Postglacial Mesolithic hunter-fisher-gatherers embarking upon a new departure in resource strategies and land-use practices in the southern B.R.D. and bordering Switzerland.



CHILD MORTALITY IN EARLY MEDIEVAL MAASTRICHT: MISSING CHILDREN?

Panhuysen, Raphaël G.A.M.

Barge's Anthropologica, Anatomy / LUMC, PO Box 9602, 2300 RC Leiden, The Netherlands

Oral presentation Chieti 2000, *Journal of Paleopathology* (in press)

Child mortality is considered a valuable indicator of health conditions both in modern and historical populations. Palaeopathologists often struggle with the question whether the recovered number of remains of children (especially of individuals between 0 and 10 years) at archaeological sites is representative for the actual mortality in that age category. For Western Europe in the early medieval period (AD 450- 950) high rates of child mortality (40-50%) are generally expected. However, excavations of early medieval cemeteries indicate that fewer children were buried at these cemeteries. The prevailing hypothesis, explaining this discrepancy, assumes that the number of children found at the cemetery represents only a small percentage of the actual number of deaths. The low number of children is explained by factors related to burial practice and taphonomic bias. According to an alternative hypothesis, the recovered number of children represents more or less the actual number of deaths. This hypothesis assumes that the expectation of a high mortality rate for children is based on incorrect demographic models.

Two early medieval cemeteries excavated in Maastricht, The Netherlands, were examined in order to test which of the aforementioned hypotheses fits best with the related archaeological, physical anthropological and palaeopathological data. At the St Servaas cemetery and the Boschstraat cemetery respectively 161 and 54 individuals were exhumed. At the first site 14 per cent of the individuals died before the age of twenty years, at the second site 43 per cent. No significant difference was found concerning the depth of burial between non-adult and adult inhumations. Femoral shafts, iliac bones and frontal bones were recovered in equal percentages for both non-adult and adult burials. Neither burial practices nor taphonomic factors significantly biased the recovery of child burials. Few children displayed signs of pathology. In the adult population, changes that may have been caused by pathological strain during the growth period were rare. Because of these findings, it is assumed that the examined population did not experience high levels of pathological strain during growth. This

indicates that for early medieval Maastricht there is no reason to make use of demographic models with high child mortality rates.



LIVING CONDITIONS IN THE MEROVINGIAN MEUSE VALLEY

Panhuysen, Raphaël G.A.M.

In: G. Cremers, *Congres Mosa Nostra, Het leven in de Maasvallei in de vroege middeleeuwen*, Gallo-Romeins Museum Tongeren, 2000

Written sources provide little information on the living conditions during the Merovingian period in the Meuse valley. Yet despite this absence of substantial information, a gloomy picture has been created in historical literature. Often a deterioration is mentioned compared to the preceding Roman period. With regard to the Merovingian period, for instance, an image is conjured up of small people, leading a sorry and short existence. At the same time, it is assumed that the population decreased in numbers.

By physical anthropological analysis of human skeletal remains, we can verify such assumptions. Physical anthropological analysis enables us to collect data on the composition of the population regarding sex, age and stature, while analysis of pathological changes in the skeleton can provide information regarding the state of health.

On the basis of recent physical anthropological research of two cemeteries in Maastricht and published data on other burial research, an attempt will be made to provide an image of the living conditions in the Merovingian period. Point of departure is the skeletal research of graves found in the St Servaas church and the Boschstraat area. From these two burial places 78 and 54 skeletons respectively were investigated from the Merovingian period. Skeletal investigation starts with an inventory of the presence of bone material per skeleton. In the case of fully-grown individuals, the sex is then determined on the basis of the pelvis and the skull. For a determination of the age of young individuals, the teeth, the development of the spinal column and the skull, the closure of the epiphyses and growth in the length of the long bones are examined. The age at death of adult persons is estimated on the basis of the closure of the sutures of the skull, gradual changes in the pubic bone and changes in

the structure of the bone in the head of the femur and humerus. A calculation of the stature is based on the longitudinal measurements of the long bones.

General information on the state of health is obtained by investigation of the teeth on the presence of growth disorders. X-rays of the tibia also provide insight into the extent to which an individual has been exposed to illness and nutritional deficits. More specific information on living conditions can be deduced from the presence of wear of the joints, infectious diseases, bone fractures and traumas.

Based on the results of the skeletal investigation of the Merovingian cemeteries, an image is created which is less gloomy than we could expect on the basis of the historical literature. The average age at death is around 40 years. As could be expected, the average stature was lower than the present average, yet clearly above the figures which were measured, for instance, at the beginning of the 20th century. Wear of the joints and infectious diseases were relatively rare. Comparison with other Merovingian cemeteries is hampered by the absence of recent large-scale studies which also focus on paleopathology. However, the available publications do seem to be in agreement with the findings in Maastricht. The state of health of the Merovingian population does not compare unfavourably with the preceding and succeeding periods. With regard to the Merovingian valley of the Meuse, there are no indications for a dramatic drop in living conditions.



(with apologies from the editor that the picture is no longer available due to a computer crash)

POSTMEDIEVAL SKELETAL REMAINS AT OSTEND (WEST-FLANDERS, BELGIUM). VICTIMS OF THE SIEGE OF OSTEND (1601-1604)?

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Poster presentation PPA in Chieti (18-22/09/2000)

During construction works in the centre of Ostend, a port town on the Flemish North Sea coast, human skeletons are regularly found at places where no cemeteries are known. This phenomenon was already mentioned by a historian at the end of the 19th century, who related these skeletons to victims of the Siege of Ostend in 1601-1604, during the Hundred Years War of the Netherlands against the Spanish.

In the course of building works for underground parking garages at the Mijneplein in 1994-95 and at the Visserskaai in 1998-99, excavations were carried out by archaeologists Marnix Pieters, Marc Dewilde and Liesbet Schietecatte of the Institute for the Archaeological Heritage (IAP) with the support of the city council.

Some skeletons were found in anatomical position, most of them oriented with the head towards the southwest, lying on their back with the hands crossed over the belly. Other skeletal finds consisted only of scattered clusters of mainly long bones. The bone structure was solid and well preserved, but most skeletons were incomplete with postmortem fractures.

Radiocarbon dating was carried out in the Royal Institute for Cultural Heritage in Brussels by Mark Van Strydonck and discussed with Dr Anton Ervynck of the IAP. A first series of datings for seven individuals lying together in one pit at the Visserskaai only provided a 'recent' date. A second series from the Mijneplein gave more satisfactory results, although they seem to be biased by the so-called 'fish-diet effect', which makes bone look older than it is.

Different historical sources describe the Siege of Ostend, the city succeeding to resist for more than three years to the Spanish besieger. Since all women and children left town and food and weaponry is known to have been supplied regularly by boats, the defenders are not likely to have suffered from scurvy, which is normally to be expected in a long siege. This information, together with the archaeological evidence of defence works and iron cannon balls made it very interesting to study the skeletal

remains.

The basic biological information of every skeletal individual is collected by morphometrical analyses¹ based on classic anthropological methods. Estimated are sex and age at death, stature, cranial index and platymeric and platycnemic indices. Further, the presence of anatomical non-metrical variants is noted, and palaeopathological features are diagnosed.

In the demographic study 50 skeletal individuals are discussed, most of them young adult men between 16-25 years, the oldest one not more than 45 years old. Only four females are present, three of which died between 30-34 years of age. The average stature is 170 cm for men and 160 cm for women. For nine skeletons the cranial index could be determined, five of which are mesocrany. The robusticity indices of the long bones show tender persons with a high number of eurymeric femora and eurycnemic tibiae.

Many anatomical variants are present: frontal metopism, sacral spina bifida and sternal anomalies are the most common. Frequently noted are the impressions of the ligaments and tendons at the proximal anterior diaphysis of the humerus and posterior tibia and at the sternal ends of the clavícula. The high amount of damage on the discs of the lower thoracal vertebrae and general vertebral osteophytosis can be seen as the result of muscular hyper-activity due to chronical occupational or biomechanical stress. Trauma was rare, a few healed fractures are seen on metacarpals and metatarsals. Diagnosed in several individuals are: porotic hyperostosis, cribra orbitalia, dental hypoplasia, healed rachitis, and periostitis at the tibia. Most of these bone disorders are caused by food and health deficiency diseases and infections. Clear evidence of scurvy was not found.

Physical anthropological study of skeletal remains excavated in the centre of Ostend showed a total of 46 mainly young adult males and 4 adult females. The large number of skeletal anomalies and palaeopathological features diagnosed can be associated with an insufficient diet, growth and health during childhood and early adult life. These young male individuals represent a poor social class. Historical and archaeological evidence support the hypothesis that they were victims of the Siege of

1 Vandenbruaene M. in druk: Standards for field recording and morphometrical analysis of human skeletal remains. Technical report, *IAP rapporten* 12, Zellik.

Ostend (1601-1604).

NEANDERTHAL MAN HAS BEEN PRESENT IN THE NETHERLANDS

Erdbrink, D.P. Bosscha

Up to present times no recognizable physical remains from any locality in the Netherlands have been described which could be attributed with absolute certainty to *Homo sapiens neanderthalensis* (King 1864). Two records exist of incomplete isolated femora (Erdbrink & Tacoma 1966; Bosscha Erdbrink et al. 1979) which may perhaps be ascribed to the Neanderthal subspecies of Man, mainly because of anatomical arguments. Almost nothing is, or will ever be known of the contextual circumstances of each find.

The first-mentioned fossil, part of a left femur, is inscribed in the collection of the former Rijksmuseum van Geologie en Mineralogie at Leiden, now amalgamated into the general Natural History Museum 'Naturalis' in that city, as number St. 104159. It had been dredged up from gravel deposits in the Meuse valley at Beegden near Roermond, province of Limburg, in March 1962. A rough attempt was made to determine its age by a method invented by Niggli, Overweel and Van der Vlerk (1953). Overweel (in litteris) thought it quite possible that the result pointed to a "Middle Tubantian" (i.e. Weichselian) stratigraphical age.

From an anatomical point of view a strong argument for the attribution of the fragment to a Neanderthalian is provided by a combination of two facts. The bone appears to have roughly broken along the borders between the diaphysis and the epiphyses at the bases of the trochanters minor and major, and between collum and caput, in such a manner that the individual most probably had only attained a subadult age when it died. At the same time the

age-regressive collo-diaphyseal angle of St. 104159 can be measured to lie between 120° and 130° , probably at some 126° . This is a value reached only by persons of advanced age in the subspecies *Homo sapiens sapiens*. According to Von Lanz & Wachsmuth (1938) the variation of this angle lies between 150° and 120° there. However, it is a compatible value in young Neanderthalian where the variation-with-age runs from 135° to 106° following Twiesselman (1961), or Patte (1955). In addition, it should be pointed out that the Beegden fragment remarkably resembles femora of the Neanderthal skeletons excavated at the cave of Spy near Namur in Belgium in its general aspect.

The second fossil, a fragment of a right femur, at present in the collection of the

Natural History Museum 'Museum' at The Hague, formerly number F 2715 in the (private) Steyn collection, was collected in a sandpit in the southern slope of the Grebbeberg, along the Rhine at Rhenen. Its collo-diaphyseal angle has a value of 124° and it possesses a strongly developed calcar femorale (Von Lanz & Wachsmuth 1972), indicating a young adult individual. Therefore here again, as in the Beegden case, one sees the combination of a low value for the collo-diaphyseal angle with another feature that is considered typical for a not very advanced individual age. This constitutes a very strong anatomical argument in favour of the attribution of the find to a Neanderthalian.

Unfortunately a controversy has briefly existed with regard to the (absolute) age of this last fossil (Bosscha Erdbrink 1986; Stapert 1986). The result of a 14C age determination of the bone fragment, while itself not to be doubted, can very much be put in doubt when it is considered that the bone seems to have been treated with some kind of conservation fluid(s) prior to its having been sampled for the age determination. At an earlier time, in its still untreated stage, a duplicate analysis of its nitrogen contents resulted in a relatively low value, pointing to a considerable (absolute) age.

While these two cases may therefore still be seen as inconclusive proof of the presence of Neanderthal Man in our country during the Pleistocene period, there exists circumstantial evidence for his having been here. In quite a number of short and long papers by amateur prehistorians, communicated during the past thirty years, a substantial number of finds has been described, mentioned and figured of stone artefacts of undoubted Mousterian type and Levalloisian make, considered as hallmarks of the Neanderthalian. Some of the contextual data, when mentioned, strongly point to their provenance from Weichselian and/or Eemian deposits, in the southern, central and northern parts of the Netherlands. To give an example, several such papers of recent date may be encountered in APAN Extern no. 6 (1996-1997). One case of the finding of an isolated Mousterian handaxe ("Moustérien de tradition acheuléenne" of Peyrony; Bordes 1954) in an undisturbed sandy deposit in a garden at Leersum, province of Utrecht, was described by Berendsen together with the present author (1984). The sandy deposit was that of a meltwater valley formed by melting snow during the Weichselian (or Last) glaciation. The find had been made by a neighbour of an amateur correspondent of the State Archaeological Survey (R.O.B.) at Amersfoort, while digging a hole for the planting of a shrub.

Some of the localities where undoubted remains of Neanderthal Man have been found nearest to our country are:

1. the classical Neanderthal site in the valley of the Düssel river, upstream from Düsseldorf in Germany and so called after a famous Rector of its Latin school, Joachim Neumann (or 'Neander' in Greek; 1650-1680), who was in the habit of roaming the place and visiting its romantic caves. This locality lies only some 60 kilometres in a straight line from the Netherlands border (province of Limburg).
2. the caves of Spy, where two almost complete skeletons were excavated in 1886 and 1887 by Fraipont and Lohest, along a tributary of the Sambre river which joins the Meuse at Namur, Belgium. This site lies only about 80 kilometres from the Netherlands border near Maastricht.
3. the caves of Engis, excavated by Schmerling in 1829, and Fond-de-Forêt near Liège, quite near the Meuse and not more than some 20 km from that same border.
4. a recently discovered site at Warendorf-Neuwarendorf (Czarnetski & Trelliso Carreño 1999), only 70 km distant from the Netherlands/German border.

Other localities in Belgium and Germany are also comparatively near and well within walking distance from the Netherlands border.

A slightly more distant locality, known since 1952 (Tode 1953; see Pastoors 1996, 1998, and Gaudzinski 1999) is Salzgitter-Lebenstedt south of Braunschweig in Germany, roughly 240 kilometres from the Dutch/German border. Five Neanderthal remains were found here and described by Hublin (1984). Fifteen ¹⁴C datings were carried out (Pastoors 1998), from which a main age of 50.000 years BP may be assumed for the deposits, units B1 and g1/g2, which contained these fossils together with a large amount of stone and bone artefacts. Among the mammalian remains (Gaudzinski, *op. cit.*) a preponderance of reindeer (2130 specimens with a minimum number of 86 individuals) is quite striking. Remains of mammoth, a species of horse, *Bison priscus*, woolly rhinoceros, and wolf have also been collected.

The reason why this site is mentioned here lies in the circumstance that, during the past few years, a major exploitation of sand and gravel (by suction-dredging) has been going on at a locality known as the Hooge Broek, north of Raalte (province of Overijssel) in the Netherlands (Fig. 1). This operation is directed by the firm of Reko and intends to suck sand and gravel to a depth of some 40 metres below the groundwater-level over a surface of roughly 70 hectares. At present the suction-dredger has progressed to at least 20 metres. At that depth a layer, or series of lenses, of tough grey-blue fluvial clay is encountered. This contains numerous stones, plant remains and fossil bones of animals. The stones indicate an almost exclusive provenience from the Rhine region: fragments of basalt, Devonian sandstone with brachiopods such as *Spirifer* (from the Eiffel area), jasper from the Lahn area,

greywacke from the Siebengebirge, quartzite from the Taunus, etc. Macroscopic plant remains are still being studied. They contain pieces of different kinds of wood and fructifications such as horse chestnuts and cones of firs and pines, but also twigs of heather and several shrubs and herbs. Included in the clay are lumps of dark peat and yellowish brown loam. This loam may be accompanied by weathered marine shells of Pliocene and Miocene age (*Anadara diluvii*, *Glycymeris* sp., *Laevicardium decorticaum*, *Pygocardium rustica*, etc.). These Tertiary molluscs are also present in the deposits of a so-called mixed-moraine at Miste near Winterswijk (province of Gelderland), not far from the Raalte locality in a straight line. I am indebted to Dr R.G.Molenbeek (Zoological Museum, University of Amsterdam) for their identification. Their occurrence at the Hooge Broek is in accordance with the observation made above regarding the provenience of the lithic material in the grey clay, carried there by the Pleistocene Rhine.

The many flint cobbles also present in the clay may well have been derived from that same mixed-moraine. They would have a Cretaceous origin from somewhere in northern Germany and transported from there by the earlier, Saalian, glacier responsible for the moraine. From among these flints and cherts a nephew of the present author, Ir J.G.Brewer, who lives near the

Fig. 1 Sketch-map of the Hooge Broek locality (centre), next to the Overijsselsch Kanaal, to the north of Raalte. As the lake made by the dredger is continually changing in outline, two of its sides are represented by dots.

Fig. 2 a. reverse, b. obverse, and c. side view of dark chert unifacial hand-axe-like straight scraper. d. obverse and e. reverse of small flint convergent unifacial leaf-like Levalloisian scraper. f. obverse of dark flint unifacial simple straight scraper.

Fig. 3 Inner view of intentionally pointed shard of a large mammalian long bone (*Bos primigenius*?/*Mammuthus primigenius*?).

locality, collected a few typically worked artefacts, three of which are figured here (Fig. 2). Made according to the Levalloisian technique, there are simple scrapers and convergent scrapers, just as at Salzgitter-Lebenstedt (Pastoors 1998, fig. 10). The very many fossil bones and bone fragments included some evidently worked pieces, such as the one figured here as Fig. 3. These few bone tools show affinity with those figured and described by Gaudzinski (op. cit., figs. 11, 12, 16, etc.)

Up till now about twenty different animal species have been recognized with certainty among the fossil bone remains collected at the Hooze Broek. Most frequent are fossils of red deer, reindeer (as at Salzgitter) and giant deer, while remains of elk (*Alces*) and fallow deer are not infrequent either. The aurochs is common as well, together with two types of horse: a large, heavy one and a more slender one. Bison and wild boar occur too, while some rarer remains have been collected by Ir Brewer of musk ox, roe deer, beaver, woolly rhinoceros, mammoth and carnivores such as cave bear, cave lion, cave hyaena and wolf.

Two ¹⁴C age datings have been made of samples from Hooze Broek fossils. One, from collagen in an incomplete 'massacre' (antler still attached to part of a skull) of a *Cervus elaphus* (red deer), number HB 8 in the Brewer collection and sample number UtC 6591, resulted in an age of 51.000 ± 5000 years BP. The other, from a piece of wood, sample number UtC 7173, gave an age of > 55.000 years BP, supporting the first dating. Age analyses were carried out under the direction of Dr K. van der Borg in 1998 at the R.J. van de Graaff Laboratory of the Physics and Astronomical Faculty of Utrecht University, for which I am much indebted to him.

Transposition of these dates into the presently accepted Late Pleistocene chronostratigraphy (Van Andel & Tzedakis 1996: fig. 11; Pastoors 1998: fig. 6)

arrives at either of two interstadials of the second half of the Weichsel-, or Last, Glacial, at the beginning of Oxygen Isotope Stage 3, namely the Glinde- or the Oerel-interstage; as is the case of the finds at Salzgitter-Lebenstedt.

In conclusion of this short communication it may be stated with confidence that there is no reason any longer to doubt the former presence, during the last part of the Pleistocene period and until he was superseded by human beings of modern type, of *Homo sapiens neanderthalensis* (King 1864) in the Netherlands. Some of his physical remains may even turn up at some nearby moment!

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(with apologies from the editor that the pictures are no longer available due to a computer crash)

Book reviews

SPURIOUSNESSES CONCERNING 'RACE THEORIES'

The Eleventh Yearbook of the Netherlands Institute of War Records denies corruption of science by the Nazis. A disgrace.

Roede, Machteld

The Eleventh Yearbook of the Netherlands Institute of War Records (Nederlands Instituut voor Oorlogsdocumentatie - NIOD) 'Volkseigen' offers very readable, often revealing, information on points of view and persons, mainly from the Human and Social sciences. Much energy was undoubtedly put into this volume. Yet I cannot but react against this book. A number of omissions, but in particular the objectionable conclusions in the fashionable scientific discourse on possible 'wrong' science compels me as a biologist/ physical anthropologist to react.

Because of the subtitle 'Race, culture and science in the Netherlands' and the referring to a possible key role of 'race', 'heredity' and 'natural traits', I think that a separate chapter written by the discipline of physical anthropology should have been included. Now total outsiders, not hampered by any factual knowledge of our field and in my opinion with a clear prejudice, have here and there referred to our fellow scientists. It would have been clearer if the theoretical lines of the cultural studies of a 'national character' ("een eigen volksaard") had been separated from the essentially different approaches of those who study the nature and causes of biological variation.

The Yearbook states that "thinking in ...racial types...still continues until today". This, however, does not apply to our discipline; to us 'race' is a total non-issue. Already decades ago, European and American physical anthropologists decided to abandon the use of the artificial concept of 'race'. Not only because of its fallacious use by the Nazis but especially because modern research clearly indicates that it has no biological significance and explains little.

Nevertheless, time and again the finger is pointed at us physical anthropologists because we would be involved with 'races'. (No physician is ever blamed for the gross misuse of medical practices by Nazi doctors). This silent reproach also reverberates in the Yearbook. Yet, for instance, the fact that long after the war some schoolbooks still present cranial differences as 'racial' differences should not be pinned on us scientists. It cannot be denied that in the past also investigators from our field were engaged in the study of 'racial' differences. Since the middle of the 19th century, for those who

joined the 'Committee of Ethnology' and later its replacement the 'Netherlands Anthropological Association', the recurring question has been the origin of the Dutch population. Many local physicians dedicated considerable time to the study of Dutch crania. Among others, Sasse Senior and Junior, and later also the famous anatomist Bolk, tackled the alleged differences between, amongst others, the dolichocranic Frisians and the strongly brachycranial Zealanders. It should be realised, however, that in those days, also in the Netherlands, both the theoretical approach of physical anthropology and its methodology were still in their infancy. From (proto)historic sources, terms were adopted such as 'Celts' and 'Teutons', for which no biological characteristics were known. Yet, opponents, like Kohlbrugge in 1911 and in later years Barge, cast doubt on the typological classifications and theories on German tribes and rejected the linking of physical features with mental and behavioural ones. On what was founded the choice of authors of the Yearbook, such as for instances Bijlmer? Many others have been omitted, such as those who have also reported on somatometric characteristics of New Guinean populations. They are mentioned in the excellent survey on physical anthropological research in the Netherlands up to 1938 by Adèle van Bork-Felkamp - long the personification of our field. She clearly distanced herself from the nationalistic tendencies in nearby Germany. It is regrettable that the NIOD book fails to mention her.

Furthermore it is confusing that the review of the then existing situation in the Netherlands is intermixed with relatively many extensive articles on the question why in (Nazi) Germany eugenics and the resulting 'race-hygiene' measures could become so popular. It is true that also in the Netherlands in the prewar years - as elsewhere - there was a debate on whether or not 'mixture of race' would be permissible.

But why was fuller consideration not given to the question why the eugenic movement - which also flourished for many years in America and Scandinavia - hardly gained real respect in the Netherlands? Too little is said of the different, but yielding little, activities of cell biologist Marianne van Herwerden. In 1920 during a study trip to the States, she became very impressed by the American eugenic movement and tried - never successfully - to promote these ideas in the Netherlands. Most of her colleagues failed to respond. The leading geneticist Hagedoorn and his wife - though against racial intermarriages - argued that eugenics lacked a scientific base. Van Herwerden's ideas were moderate; for instance, she rejected the stringent

American sterilisation laws. She disapproved, as one of the few of the many present, of an anti-semitic lecture on 'race-hygiene' in Innsbruck in 1924. She denied the existence of 'good' and 'bad' races. She considered mixture of races not harmful, and remarked that after all in Berlin 44 percent, in Hamburg 60 percent, of all marriages

was Jewish-Aryan (and in Amsterdam 12 percent). The NIOD book does not mention these facts.

During the Second World War, Dutch eugenisists generally condemned Nazi anti-semitism and racial measures, which strongly deviated from their attitudes before the war. Various physicians though became followers of the national-socialist ideology. Some gynaecologists cooperated by, amongst others, sterilisation of Jewish women. The most outspoken sympathiser was the biologist W.H.F. Stroël, member of the Dutch national-socialist movement NSB and of the German SS. He worked among others at Berlin's nazi-racism bastion, the Kaiser Wilhelm Institut, on material collected by Mengele in Auschwitz. After the war, these people were brought to trial. In 1987 Schellekens and Visser published an excellent overview of all these facts. Yet, nothing is included in the NIOD book.

Several researchers from the Human sciences were in fact in league with the German occupiers, as is disclosed in detail in the NIOD book, such as the SS member and prehistory student P. Felix. Others at least sympathised; no real resistance is mentioned. Not remarked upon however is the sharply contrasting fact that none of the then physical anthropologists associated with the Nazi ideology. The Yearbook only summarily mentions the resistance offered by our discipline. It is true that the Yearbook opens with the fact that on 26th November 1940 in Leiden - and simultaneously with the well-known protest speech by professor Cleveringa - in the nearby Anatomical Laboratory, professor Barge gave his lecture "Hereditiy, Race and Tribe". He refuted the Aryan racial doctrine on scientific bases. Not mentioned, however, is his courage to refer to the very heterogeneous facial and body features of the German occupiers, which were hardly in accordance with their ideal, superior, tall, blonde Nordice race. He ridiculed the German soldiers, who required specially cut uniform coats and boots to look less small.

The cover of the Yearbook shows the physician Sasse Jr, while measuring the headcircumference of children on the island of Urk. In the book, skull-measuring is - as with such a tendency among numerous sociologists and cultural anthropologists - looked upon with disdain. Yet, it would have been more appropriate to refer to the fact that at the Anatomical Laboratory in Amsterdam, the physician Arie de Froe, with the help of his young assistant Johan (John) Huizinga, used anthropometry, including such craniometry, to produce 'scientific' certificates of 'Aryan' origin, and thereby saving the lives of many Jews.

The omissions mentioned are very important to me, but are not the cause of my dismay. That is caused by the discussions, in particular in the first and last chapter, on

‘wrong’ and ‘proper’ science. In the last chapter - such cheek - the statement by a Rudolf Hes is quoted that “national socialism was nothing more than applied biology”. Also in the remainder of the text it is assumed that the Nazis only applied already existing scientific ideas.

How unwholesome. Science was in fact corrupted by the Nazis. In Germany it took many decades before the role of their anthropologists in the Nazi period was discussed and before it was acknowledged what among colleagues elsewhere had been known for a long time: the Nazis asked German anthropologists to rewrite and modify their texts to offer a spurious ‘scientific’ base to the confirmation of a racial ideology. To compensate for the fact that its founders, De Gobineau and Chamberlain, neither anthropologists nor German, constructed their ideals purely on ‘belief’. A (later leading) German anthropologist admitted that she also collaborated, “but I was young and had a young family to take care of; I had no other choice”.

One of the founding fathers of German anthropology, Rudolf Martin, however refused to rewrite his work. He was too famous to be persecuted. He nonetheless arranged for his books and reprints to be kept safe at the Laboratory of Anatomy in Utrecht. Later, professor Mijnsberg handed this unique material over to John Huizinga for cataloguing. Until the closing down of the Institute of Human Biology in Utrecht, which was founded by the latter, the Martin Collection formed a special part of its library.

Unfortunately I cannot but conclude that the denial of the fact that the Nazis based their practices on falsifications and pseudo science - a fact that far surpasses the differences in approach in our disciplines - is a disgrace for precisely a publication of the NIOD.

N.B. The information given, such as for instance concerning De Froe and Huizinga, comes from my chapter ‘A History of Physical Anthropology in the Netherlands’, not yet in print.