

Introduction to papers listed on the Zwolle index page

We present here a number of published and unpublished papers, treating aspects of a single skeletal (dental) sample. The skeletons were excavated during the winter of 1987-88 in a church in the town of Zwolle (The Netherlands) and date from the late 18th and early 19th centuries. The sample was considered important because the church registers of the later burials were also available. Through these, sex and age at death of many of the deceased were known (and in a few cases also their professional activity), making it possible to evaluate the then current age estimation and sex determination methods. The identified skeletal material is now housed at Leiden University: Human Osteoarchaeological Laboratory, Faculty of Archaeology, Leiden University, Einsteinweg 2, 2333 CC Leiden, The Netherlands, curator professor M.L.P. Hoogland (tel. 0031-71-5272377, email m.l.p.hoogland@arch.leidenuniv.nl). Steps are being taken to assemble the complete documentation, including the original recording sheets, in this repository. The initial research project was subsidized by the "Promillage Fonds" of the "Nederlandse Maatschappij tot Bevordering der Tandheelkunde" (NMBT, the Dutch Dental Association).

In addition to the articles included here, the research project was described in four papers (in Dutch) in the "Nederlands Tandartsenblad", the formal organ of the NMBT (1993, 48(3) pp.134-135; 48(4) pp. 170-173; 48(5) pp. 212-215 and 48(6) pp.299-302). A synopsis of paper 3 was published in a special issue of *Homo* (Vol 45, Supplement, p. 34) dedicated to the Xth European Meeting of the Paleopathology Association in Göttingen (29th August to 3rd September, 1994) at which paper 3 was first presented. These papers contain no information additional to the papers included here.

Simon Mays also examined the Zwolle dentitions and jaw bones and published three papers on his observations (*Journal of Archaeological Science* (2002) 29: 861–871; *American Journal of Physical Anthropology* (2014) 153: 643–652); *Homo* (2015) 66: 203-215. He did not use the data described here, but made his own measurements on the dental/skeletal material.

Paper 1 describes the methodology developed to construct the database. The next six papers (2-7) treat aspects of the skeletal sample (with emphasis on the dentitions).

Paper 2 (in Dutch) was written as part of a book, intended to inform the general public, and especially the inhabitants of Zwolle, about the church's history and about the importance of the skeletal sample. Therefore relevant aspects of the methods used in skeletal and odontological research, as well as the basics of the statistical treatment of the data, were explained in simple language. Some of the results of the research were then presented. The main reason for including this paper here is the many coloured plates, illustrating all kinds of details and interesting cases found in the sample. English translations of the captions to those plates are linked to the file.

All relevant results presented in paper 2 can also be found in English in papers 3, 4, 5 and 6, albeit sometimes in a slightly modified form. The data were scored on data sheets as described in paper 1. All scoring was done by the same two people (W.H.M. Bouts and Tj. Pot), mostly in close cooperation, sometimes separately, and then checked for inter-observer discrepancies. The data were then extracted from the datasheets using a specially designed computer programme (designed by W.H.M. Bouts and H. Verhoeven and programmed by the latter, as also described in paper 1). Unfortunately, the programme is no longer available). The data were recorded and interpreted according to a very specific set of theoretical and practical "rules", as described in detail in paper 5 (pages 6 and 7).

Paper 7 was worked on independently, using the original recording sheets, with precise attention to the observation/coding method (*i.e.* following the same set of “rules”). During the course of the various investigations no changes were made to these rules: the database is exactly the same in all papers included here.

However, it should be noted that not all these papers are based on the total sample of 78 subadults (individuals under 21) and 334 adults (21 and over) whose dentitions were excavated. In some cases the specific topics examined in a paper put a limit to the numbers of individuals to be included.

In paper 2 the total sample is fully described. As the dental pathology in the adult dentitions was dependent upon age at death but also upon sex, all individuals of unknown sex as well as all those for whom no age estimation was possible had to be excluded, reducing the sample to 102 males and 120 females.

The samples used in papers 3, 4, 5, and 6 were as follows (permanent dentitions):

	Subadults (below 21)	Adult males	Adult females	Adults known and unknown sex
Paper 3	78			307
Paper 4	29	37	43	
Paper 5	34	102	120	
Paper 6				307*

* In paper 6, of the 307 individuals, only those in the younger agegroups finally figured in the evaluation.

For paper 7, the variables were derived separately from the individual dental recoding sheets. This was done according to the "rules" as described above. However, in this study, the individuals analyzed are only those of known sex and age at death whose dentitions contained at least one element of the permanent dentition which was in occlusion. This resulted in the following numbers of individuals included:

	below 21	up to and including 39	above 39
Males	1	13	30
Females	5	11	36

Two more remarks must be added referring to papers 3 and 4. Paper 3 was actually written for publication in the Proceedings of the Xth European Meeting of the Paleopathology Association in Göttingen, August/September 1994. As such it was included in the bibliographies of some of the other papers presented here. Unfortunately these proceedings never appeared.

Regarding paper 4, the following pertains. The author was invited to write this article on 1st February, 1994, as an invited contribution to the Denise Ferembach Memorial Volume. The paper was sent to the editor and guest editor on 1st October, 1994, as requested. However, when the Memorial Volume was finally published (in April 1997), as *Human Evolution* 11 (2) 1996, the paper was not included. The author was not notified of this at any point, either prior to, or after, the

publication and no reason for this omission was ever given. On 7th May, 1998, *Human Evolution* 12(4) 1997 was published, containing a garbled version of the article, without authorization by the author, to whom no proofs had been sent. Parts of the paper had been retyped with a number of errors, two endnotes had been omitted, two of the tables had been unacceptably reduced in size, two of the figures were printed in very low quality, and the dedication to Denise Ferembach and some words to thank the guest editor of the Memorial Volume were still included. The printed version is included among the papers presented here, with a link to corrections of the most serious faults.

A final remark must be added as to the dating of the various samples used in comparison with the Zwolle material in papers 4 and 6. In paper 1 (1989), a few of these were already used to demonstrate the possibilities of the computer programme. In that paper only a rough dating of those samples was given. In paper 4 the dates published in 1989 were used. Preparing paper 6, written approximately 10 years later, some more information was obtained in personal contact with the excavators. In a link to paper 6 the reader can find the most complete information on the samples used.