

MARKOLF BRUMLICH, Frühe Eisenverhüttung bei Glienick. Siedlungs- und wirtschaftsarchäologische Forschungen zur vorrömischen Eisen- und römischen Kaiserzeit in Brandenburg. With contributions by Paul Fischer-Schröter, Susanne Hanik, Pim de Klerk, Bernd Lychatz and Fleur Schweigart. Berliner Archäologische Forschungen 17. Verlag Marie Leidorf GmbH, Rahden / Westf. 2018. € 69.80. ISBN 978-3-89646-527-6. doi: <http://dx.doi.org/10.17169/refubium-29531>. 977 pages with 542 figures and 46 tables, 191 plates, and 2 attachments (in two volumes).

In recent years there has been a clear increase in the interest in the development of iron metallurgy in central and northern Europe in the pre-Roman and Roman periods. This research field comprises various issues. One of them is the reconstruction of the technological processes used at that time to obtain this metal, which is, to some extent, possible through studying the remains of metallurgical sites. Moreover, also the achievements of experimental archaeology and the results of metallographic studies are yielding important insights into technology. Archaeological and scientific analysis of the data from sites where the remains of ancient metallurgy have been preserved may also allow generating models of organisation of iron production. A separate issue, however, is the nature of the socio-economic changes affecting its spread among the peoples of central and northern Europe. A comprehensive, two-volume study by Markolf Brumlich, which provides a review of the settlement and palaeoeconomics of societies living in Brandenburg in the pre-Roman and Roman periods, with particular emphasis on iron metallurgy, is perfectly in line with the above-mentioned research interests.

The source base for Brumlich's analyses are materials from the settlement of Glienick 14, Lkr. Teltow-Fläming (DE), located in a microregion in the Teltow Plate area, a moraine landscape offering excellent conditions for settlement and multi-directional economic activity. The first volume of the study is mainly devoted to the analysis of archaeological materials dating back to the pre-Roman period, connected with the settlement of the Jastorf culture. The development of the ironworks in the mentioned microregion is referred to this period. The residents settled on the Teltow Plate at the turn of the 6th and 5th century BC, after the hiatus of the Hallstatt period. The preliminary part of the monograph contains information relating to the natural conditions of the area in question, with particular emphasis on the presentation of various resources that conditioned the economy of the communities who lived there (pp. 19–44). The hydrographic situation and soil cover of the microregion are characterised, and the availability of certain raw materials is also stated, including clay, stone, bog lime, gypsum, saline water, and, which deserves special emphasis, bog iron ore.

Brumlich also attempts to determine the climatic conditions of human settlement within the discussed area in the pre-Roman Iron Age (pp. 44–46), and his conclusions are confirmed by the results of similar research in the Odra and Vistula river basins (cf. K. DZIĘGIELEWSKI, Problemy synchronizacji danych paleoklimatycznych i archeologicznych na przykładzie tzw. wahnienia subatlantyckiego. Problems of paleoclimatic and archaeological data synchronization as exemplified by the Subatlantic abrupt climatic Shift. In: W. Blajer [ed.], *Peregrinationes archaeologicae in Asia et Europa. Joanni Chochorowski dicatae* [Kraków 2012] 109–119).

An outline of the Teltow Plate settlement changes is presented from the Late Bronze Age, when the area was inhabited by the Lusatian culture communities, to the younger pre-Roman period (pp. 46–53). Based upon the results of pollen diagram analysis, among other data, two settlement crises that occurred in the first half of the 4th century BC and in the 1st century BC can be traced. They correlate with two unfavourable climatic fluctuations. This settlement fluctuation is confirmed by the results of the analysis of archaeological sources. In the following, Brumlich discusses

the characteristics of the settlement network within the Glienicker Plate microregion in the Iron Age (pp. 55–69). Among other things, the number of settlements (43 sites) and cemeteries (twelve sites) is identified. It is worth noting that over 80 % of the settlements contained iron slag, in the large majority of cases originating from local iron smelting.

In a very voluminous chapter, divided into 19 subchapters, Brumlich presents various aspects of studies on the discussed microregion (chapter 4, pp. 71–478). The results of geophysical prospection and excavation carried out at the Glienick 14 site in the years 2009–10 are presented. The discovered features, constituting a housing estate in which two farmsteads can be distinguished, are analysed in detail, emphasising the lack of premises which would allow a complete reconstruction of the mentioned buildings. Brumlich also compares the plans and sizes of the reconstructed buildings with similar structures from other sites of the Jastorf culture. Moreover, he discusses features in detail, which are often not given due attention despite their cognitive potential for studying the economy of former societies. This attention concerns, among other things, a large number of storage features and pits interpreted as cooler pits, a complex of clay extraction pits, two wells as well as various types of ovens, including baking ovens, lime kilns, and one- and two-chamber kilns for burning clay vessels. On the other hand, the discovery of the complete skeleton of a horse in the filling of a storage pit, interpreted as a votive deposit, sheds light on ritual practices, which according to the author may precede the time of leaving the settlement. This hypothesis seems to be the most probable because in the La Tène culture itself and the areas within its influence sacrificial deposits are documented in the settlements which are connected with the ritual termination of the use of particular facilities (e. g. pits, ovens, etc., cf. M. J. GREEN, *Animals in Celtic Life and Myth* [London, New York 1992] 100–105. doi: <https://doi.org/10.4324/9780203023563>).

In the following subchapters (pp. 169–193) the author presents his results of the studies on a series of pottery (about 34 000 fragments of vessels) from Glienick 14. The vast majority of this material (over 33 000 fragments) can unequivocally or with high probability be associated with the Jastorf culture. Given that the state of research on settlement pottery of this unit can still be regarded as far from satisfactory, the elaboration of this relatively numerous series should be welcomed. Individual forms of vessels (e. g. jugs, pots, vases, etc.) were discussed against the background of other published findings from the Havel-Spree area. Brumlich points out that stylistic features typical for ceramic inventories from the region are present in the analysed collection but also highlights the lack of certain characteristic forms, such as flasks. Moreover, he identifies fragments of wheel-made vessels, undoubtedly originating from the La Tène culture, which probably arrived in the Teltow Plate through the central German *Kontaktzone*, situated between the Jastorf culture and the La Tène culture. Brumlich also notes the presence of some traces of stylistic influences of the Przeworsk culture in the analysed ceramic inventories (cf. tabs 57.359.7; 74.434.7). In this case, however, it can be stated that very similar findings, such as the mugs with faceted rims and x-shaped handle mentioned by the author, also occur among the so-called Brześć Kujawski-type materials, which belong to the horizon preceding the formation of the Przeworsk culture (cf. M. GRYGIEL, *Chronologia przemian kulturowych w dobie przełomu starszego i młodszego okresu przedrzymskiego na Niziu Polskim. The Chronology of Cultural Changes at the Turn of the Early and Late Pre-Roman Period in the Polish Lowland*. Wydawnictwo Fundacji Badań Arch. Imienia Profesora Konrada Jażdżewskiego 24 [Łódź 2018]). Subsequently, other categories of artefacts from the analysed site are presented, i. e. items made of clay, amber, bronze, iron, and stone (pp. 193–214). Among other things, a small number of cloth fittings and personal ornaments are presented, among which there are fibulae of a Middle La Tène construction.

The most important part of Brumlich's considerations is devoted to iron production documented in the settlement in question (pp. 222–452). He defines and characterises in detail the "Glienick" type bloomery, being a reusable one, which means that the slag block was removed

from the furnace after each use. This specific type of furnace is discussed against a very wide background of findings from western and northern Europe. It differs significantly from the disposable furnaces that were common in the younger pre-Roman and Roman periods in the Przeworsk culture. A variety of factors, both cultural and environmental, that might influence the origins of the “Glienick” type furnace are examined. All the findings concerning local iron production are supported by both the results of an in-depth analysis of archaeological sources and the results of many bloomery experiments. The scale of production which continued for about 300 years, probably from the first half of the 4th century BC to the first half of the 1st century BC (i. e. in the system of relative chronology from Phase Ib to Phase IIb), is estimated, and attention is paid to the simultaneous, well documented production of bronze items. Moreover, traces of iron production with the use of the “Glienick” type furnace are also identified on several nearby settlements. Brumlich formulates an interesting hypothesis referring to the ways of organisation of iron metallurgy in the analysed microregion. According to this hypothesis, the inhabitants of the neighbouring settlements, within a segmented social structure, characteristic, as one should think, of peoples of “barbarian” Europe, joined their efforts and worked together to produce iron, probably coordinated by an experienced blacksmith.

In the context of multidimensional studies on the settlement and economy of the Jastorf culture community, another attempt was made to determine the basis of subsistence of the inhabitants of Glienick 14 through the analysis of biological sources like animal bones and macroscopic plant remains (pp. 214–221). It should be noticed that both the species structure of bred animals, characterised by the dominance of cattle, and of cultivated plants, with a significant share of barley (*Hordeum vulgare*), seems to be typical for most areas of central Europe in the younger pre-Roman and Roman periods. Only foxtail millet (*Setaria italica*) is a rare finding. The gathering of wild plants (e. g. *Chenopodium album*) is also proven. Furthermore, the author characterises different branches of crafts, such as pottery and textile production.

In the second volume of the monograph Brumlich and Paul Fischer-Schröter evaluate archaeological materials related to the next period of settlement at the Glienick 14 site, the Late Roman period (pp. 555–603). The settlement of the Elbe Circle population is best documented here in phase C2, but it should be stressed that there are no traces of iron production at that time. The second volume of the monograph also contains the results of environmental analyses as well as archaeometric and archaeometallurgical studies carried out by Fleur Schweigart, Susanne Hanik, Bernd Lychatz, Pim de Klerk, and Brumlich. These studies precede an extensive, thoroughly prepared catalogue of sources stemming from the settlement of Glienick 14 (pp. 659–773), a catalogue of sites dating back to the pre-Roman Iron Age registered in the Glienicker Plate (pp. 775–782), and almost 200 plates, which have been very carefully graphically designed. It is worth noting that the entire text of the monograph is extremely richly illustrated with more than 500 figures, including good quality photographs documenting archaeological features.

To conclude, it should be stated that the two-volume monograph by Brumlich is a model micro-regional study, focused on the analysis of settlement and palaeoeconomics of communities settled in the Glienicker Plate area in the pre-Roman and Roman period. The author presents a comprehensive picture of the environmental determinants of the settlement, defines its structures and fully characterises the iron production developing in the discussed area in the pre-Roman Iron Age. As he demonstrates, this production was carried out using a specific type of reusable bloomery, based on local resources. The traditional archaeological analysis is supplemented by the results of studies in palynology, archaeozoology, archaeometallurgy, etc. as well as results of experimental iron smelting. Furthermore, a significant number of ¹⁴C dates have been included in the analysis, which is not frequent in studies of Iron Age settlements. It seems to be particularly valuable in the case of production sites, from which there are usually no dating artefacts. Brumlich also made an attempt

to place metallurgical production in the broader context of the model of social organisation of the population of the Jastorf culture. One should expect that this monograph will significantly contribute to discussions on ancient iron metallurgy in central and northern Europe and will inspire researchers to take a new look at many aspects of this topic.

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ADA GABUCCI, Attraverso le Alpi e lungo il Po. Importazione e distribuzione di sigillate galliche nella Cisalpina. Con un contributo di Paola Bordigone. Collection de l'École française de Rome 532. Publications de l'École française de Rome, Rom 2018. € 60,-. ISBN 978-2-7283-1254-2 (gedruckte Ausgabe). ISBN 978-2-7283-1255-9 (Open Access [01.06.2017]). doi: <https://doi.org/10.4000/books.efr.3241>. xvii + 390 Seiten mit 101 Abbildungen in Schwarz-Weiß.

Das hier zu besprechende Buch über süd- und mittelgallische Terra-Sigillata-Importe in die Cisalpina wurde vorab 2017 als Internetpublikation veröffentlicht, der 2018 eine gedruckte Ausgabe folgte. Im Gegensatz zur Internetversion sind die Abbildungen der Printversion durchgehend in Schwarz-Weiß gehalten, was ihre etwas flauere Wiedergabe und teilweise fehlende Informationstiefe erklärt. In der Printversion wird deshalb immer auch auf die Internetfassung verwiesen. Dies bleibt aber der einzige formale Kritikpunkt an dieser sehr kompakten und sehr gut lesbaren Darstellung komplexer handelsgeschichtlicher Zusammenhänge des Fernhandels zwischen Gallien und der *Gallia cisalpina*. Das Untersuchungsgebiet umfasst im Wesentlichen die westliche Transpadana, also das heutige Piemont nördlich des Po, dem antiken Grenzfluss zwischen der *regio IX Liguria* und *XI regio Transpadana*, bezieht aber Vergleiche und Kontexte aus ganz Norditalien ein. Das umrissene Untersuchungsgebiet war in römischer Zeit durch zwei West-Ost-orientierte Hauptverkehrsachsen erschlossen, nämlich den Po als Flussschifffahrtsroute und die *Via Postumia* von Genua nach Aquileia (IT), während die Nord-Süd-Routen den Alpentälern mit dem Kleinen Sankt Bernhard als wichtigstem Alpenpass folgten (vgl. S. 31 Abb. 12 „Viabilità Alpina“). Ein Transport süd- und mittelgallischer Terra Sigillata war über den Kleinen Sankt Bernhard nur in der schneefreien Zeit zwischen Mai und September möglich. Bei der Diskussion der Flussschiffahrt fehlt der Hinweis auf die diesbezügliche einschlägige Publikation von Thomas SCHMIDTS (Akteure und Organisation der Handelsschiffahrt in den nordwestlichen Provinzen des Römischen Reiches. Monogr. RGZM 97 [Mainz 2011]). Dies mag darin begründet sein, dass, wie ein kurzer Blick in das Literaturverzeichnis zeigt, deutschsprachige Fachbücher nur selektiv zur Kenntnis genommen werden, was leider ein allgemeiner Trend in archäologischen Publikationen außerhalb des deutschen Sprachraums zu sein scheint.

Der Diskussion über die Handelsrouten vorangestellt ist ein quellenkritischer Abschnitt (S. 5–15), in dem Ada Gabucci deutlich herausarbeitet, wie sehr unterschiedliche Darstellungsarten (Zeichnung oder Foto) oder Zeichenstile die Vergleichbarkeit und Interpretation einzelner Punzen beeinflussen können, wie die Autorin anhand einer zentralgallischen Punze mit erotischer Szene deutlich macht (S. 7 Abb. 3).

Entscheidend für die zeitliche Einordnung südgallischer Terra Sigillata sind geschlossene Fundkomplexe, die sich als Handelsdepots von Geschirrhändlern interpretieren lassen, wie sie beispielsweise aus Pompeji (IT; S. 7 Anm. 8) bekannt sind. Ergänzend zu nennen (von der Autorin nicht