Methods

The Archaeozoology of the Pleistocene

Pleistocene mammals are identified using traditional osteomorphological and palaeontological methods using reference collections (for example Leiden University or Naturalis). Relative dates of the finds are often based on taphonomic and biostratigraphic data as well as the stratigraphic information available for the deposits that yielded the remains. To put the more recent, Late Pleistocene record in a chronological framework, calibrated radiocarbon dates are used when available.

The Mesolithic-Neolithic Transition

For most sites referred to in this chapter, the number of fragments were used to quantify the importance of the various animal species. For the sites Balkweg and Jardinga the MNI (Minimum Numbers of Individuals) were used as well (see Supplementary Table 3). The datings mentioned in the text are based on radiocarbon dating (see Supplementary Table 2).

The Subsistence Economy of the Metal Ages

In Figure 5, use potential is a relative value to evaluate the production potential of a herd for meat or milk (Cribb 1985). The higher the value, the higher the potential. Birth rate indicates the number of young born per female per year, and growth rate indicates the annual growth of the herd. Growth rate values higher than 1 indicate an increase of the herd, whereas values lower than 1 indicate a decrease. Explanation of the Y-axes: potential for meat: proportion of the herd that may be slaughtered (for meat) yearly (x 100); potential for milk: proportion of the herd that will give milk for human consumption (x 100); birth rate: number of calves born annually per female; growth rate: annual growth of the herd.

Cattle mortality profile in Figure 6 is based on postcranial data, i.e. fusion and porosity based on Habermehl 1975. The epiphyseal data are translated into mortality profiles using Chaplin (1971, 128–131). The age grouping is explained in Van Dijk (2015).

Chaplin, RE. 1971. *The study of animal bones from archaeological sites.* London and New York: Seminar Press.

The Roman Period

See Section ‘Methods’, Maaike’s textbook, and Lauwerier’s dissertation

See section ‘Methods’, Groot (2010/2016????), and Lauwerier (1988)

Size and shape of cattle and horse in the Roman period

Traditionally, research on the size of ancient livestock in the Netherlands has focused on reconstructed withers height (Van Dijk & Groot 2013: 180). Only recently has there been more interest in other research questions that biometrical studies can address, such as changes and differences in shape. However, for an overview of the last 50 years withers height provides the most data; therefore, this section is restricted to reconstructed withers height, despite its shortcomings.

The calculation of withers height is based on Von den Driesch & Boessneck (1974) and Matolcsi (1970) for cattle and May (1985) for horse.

The Early medieval period

In order to assess the socio-economic trends of the Early medieval period, ratios of NISP derived from archaeological publications concerned with the Early medieval period were assessed. Only sites with a NISP of 100 or more were included in the study. For supplementary table 4, two exceptional pits filled with pig mandibles are excluded from the NISP count.

Animals from castles and monasteries

The overviews of fauna from castles and monasteries in the chapter 'Animals from castles and monasteries' are made using data from the database BoneInfo. In BoneInfo only the species are recorded per site therefore only presence or absence data could be used. Some general information on species ratios of livestock are added based on published literature.

Animals in ritual: A focus on special deposits

The variation in the livestock composition is discussed using the proportions of numbers of remains of the domestic animals of Iron Age, Roman period and Early Medieval phases of a number of terps (Supplementary tables 18-20 and figures 18-20). The use of wild animals by the terp dwellers is based on archaeozoological publication on terps.

The persistence of fishing and hunting through the ages

BoneInfo was used to determine which species were exploited for the period Mesolithic – Middle Ages. Special attention was paid to terrestrial mammals, fish, birds, and cetaceans. Ubiquity (i.e. the number of sites a species occurs) was taken into account to observe chronological developments in species exploitation. Identified species are harbour porpoise (Phocoena phocoena), common bottlenose dolphin (Tursiops truncatus), killer whale (Orcinus orca), Atlantic right whale (Eubalaena glacialis), and sperm whale (Physeter macrocephalus). Most cetacean bones remain unidentified below the taxonomic level of family, a major problem in cetacean research in archaeozoology (Speller et al. 2016).

The Use of isotopes in Dutch archaeozoological research

A selection of Dutch archaeozoological studies concerned with isotopes were discussed as part of this section.

Extirpations and Introductions

BoneInfo and palaeontological, zooarchaeological, and zoogeographical publications were used to determine the presence or absence of particular species for each time period. The archaeological period definitions are Archis/Boneinfo; they are also provided in Supplementary Table 1. The beginning of the Neolithic is placed at the end of the 6th millennium when farmers of the Linear Pottery Culture with their livestock occupied the south of the Netherlands. Figure style is adapted from Historic England (Baker & Worley 2019, Fig. 1.2).

The Archaeozoology of the Terp Area

The variation in the livestock composition is discussed using the proportions of the numbers of remains of the domestic animals found in the Iron Age, Roman period and early medieval phases of a number of terp sites (Supplementary tables 19-21 and Figures 19-21).