

Introduction

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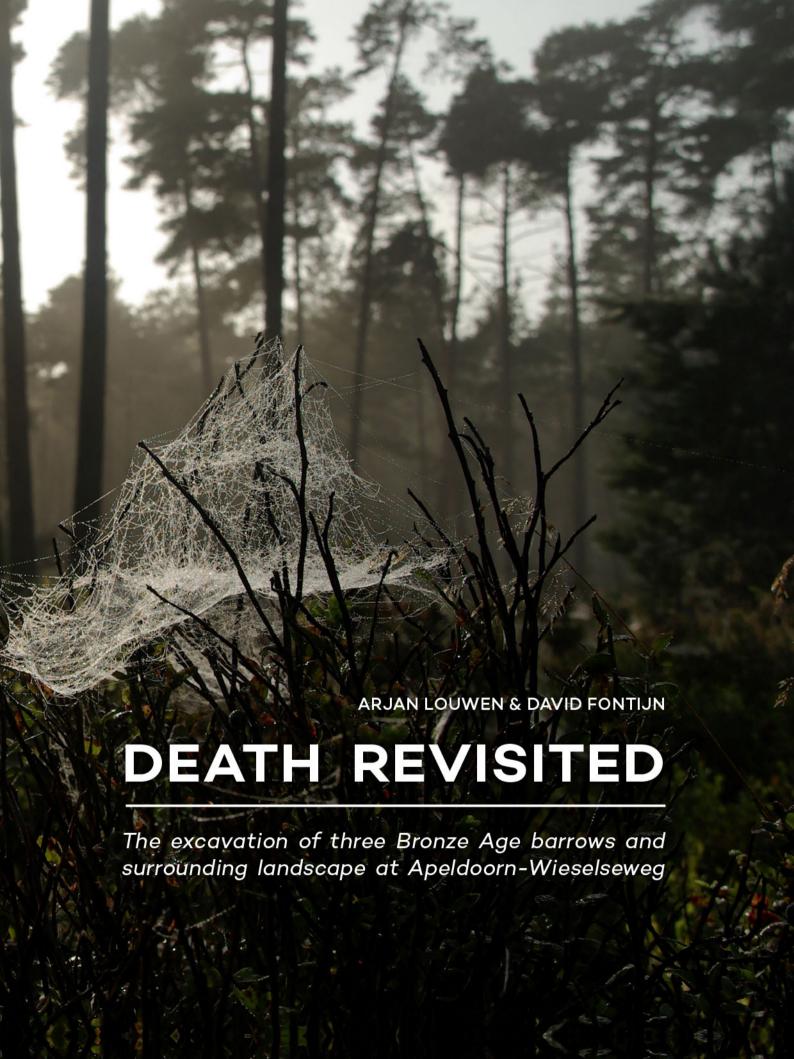
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DEATH REVISITED

The excavation of three Bronze Age barrows and surrounding landscape at Apeldoorn-Wieselseweg

ARJAN LOUWEN & DAVID FONTIJN (EDS)

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Chapter 1

Introduction

David Fontijn & Arjan Louwen

1.1 New discoveries in barrow landscapes

Barrows are the most common prehistoric monuments that can still be found in the European landscape today. Once erected as burial markers during prehistory, burial mounds have since served as important anchors in the landscape. Burial mounds built in the 3rd millennium BC were sometimes used to bury the dead until the 1st millennium BC (Bourgeois 2013; Theunissen 1999). Occasionally, these monuments were also used in Roman times and the Middle Ages, and were sometimes shrouded in superstition and folklore until the 19th century AD (see for example Meurkens 2010). In prehistory, the erection of burial mounds must have been an important act: their visibility almost guaranteed a long history. Strangely enough, however, little is known regarding why the graves of certain decedents were marked with a monument, while those of others were not (cf. Theunissen 1999). Even less is known about the – in our view – remarkably 'loose' spatial planning of burial mounds. Walking through the Veluwe, the present-day visitor sees burial mounds almost everywhere, without seeing tight clusters like we imagine a real graveyard to be.

One of the important discoveries that have been made in the last ten years is that there were many more burial mounds than we thought possible. In the Netherlands there were already thousands known and registered as monuments, but with the rise of high quality LIDAR images, large numbers of 'new' mounds have been found. The open accessibility of high resolution elevation models (*Actueel Hoogtebestand Nederland* in Dutch; AHN), available for the entirety of the Netherlands (www.ahn.nl), has led to many new discoveries, especially in forested areas that are difficult to access and where visibility of elevations is hindered by trees and brush.

This book presents research into such a discovery: a group of three mounds, two of which are so insignificant in height that they hardly stood out and could only be interpreted as 'possible' burial mounds with great uncertainty. Excavations of some of these mounds, however, showed that we are not only dealing with Bronze Age barrows, but above all that there can be surprisingly many graves in apparently insignificant mounds. Research into the surroundings showed that even in a soil archive that has been strongly disturbed by forestry activities, there are still important archaeological traces that offer us remarkable insights into the organisation of a Bronze Age funerary landscape.



Fig. 1.1: Location of research area (red box) (© OpenStreetMap contributors and the GIS community).

Within the more comprehensive research into the nature and significance of barrow landscapes from later prehistory, the burial mounds along the Wieselseweg offer interesting research opportunities.

1.2 The Apeldoorn-Wieselseweg sites

In the summer of 2008 and 2009, the Faculty of Archaeology, Leiden University carried out an archaeological field study of two burial mound groups by the Wieselseweg in Apeldoorn in two four-week campaigns (Fig. 1.1). Both locations are situated in the woods of the Royal Domain 'Het Loo' and are under the direct supervision of the Koninklijke Houtvesterij. The research took place within the framework of the Ancestral Mounds project (see Section 1.3) of Leiden University funded by the Netherlands Organisation for Scientific Research (Nederlandse Organisatie voor Wetenschappelijk Onderzoek in Dutch; NWO), and was made possible in part by the municipality of Apeldoorn. During the investigation, we worked together with the Culturel Heritage Agency (Rijksdienst voor het Cultureel

Erfgoed in Dutch; RCE¹). The municipality of Apeldoorn acted as the competent authority.

The fieldwork came about through a scientific interest of the Ancestral Mounds project regarding the creation of barrow landscapes and the original layout of these landscapes, as well as through questions from public heritage institutions, provinces and municipalities about the importance of these burial mounds. In particular, there proved to be a lot of questions in the field of policy making and the management of burial mound landscapes in the Netherlands in general and in the barrow-rich municipality of Apeldoorn in particular (Fontijn *et al.* 2011). Sealed with a covenant concluded in 2007, Leiden University, the municipality of Apeldoorn and the RCE therefore worked together.

The Wieselseweg burial mounds proved to be highly suitable for further study in several respects. On the one hand, fortunately, many burial mounds had already been

¹ At the time of the fieldwork the RCE was still called *Rijksdienst* voor Archeologie, Cultuurlandschap en Monumenten (RACM).

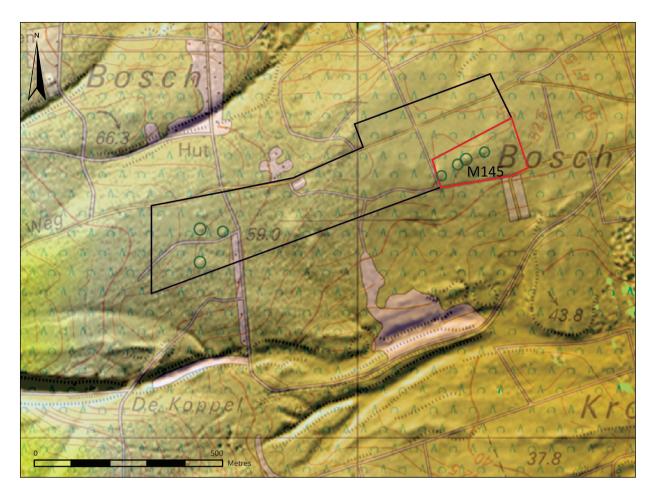


Fig. 1.2: Detail of the research area (black border). The red frame shows the boundaries of AMK-monument 145 with the four protected barrows. The three recently discovered burial mounds (3 circles) are located in the western part of the research area (© www.ahn.nl and Land Registry).

recognized and protected by law. On the other hand, none of these mounds had ever been investigated, which left the most basic questions unanswered – how old are these mounds? How special and valuable are they?

In particular, it was unclear whether archaeological traces were still present around these protected burial mounds. It was possible to explore the area in the immediate vicinity of a row of four barrows in more detail (AMK²-monument 145; Fig. 1.2). Interestingly, by studying the AHN a second burial mound group was discovered close by, which until then had been completely unknown. At this second location, some 500 metres west of the first one (Fig. 1.2), a round elevation in the landscape was discovered. It was suspected that this round elevation represented an unknown burial mound (Mound 1 in this publication). During a field inspection in the company of the

then Royal *Houtvester* Dr. Ir. J.H. Kuper, two other possible burial mounds were recognized within a stone's throw (Mounds 2 and 3). These were, however, relatively low mounds, of which Mound 3 in particular had an irregular shape. Corings in Mounds 1 and 2 yielded charcoal – which made identification as an anthropogenic mound probable. In the case of Mound 3, the results of the coring study were less clear: apart from a tiny amount of charcoal, no clear indications were found that this was an anthropogenic mound. The corings by the Leiden University team were later repeated by colleagues of the RCE (pers. comm. J.W. de Kort), with exactly the same results and conclusions.

If insignificant and irregular mounds like Mound 3 can turn out to be the remains of prehistoric barrows, how many possible burial mounds have escaped attention so far? Also in this second barrow group there was the possibility to explore the surroundings. All in all, this location proved to be an opportunity to evaluate three possible burial mounds with new field techniques and to place them in a

² Archaeological Monuments Map; Archeologische Monumenten Kaart in Dutch).

broader landscape and archaeological context by means of an inventory field study (*inventariserend veldonderzoek* in Dutch). With the permission and generous cooperation of the Royal Domain 'Het Loo', it was therefore decided in the spring of 2008, in consultation with all the parties mentioned above, to proceed with an archaeological excavation at the Wieselseweg.

1.3 The Ancestral Mounds project

The Ancestral Mounds project was initiated in 2007 by the first author of this chapter (Faculty of Archaeology, Leiden University) and has been funded by the NWO since 2008. The project has now been officially completed (2013). The main goal of the project was to achieve an understanding of the genesis of burial mound landscapes and the design of these landscapes. While burial mounds are among the best known and most common prehistoric monuments in Northwest Europe, active systematic and scientific research into these monuments has stagnated in many countries over the past decades. In addition, most of the research in the past focused on the barrows themselves rather than on the environment in which these burial monuments were situated. Therefore, our knowledge of the immediate surroundings of burial mounds is very limited.

For example, recent research in Oss-Zevenbergen (Fokkens et al. 2009; Fontijn et al. 2013b) demonstrated that burial mounds were by no means isolated, but part of an organised funerary landscape. On the other hand, burial mounds in other areas also appear to have been built on settlement sites (Fontijn 2010). The lack of knowledge about the environment of burial mounds also makes it very difficult to make well-founded statements with a view to heritage management for the zones directly outside the burial mounds. The need for such knowledge became apparent when the Archaeological Monument Database was updated in 2006 and decisions had to be made about reducing the size of protected areas around burial mounds. At that time, the zone to be protected around barrows was often set at 10 metres around the mound, without any substantiation being provided to support this size. However, with the excavation results of Oss-Zevenbergen in mind, serious consideration must be given to the fact that there could be substantial structures outside the mounds, such as long post rows, which were part of a prehistoric funeral landscape that as such is virtually unknown in the Netherlands. In the first burial mound excavation of the Ancestral Mounds project in Apeldoorn, at the Echoput site in 2007 (Fontijn et al. 2011), large numbers of archaeological traces were even found that until now had not been suspected of having been preserved at all in the forests (Valentijn/Fontijn 2011).

It is also questionable whether our established ideas about the burial mounds themselves are still valid when tested against newly developed research methods. Pollen

charts have now been successfully compiled in Oss-Zevenbergen and Apeldoorn-Echoput that provide insight into the history of the site before the burial mounds were erected (Doorenbosch 2011; 2013ab). Another method of excavation, in which, among other things, all the sods with which mounds were built are carefully examined, as well as detailed analysis of mound material and pyre remains, also appear to provide new insights into burial mounds (Bourgeois/Fontijn 2010; Van der Linde/ Fontijn 2011; Fontijn et al. 2013b). For example, recent fieldwork at Apeldoorn-Echoput (two kilometres west of the Wieselseweg mounds) revealed that a sods structure can indeed be observed in the so-called 'yellow' burial mounds located on the stuwwallen (Van der Linde/ Fontijn 2011, 47-9). The use of new dating methods such as OSL (Optically Stimulated Luminescence) also offers opportunities for the dating of burial mounds (Van Mourik 2010, 71–3). For all these studies, however, it is necessary that the burial mounds themselves are also re-examined in the field. In addition to these pragmatic innovations, it is also important that our established ideas about the burial ritual and social and religious significance of burial mounds within the prehistoric cultural landscape are evaluated, as these are also mainly based on old research. A study of this, based on the reinterpretation of many old finds, has also yielded many surprising insights (Wentink et al. 2011; Wentink in prep.).

In order to satisfy these different perspectives of renewed burial mound research, three PhD students worked on three different sub-studies of the Ancestral Mounds project. One of these studies is still being completed and focuses on all aspects of the burial ritual found in barrows (Wentink in prep.). A second study focused on the design and creation of the prehistoric funerary landscape (Bourgeois 2013) and a third on the vegetation development and the influence of man on this vegetation of these funerary landscapes (Doorenbosch 2013ab). It goes without saying that the fieldwork carried out on the Wieselseweg is closely linked to these sub-projects.

The central question for the research then focuses on the role of burial mounds in the prehistoric landscape. In concrete terms, the research focuses on the question whether there were activities taking place around the burial mounds that provide more insight into their importance, and can possibly also explain why the mounds were erected exactly here. Did people live around the mounds, for example, as was established in Elst-Rhenen (cf. Fontijn 2010)? Or was there a structured 'funerary' landscape with constructions such as rows of posts and small buildings such as those at Oss-Zevenbergen (Fokkens *et al.* 2009)? It is also possible that the surroundings of these mounds were so disturbed by later forestry activities that there are no longer any archaeological traces. Again, no information was available at the outset of the investigation.

By paying attention for the first time to the mounds along the Wieselseweg itself, it was now also possible to determine how old (and possibly also how special) this burial mound landscape actually was. Mounds 1, 2 and 3 along the Wieselseweg are clearly related to mounds in other parts of the barrow landscape (see Chapter 2). Mound 1, for example, seems to be in line with the mounds of the row east of it (AMK-monument 145) and with burial mounds near the Koningseik to the west (see Figs. 3.2 and 4.2). Last but not least: are 'insignificant' mounds like Mounds 2 and 3 really barrows? It has already been noted that the outcome of the prospective coring investigation did not provide any clarification in this respect. If this is the case, it not only has consequences for the effectiveness of coring research, but it could also mean that there may be many more modest prehistoric monuments hidden in the Veluwe forests that we simply do not recognize today.

1.4 Research area

The Wieselseweg runs from the twin village of Wenum-Wiesel (municipality of Apeldoorn, province of Gelderland) from the Zwolseweg in a westerly direction into the heart of the Royal Domain 'Het Loo'. Of course, the research area does not include the whole Wieselseweg route as it is about 8 kilometres long. The site under investigation roughly consists of a strip 100 metres wide directly south of the Wieselseweg, from the forest plot on which AMK-monument 145 is located to some 600 metres west of it (Fig. 1.2). Within this strip only the forest plot of AMK-monument 145 and the immediate vicinity of the three newly discovered burial mounds were intensively explored. In addition, some attention was paid to the site directly north of the Wieselseweg at the height of the monument.

Although only the area described above has been investigated by means of archaeological fieldwork, the possibility has to be taken into account that the burial mounds of the Wieselseweg are part of a prehistoric landscape that transcends the micro-regional level.

1.5 Study design and reading guide

Before the results of the field study at the Wieselseweg are presented, the following chapters successively discuss the research plan and methodology (Chapter 2), physical geography and site formation processes (Chapter 3) and

Administrative information			
Research typ	oe:	Excavation/trial trenching	
Project name	e:	Apeldoorn-Wieselseweg	
Executed by		Faculty of Archaeology, Leiden University	
Period of execution:	Field work:	4 July - 1 August 2008; 15 June - 10 July 2009	
	Analysis/writing the report:	May 2010 - January 2018	
Province:		Gelderland	
Municipality	:	Apeldoorn	
Location:		Apeldoorn	
Toponym:		Wieselseweg	
Coördinates:		SE: 189.700/473.350 SW: 189.500/473.350 NE: 189.650/473.650 NW: 189.500/473.600	
Client:		Municipality of Apeldoorn	
Client contac	ct person:	Drs. M. Parlevliet	
Competent a	authority:	Municipality of Apeldoorn	
Contact persons competent authority		Drs. M. Wispelwey (2008) Drs. S. van der A (2009) Drs. J. Zuyderwyck (2009) Drs. M. Parlevliet (2009)	
Archis-investigation report number:		29475	
Project code Faculty of Archaeology:		AWW08; AWW09	
Management documentation and finds:		Archeologisch Depot Gelderland	

Tab. 1.1: Administrative information.

the archaeological and historical context (Chapter 4). In order to discuss the research results, it was decided to discuss the landscape (Chapter 5), the environmental research (Chapters 6 and 10) and the individual burial mounds (Chapters 7, 8 and 9) in separate chapters. The knowledge resulting from these chapters is synthesized and placed in the broader context of Bronze Age barrow landscapes in Chapter 11. Unless otherwise indicated, all photographs were taken and figures made by members of the field team.

Finally, it should be noted that the work in front of you is the most recent field study report in the English-language series of field studies previously carried out for the Ancestral Mounds project (Fontijn 2010; Fontijn *et al.* 2011; Fontijn *et al.* 2013a). Previous publications of data from this fieldwork can be found in Bourgeois 2013, Bourgeois/Fontijn 2015 and Louwen *et al.* 2014.

Bibliography

- Arnoldussen, S./E. Ball, 2007. Nederzettingsaardewerk uit de late bronstijd in Noord-Brabant en het rivierengebied. In: R. Jansen/L.P. Louwe Kooijmans (eds), *Van contract tot wetenschap. Tien jaar archeologisch onderzoek door Archol BV, 1997-2007.* Leiden: 181–203.
- Bakels, C.C./Y. Achterkamp, 2013. The local vegetation at the time of the construction of the Oss Zevenbergen mounds 7 and 6. In: D.R. Fontijn/S.A. van der Vaart/R. Jansen (eds), *Transformation through Destruction. A monumental and extraordinary Early Iron Age Hallstatt C barrow from the ritual landscape of Oss-Zevenbergen.* Leiden: 239–248.
- Bakker, J.A., 1979. The TRB West Group. Studies in Chronology and Geography of the Makers of Hunebeds and Tiefstich pottery. Amsterdam.
- Berendsen, H.J.A., 2004. De Vorming van het Land. Inleiding in de Geologie en Geomorfologie. Assen.
- Berendsen, H.J.A., 2005a. *Landschap in Delen. Overzicht van de Geofactoren*. Assen. Berendsen, H.J.A., 2005b. *Landschappelijk Nederland. De Fysisch-geografische Regio's*. Assen.
- Bleumink, H./J. Neefjes, 2010. Kroondomein Het Loo. Utrecht.
- Bourgeois, Q., 2013. Monuments on the Horizon. The formation of the barrow landscape throughout the 3rd and 2nd millennium BC. Leiden.
- Bourgeois, Q./L. Amkreutz/R. Panhuysen, 2009. The Niersen Beaker burial: A renewed study of century old excavation. *Journal of Archaeology in the Low Countries* 1-2, 83–105.
- Bourgeois, Q./D.R. Fontijn, 2010. Burial mound "Unitas 1": an Early Bronze Age barrow with traces of Iron Age activities. In: D.R. Fontijn (ed.), *Living near the dead. The barrow excavations of Rhenen-Elst: two millennia of burial and habitation on the Utrechtse Heuvelrug*. Leiden: 29–48.
- Bourgeois, Q./D.R. Fontijn/A.J. Louwen/P. Valentijn/K. Wentink, 2010a. Finds from the Unitas 1 mound and its surroundings. In: D.R. Fontijn (ed.), *Living near the dead.*The barrow excavations of Rhenen-Elst: two millennia of burial and habitation on the Utrechtse Heuvelrug. Leiden: 73–90.
- Bourgeois, Q./D.R. Fontijn/A.J. Louwen/P. Valentijn/K. Wentink, 2010b. Finds from the "Delfin 190"-mound and its surrounding. In: D.R. Fontijn (ed.), *Living near the dead.* The barrow excavations of Rhenen-Elst: two millennia of burial and habitation on the Utrechtse Heuvelrug. Leiden: 91–105.
- Bourgeois, Q./D.R. Fontijn, 2015. The tempo of Bronze Age barrow use. Modelling the ebb and flow in monumental funerary landscapes. *Radiocarbon* 57(1), 47–64.
- Brongers, J.A., 1976. *Air photography and Celtic Field research in the* Netherlands (= Nederlandse Oudheden 6). Amersfoort.
- Brück, J., 2004. Material metaphors: The relational construction of identity in Early Bronze Age burials in Ireland and Britain. *Journal of Social Archaeology* 2004(4), 307–333.
- Brück, J., 2006. Fragmentation, Personhood and the Social Construction of Technology in Middle and Late Bronze Age Britain. *Cambridge Archaeological Journal* 16(03), 297–315.

- Butler, J./H. Fokkens, 2005. Van steen naar brons. Technologie en materiële cultuur (2900 1100 v.Chr.). In: L.P. Louwe Kooijmans/P.W. van den Broeke/H. Fokkens/A.L. van Gijn (eds), *Nederland in de prehistorie*. Amsterdam: 371–399.
- Casparie, W.A./W. Groenman-Van Waateringe, 1980. Palynological analysis of Dutch barrows. *Palaeohistoria* 22, 7–65.
- Crandell, O., 2007. 'Fire' cracked rocks. An archaeological experiment. *Corviniana* 01/2007(10), 1–10.
- Doorenbosch, M., 2011. An environmental history of the Echoput barrows. In: D.R. Fontijn/Q. Bourgeois/A.J.

 Louwen (eds), *Iron Age Echoes. Prehistoric land management and the creation of a funerary landsacpe the "twin barrows" at the Echoput in Apeldoorn.* Leiden: 111–128.
- Doorenbosch, M., 2013a. Ancestral Heaths. Reconstructing the barrow landscape in the central and southern Netherlands. Leiden.
- Doorenbosch, M., 2013b. A history of open space. Barrow landscapes and the significance of heaths the case of the Echoput barrows. In: D.R. Fontijn/A.J. Louwen/S.A. van der Vaart/K. Wentink (eds), Beyond barrows. Current research on the structuration and perception of the prehistoric landscape through monuments. Leiden: 197–224.
- Elzinga, G., 1957. Een onderzoek naar de vindplaats van het bronzen zwaard uit Putten. Westerheem 6, 77–80.
- Fokkens, H., 2005. Boeren met gemengd bedrijf: synthese. In: L.P. Louwe Kooijmans/P.W. van den Broeke/H. Fokkens /A.L. van Gijn (eds), *Nederland in de prehistorie*. Amsterdam: 463–476.
- Fokkens, H., 1997. The genesis of urnfields: economic crisis or ideological change? *Antiquity* 71, 360–373.
- Fokkens, H./R. Jansen/I. M. Van Wijk, 2009. *Het grafveld Oss-Zevenbergen. Een prehistorisch grafveld ontleed* (= Archol Rapport 50). Leiden.
- Fontijn, D.R., 1996. Socializing landscape. Second thoughts about the cultural biography of urnfields. *Archaeological Dialogues* 3, 77–87.
- Fontijn, D.R., 2002. Sacrificial Landscapes. Cultural biographies of persons, objects and 'natural' places in the Bronze Age of the southern Netherlands, c. 2300-600 BC (= Analecta Prehistorica Leidensia 33/34). Leiden: 1–392.
- Fontijn, D.R., (ed.), 2010. Living near the dead. The barrow excavations of Rhenen-Elst: two millennia of burial and habitation on the Utrechtse Heuvelrug. Leiden.
- Fontijn, D.R., 2011. Barrow excavations at the Echoput. Problem, research aims and methods of the 2007 fieldwork campaign. In: D.R. Fontijn/Q. Bourgeois/A.J. Louwen (eds), Iron Age Echoes. Prehistoric land management and the creation of a funerary landscape the "twin barrows" at the Echoput Apeldoorn. Leiden: 13–32.
- Fontijn, D.R/Q. Bourgeois/C. van der Linde, 2010. Mound "Delfin 190": A Middle Bronze Age barrow built over the traces of a Middle Bronze Age A settlement site.

- In: D.R. Fontijn (ed.), Living near the dead. The barrow excavations of Rhenen-Elst: two millennia of burial and habitation on the Utrechtse Heuvelrug. Leiden: 49–71.
- Fontijn, D.R./Q. Bourgeois/A.J. Louwen, 2011. Iron age echoes. Prehistoric land management and the creation of a funerary landscape the "twin barrows" at the Echoput in Apeldoorn. Leiden.
- Fontijn, D.R./A.J. Louwen/Q. Bourgeois/ L. Smits/C. van der Linde, 2018. Bronze Age Ancestral Communities. New research of Middle Bronze Age barrows in the barrow landscapes of Apeldoorn-Wieselseweg. In: C.C. Bakels/ Q.P.J. Bourgeois/D.R. Fontijn/R. Jansen (eds), Local Communities in the Big World of Prehistoric Northwest Europe (= Analecta Praehistorica Leidensia 49). Leiden: 77-103.
- Fontijn, D.R./A.J. Louwen/S.A. van der Vaart/K. Wentink, 2013a. Beyond Barrows. Current research on the structuration and perception of the Prehistoric landscape through monuments. Leiden.
- Fontijn, D.R./S.A. van der Vaart/R. Jansen, 2013b. *Transformation through destruction. A monumental and extraordinary Early Iron Age Hallstatt C barrow from the ritual landscape of Oss Zevenbergen.* Leiden.
- Freudenberg, M., 2012. Grab und Kultanlage der älteren Bronzezeit von Hüsby, Kreis Schleswig-Flensburg rituelle Landschaft oder eine Demonstration der Macht am Verbindungsweg zwischen Jütischer Halbinsel und Norddeutschland? In: D. Bérenger/J. Bourgeois/M. Talon/S. Wirth (eds), *Gräberlandschaften der Bronzezeit* (= Bodenaltertümer Westfalens 51). Darmstadt: 619–639.
- Gerritsen, F.A. 2003. Local identities. Landscape and community in the late prehistoric Meuse-Demer-Scheldt region. PhD-thesis Free University of Amsterdam.
- Gerritsen, F.A., 2007. Familiar landscapes with unfamiliar pasts? Bronze Age barrows and Iron Age communities. In: C. Haselgrove/R. Pope (eds), *The earlier Iron Age in Britain and the near Continent*. Oxford: 338–353.
- Gerritsen, F.A./P. Jongste/L. Theunissen, 2006. De late prehistorie in Noord-, Oost- en Zuid-Nederland en het rivierengebied, *NOaA hoofdstuk 17 (versie 1.0)*, (www. noaa.nl), 1–44.
- Glasbergen, W., 1954a. Barrow excavations in the Eight Beautitudes. The Bronze Age Cemetery between Toterfout and Halve Mijl, North Brabant I: the excavations. *Palaeohistoria* 2, 1–134.
- Glasbergen, W., 1954b. Barrow excavations in the Eight Beautitudes. The Bronze Age cemetery between Toterfout and Halve Mijl, North Brabant, ii: the implications. *Palaeohistoria* 3, 1–204.
- Groenewoudt, B.J./M. Krauwer, 1995. Aanvullende Archeologische Inventarisatie (AAO) Apeldoorn-Kleine Fluitersweg (= Interne rapporten Rijksdienst voor het Oudheidkundig Bodemonderzoek 24). Amersfoort.

- Harding, A.F., 1993. British Amber Spacer-Plate Necklaces and their Relatives in Gold and Stone. In: C. Beck/J. Boezek (eds), *Amber in Archaeology*. Prague: 53–58.
- Harsema, O.H., 1982. Settlement site selection in Drenthe in later prehistoric times: criteria and considerations (= Analecta Prehistoria Leidensia 15). Leiden: 145–159.
- Havinga, A.J., 1964. Investigation into the differential corrosion susceptibility of pollen and spores. *Pollen et Spores* 6(2), 621–635.
- Havinga, A.J., 1967. Palynology and pollen preservation. *Review of Palaeobotany and Palynology* 2, 81–98.
- Havinga, A.J., 1984. A 20-year experimental investigation into the differential corrosion susceptibilty of pollen and spores in various soil types. *Pollen et Spores* 26(3-4), 541558.
- Hermsen, I., 2007. Een afdaling in het verleden. Archeologisch onderzoek van bewoningsresten uit de prehistorie en de Romeinse tijd op het terrain Colmschate (gemeente Deventer) (= Rapportages Archeologie Deventer 19). Deventer.
- Hermsen, I./A.J. Louwen, 2007. Colmschater spekulaasbrokken. Een specialiteit uit de Midden Bronstijd. In: H. Clevis/S. Wentink (eds), *Overijssels Erfgoed. Archeologische en Bouwhistorische Kroniek 2006.* Zwolle: 131–137.
- Holloway, R.G., 1989. Experimental mechanical pollen degradation and its application to quaternary age deposits. *The Texas journal of science* 41, 131–145.
- Holwerda, J.H., 1906. Inleiding tot een archeologie van Nederland. *Onze Eeuw* 6(2), 234–274.
- Holwerda, J.H., 1907. Grafheuvels bij Hoog-Soeren. *Oudheidkundige Mededeelingen Leiden* 1, 7–10.
- Holwerda, J.H., 1908. Tumuli bij Nierssen. *Oudheidkundige Mededeelingen Leiden* 2, 1–17.
- Holwerda, J.H., 1909. De praehistorische bevolking aan het Uddelermeer. *Oudheidkundige Mededeelingen Leiden* 3, 39–52.
- Holwerda, J.H., 1911. Praehistorische nederzettingen aan het Uddelermeer. *Oudheidkundige Mededeelingen Leiden* 5, 5–17.
- Holwerda, J.H., 1912. Opgravingen aan het Uddelermeer. Oudheidkundige Mededeelingen Leiden 6, 1–16.
- Hoof, Van, L.G.L./L. Meurkens, 2005. Vluchtige huisplattegronden. Erven uit de midden-bronstijd B en nederzettingssporen uit de vroege bronstijd en midden-bronstijd A (verslag van een tweede opgravingscampagne te Rhenen-Remmerden) (= Archol-rapport 51). Leiden.
- Jansen, R./E.N.A. Heibaut, 2009. Resultaten van het proefsleuven onderzoek. In: H. Fokkens/R. Jansen/I.M. van Wijk (eds), Het grafveld Oss-Zevenbergen. Een prehistorisch grafveld ontleed. (= Archol-rapport 50). Leiden: 53–68.
- Janssen, C.R., 1974. Verkenningen in de palynologie. Utrecht.

- Klok, R.H.J., 1988. Prehistoric Barrows on the Veluwe. Berichten van de Rijksdienst voor Oudheidkundig Bodemonderzoek 38, 9–61.
- Knippenberg, S., 2008. The Bronze Age cultural landscape at Zijderveld. In: S. Arnoldussen/H. Fokkens (eds), *Bronze Age Settlements in the Low Countries*. Oxford: 111–126.
- Knippenberg, S. /T. Hamburg, 2011. Sporen en structuren. In: E. Lohof/T. Hamburg/J. Flamman (eds), *Steentijd opgespoord. Archeologisch onderzoek in het tracé van de Hanzelijn-Oude Land* (= *Archolrapport* 138/*ADC rapport* 2576). Leiden/Amersfoort: 115–208.
- Kristensen, I.K., 2008. Kogegruber i klynger eller på rad og Række. *Kuml* 2008, 9–57.
- Lanting, J.N., 2007/2008. De NO-Nederlandse/NW-Duitse klokbekergroep: Culturele achtergrond, typologie van het aardewerk, datering, verspreiding en grafritueel (= Palaeohistoria 49/50). Groningen: 11–326.
- Lanting, J.N./J.D. van der Waals, 1976. Beaker cultures in the Lower Rhine Basin. In: J.N. Lanting/J.D. van der Waals (eds), *Glockenbecher Symposium Oberried 1974*. Haarlem: 1–80.
- Lohof E., 1991. *Grafritueel en sociale verandering in de bronstijd van Noordoost-Nederland*. Amsterdam.
- Lohof, E.H., 1994. Tradition and Change. Burial practices in the Late Neolithic and Bronze Age en the North-Eastern Netherlands. *Archeaeological Dialogues* 1, 98–118.
- Lohof, E.H./T. Hamburg/J. Flamman, 2011. Steentijd opgespoord. Archeologisch onderzoek in het tracé van de Hanzelijn-Oude Land (= Archolrapport 138/ADC rapport 2576). Leiden/Amersfoort.
- Louwen, A.J./D.R. Fontijn/Q. Bourgeois, 2014. Stratigraphy of the graves in burial mound 2 and 3 of Apeldoorn-Wieselseweg (Municipality of Apeldoorn, the Netherlands) – preliminary data report.
- Løvschal, M./D. Fontijn, 2018. Directionality and axiality in the BronzeAge: cross-regional landscape perspectives on 'fire pit lines' and other pitted connections, *Worl-dArchaeology*, DOI: 10.1080/00438243.2018.1488609.
- May, J./T. Hauptmann, 2012. Das "Köningsgrab" von Seddin und sein engeres Umfeld im Spiegel neuer Feldforschungen. In: D. Bérenger/J. Bourgeois/M. Talon/S. Wirth (eds), Gräberlandschaften der Bronzezeit (= Bodenaltertümer Westfalens 51). Darmstadt: 77–104.
- Meurkens, L., 2009. Laat-prehistorische nederzettingssporen eng raven op de sandr-vlakte bij Elst. Resultaten van een opgraving in het plangebied Elst-Het Bosje (gemeente Rhenen)(= Archol-rapport 128). Leiden.
- Meurkens, L., 2010. The late medieval/Early Modern reuse of prehistoric barrows as execution sites in the southern part of the Netherlands. *Journal of Archaeology in the Low Countries* 2(2), 5–29.
- Meurkens, L., 2014. Graven en bewoningssporen van het laat-neolithicum tot en met de Romeinse tijd. Opgravin-

- gen in het plangebied De Schaker in Twello (gemeente Voorst) (= Archol Rapport 260). Leiden.
- Modderman, P.J.R., 1954. Grafheuvel onderzoek in Midden Nederland. *Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek* V. Amersfoort: 7–44.
- Modderman, P.J.R., 1955. Het onderzoek van enkele Brabantse en Utrechtse grafheuvels. *Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek* VI, 44–65.
- Roymans, N./F. Kortlang, 1999. Urnfield symbolism, ancestors and the land in the Lower Rhine Region.
 In: F. Theuws/N. Roymans (eds), Land and Ancestors.
 Cultural dynamics in the Urnfield period and the Middle Ages in the Southern Netherlands. Amsterdam, 33-62.
- Theunissen, E.M. 1999. Midden-bronstijdsamenlevingen in het zuiden van de Lage Landen. Een evaluatie van het begrip 'Hilversum-cultuur'. PhD-thesis Leiden University, Leiden.
- Valentijn, P./D.R. Fontijn 2011. Excavating the surroundings of the barrows. In: D.R. Fontijn/Q. Bourgeois/A.J. Louwen (eds), Iron age echoes. Prehistoric land management and the creation of a funerary landscape the "twin barrows" at the Echoput in Apeldoorn. Leiden: 91-110.
- Van Beek, R., 2005. Aardewerk. In: S. Knippenberg/P.F.B. Jongste (eds), *Terug naar Zijderveld. Archeologische opgraving van een bronstijd-nederzetting langs de A2* (= Archol-rapport 36). Leiden, 75–81.
- Van Beek, R./A.J. Louwen, 2012. Urnfields on the move: testing burial site-settlement relations in the eastern Netherlands (c. 1100 500 BC). *Archäologisches Korrespondenzblatt* 42, 1/2012, 41–60.
- Van Beek, R./A.J. Louwen, 2013. The centrality of urnfields. Second thoughts on structure and stability of Late Bronze Age and Early Iron Age cultural land-scapes in the Low Countries. In: D.R. Fontijn/A.J. Louwen/S.A. van der Vaart/K. Wentink (eds), Beyond Barrows. Current research on the structuration and perception of the prehistoric landscape through monuments. Leiden: 81–112.
- Van den Broeke, P., 2005. IJzersmeden en pottenbakkers. Materiële cultuur en technologie. In: L.P. Louwe Kooijmans/P.W. van den Broeke/H. Fokkens /A.L. van Gijn (eds), *Nederland in de prehistorie*. Amsterdam: 603–627.
- Van der Linde, C./D.R. Fontijn, 2011. Mound 1 A monumental Iron Age barrow. In: D.R. Fontijn/Q. Bourgeois/A.J. Louwen (eds), Iron age echoes. Prehistoric land management and the creation of a funerary landscape the "twin barrows" at the Echoput in Apeldoorn. Leiden: 33–64.

- Van Giffen, A.E., 1937. Tumuli-opgravingen in Gelderland 1935/36. *Gelre* 40, 3–18.
- Van Giffen, A.E., 1945. Het kringgrepurnelveld en de grafheuvels O.Z.O van Gasteren, gem. Anloo. *Nieuwe Drentse Volksalmanak* 63, 69–121.
- Van Gijn, A., 2010. Flint in focus. Lithic biographies in the Neolithic and Bronze Age. Leiden.
- Van Gijn, A.L./M.J.L.Th. Niekus, 2001. Bronze Age settlement flint from the Netherlands: the Cinderella of Lithic Research. In: W.H. Metz/B.L. van Beek/H. Steegstra (eds), Patina. Essays presented to Jay Jordan Butler on the occasion of his 80th birthday. Groningen/Amsterdam: 305–320.
- Van Heeringen, R.M./M.M. Janssens/B.A. Brugman/R. Schrijvers, 2012. Actualisering archeologische waardenkaart Gemeente Apeldoorn (= *Vestigia rapport* V911(1)). Amersfoort.
- Van Mourik, J., 2010. Resultaten van het dateringsonderzoek van grafheuvel 39 op de Slabroekse Heide. In:
 I.M. van Wijk/R. Jansen (eds), Het urnenveld Slabroekse Heide op de Maashorst. Een verkennend en waarderend archeologisch proefsleuvenonderzoek (= Archol Rapport 72). Leiden: 67–74.
- Verkooijen, K.M., 2013. Tears of the Sun: Bronze Age Amber Spacers from Britain and Europe. PhD-thesis University of Exeter.
- Verlinde, A.D., 1987. Die Gräber und Grabfunde der späten Bronzezeit und frühen Eisenzeit in Overijssel. PhD-thesis Leiden University.
- Verlinde, A.D./R.S. Hulst, 2010. De grafvelden en grafvondsten op en rond de Veluwe van de Late Bronstijd tot in de Midden-IJzertijd (= Nederlandse Archeologische Rapporten 39). Amersfoort.
- Waterbolk, H.T., 1954. De praehistorische mens en zijn milieu. Een palynogisch onderzoek naar de menselijke invloed op de plantengroei van de diluviale gronden in Nederland. PhD-thesis Groningen University.
- Waterbolk, H.T., 1960. Preliminary report on the excavations at Anlo in 1957 and 1958. *Palaeohistoria* 8, 59–90.
- Wentink, K./A.L. van Gijn/D.R. Fontijn 2011. Changing contexts, changing meanings: Flint axes in Middle and Late Neolithic communities in the Northern Netherlands. In: V. Davis/M. Edmonds (eds), *Stone Axe Studies* III. Oxford: 399–408.
- Wentink, K. in prep. Keeping up Appearances (preliminary title). PhD-thesis Leiden University.
- Zeist, Van, W., 1967. Archaeology and palynology in the Netherlands. *Review of Palaeobotany and Palynology* 4, 45–65.