sie beispielsweise zeigen, dass sich Ritzungen auf Waffen eintragungstechnisch und visuell von solchen auf Fibeln unterscheiden. Auch die Existenz von nicht-lexikalischen Inschriften legt nahe, dass in der südgermanischen Schriftkultur die Runen abhängig vom Trägerobjekt funktionierten. Die Erwartungshaltung der Leser an die Inschrift wurde vom runentragenden Objekt gesteuert, und die Inschrift konnte ihren Sinn unabhängig von einer sprachlichen Bedeutung entfalten. Außerdem deutet vieles darauf hin, dass runentragende Objekte in einen mündlichen Kontext eingebettet waren, der heute natürlich nicht mehr rekonstruiert werden kann. Worin aber der konkrete kommunikative "Nutzen" von Runeninschriften besteht, kann Waldispühl nicht schlüssig beantworten. Sie greift altbekannte Stichwörter wie "Individualisierung" und "Prestige" auf, deren genaue Bedeutung aber etwas unklar bleibt. Der Ehrlichkeit halber sei jedoch angemerkt, dass auch der Rez. nicht unmittelbar auf eine zündende Idee kommt, wie diese forschungshistorische Nuss zu knacken wäre. Vielleicht ist die südgermanische Runenüberlieferung schlicht zu erratisch, um ihr konkreteres Wissen zu entlocken.

Zusammenfassend sei noch einmal betont, dass die hier dargelegten Kritikpunkte die großen Verdienste des Buchs keineswegs schmälern. Waldispühl liefert solides runologisches Handwerk, das auf einem ebenso soliden theoretischen Fundament steht. Und auch wenn man sich vielleicht eine etwas resolutere Darstellung der Kommunikationssituation gewünscht hätte, ist es der Autorin hoch anzurechnen, dass sie sich immer nahe an die Empirie hält und sich nicht auf spekulative Ausflüge begibt.

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DONAT WEHNER, Das Land Stodor. Eine Studie zu Struktur und Wandel der slawenzeitlichen Siedlungsräume im Havelland und in der nördlichen Zauche. Materialien zur Archäologie in Brandenburg volume 5. Marie Leidorf, Rahden / Westf. 2012. € 34.80. ISBN 978-3-86757-315-3. 448 pages, 93 b/w illustrations, 39 tables, 19 charts, 73 plates.

The Havelland, an area in the west of Berlin, is from an historical point of view a region of high interest. It is assigned as settlement area of the tribe of the Hevelli and according to later sources the Stodorani, obviously the descendants of the former mentioned *gentes*. In the 10<sup>th</sup> century at the latest, the Hevelli gained political importance as their spatial position between the Ottonian Empire expanding eastwards and the growing power of the Polish kingdom offered them new strategic options. Archaeologically the Havelland is well explored both in a quantitative way and by the number of settlements and strongholds researched in detail. Hence, the Havelland complies with the requirements for a sophisticated examination of the settlement structure, which Donat Wehner undertook as a doctoral dissertation in the context of the Graduate School "Human Development in Landscapes" at the Christian-Albrechts-Universität Kiel. His approach focuses on developing the development and application of geographic information systems as a tool for research ("Forschungsmittel"), as the author points out in the final sentence of his survey (p. 138).

Wehner succeeded in evolving a very interesting and promising methodological approach. Moreover, his work shows a great zeal for source recording, which ensures his publication a role as reference book for many years. Sadly enough, Wehner did not receive much help at proofreading, editing and typesetting. This is reflected in partially misplaced and almost illegible maps (e. g. fig. 93, p. 136) and graphs (e. g. dendrogramme fig. 10, p. 25); problems of composition (the inclusion of the evaluation of representativeness of the sites within chapter 3 "analysis" instead of chapter 2 "sources"), a number of repetitions in the text and peculiarities in the citation in the footnotes (e. g. order of references according to the alphabet and not the date of publication). Therefore it takes some effort to access the book, which already demands some work in order to follow up the sophisticated methodological approaches. Still, it is worth reading.

The analysis encompasses the entire Hevellian settlement area, which Wehner quite traditionally defines on the basis of the spatial distribution certain landscape features (in particular vast wetlands and morainic ridges). This leads him to outline an area of 60 x 75 km (45 000 km2) which reassembles very much the area defined in 1991 by Klaus GREBE (Die Burg Brandenburg vor 1000 Jahren [Potsdam 1991] p. 9). This is no disadvantage as it demonstrates at least the consistency of the data. The author understands 'settlement area' as the sum of all settlements (open and fortified) in their spatial and organisational relations to each other. These relations include a broad spectrum from "simple forms of settlement area, Wehner discusses "space differentiation, cores and peripheries, spatial planning and regional development" in a diachronic perspective. As parameters he chooses the following five variables: natural space, transport, domination, economy and religion, which he consecutively investigates in regard to their effectiveness (pp. 75–138). The author develops the setting of the analysis in the content-rich chapter 2 (pp. 15–66) and the beginning of chapter 3 (pp. 67–75). Here he assesses the chronology and representativeness of the distribution of sites, classifies the settlements according to different categories and calculates the site density.

Wehner bothers to present a typochronological system of the Slavonic pottery, which he derives from the ceramic sequence of three trenches in the historic part of the town of Brandenburg. He obtains very detailed and valuable observations of the stylistic and technological alterations through time. This in particular applies to the Middle and Late Slavonic pottery types. Despite a considerable number of dendrochronological dates, it is impossible to match them with the late pottery chronology and to enable Wehner to date the expiry of the local traditional pottery in the 12<sup>th</sup> to 13<sup>th</sup> century. Furthermore, the dendrodates cannot solve the still lingering problem of the onset of the Slavonic settlement in the area and especially in Brandenburg itself. As Stefan Dalitz pointed out, referring to the same settlement layers as Wehner, it might very well be that the area of the old town was not involved in (Slavonic) settlement activities until the middle or even second half of the 8<sup>th</sup> century (St. DALITZ, Die Brandenburg in der Havel – Arbeitsstand zu Topographie und Entwicklung der Insel und der Burg. In: Brandenburgisches Landesamt für Denkmalpflege (ed.), Wie die Mark entstand. 850 Jahre Mark Brandenburg. Forsch. Arch. Land Brandenburg 11 [Wünstorf 2009] 54-78, p. 62). Neither does Wehner discuss this problem nor do taphonomic aspects play a greater role in his observations, although the pottery of his typochronological examination mainly belongs to fillings within the rampart, i. e. the layers comprise mixed material of potentially several different periods. True enough, this would not much alter the results of the analysis within the framework of his approach, because Wehner has, like so many researchers before him, rely on the conventional division into an early, middle and late Slavonic phase for the desired large-scale analysis of the 1045 find places.

In his analysis the author can include 123 sites for the early Slavonic phase (56 unfortified settlements, 46 suspected settlements, 14 ramparts, seven burial places but no hoard), 512 for the middle Slavonic phase (246 settlements, 225 suspected, 32 ramparts, seven burial places and two hoards) and 518 for the late Slavonic period (256 settlements, 184 suspected, 19 ramparts, 33 burial grounds, 23 hoards and three early urban places). The scantiness of sites dating to the early phase leads to methodological problems of comparability, with low numbers increasing the probability to detect and include rare phenomena. This may e. g. apply to early settlements on a soil type which in itself is rare and has a share of less than 10 % of the total area respectively. The same can be observed with reference to uncommon finds or rare types of sites, like ritual depositions. This immediately generates consecutive problems when Wehner handles calculated values of the ratios of observed and expected settlements for all classes of the topographical parameters (encompassing the partially auto-correlated parameters soil, distance from the lowlands, altitude, slope, solar radiation), sums and maps them (pp. 74–94), but in each step of the process omits those classes which provide an expected and observed value of less than five settlements. The result is that the spectrum of suitable locations for settlements for the early Slavic phase is not only thinned in advance, but its greater width within the late Slavonic phase is interpreted by the author as evidence of an increasing diversification (p. 96).

In any case such a change in settlement behaviour would probably only show up if the calculations of expected sites per category (soil, altitude etc.) focuses on those parts of the landscape which lay within the field of experience of the former inhabitants. According to Wehner, loamy plateaus as well as today densely wooded sandy areas were "in prehistoric and early historic times in principle impossible to colonize" (p. 43). Hence, both kinds of plots should have been excluded in the same way as the vast floodplain Lucht, allowing first focusing statistically on those areas that are likely to lie within the range of potential settlement areas and second capturing considerable minor shifts in the choice of dwelling sites. Therefore, it would have been an easy way to adapt the zone of statistical investigation to make use of the results of Wehner's calculation of site density (pp. 67–74). For this purpose, as well as for the subsequent estimation of the compactness of domination and economics pointers, Wehner uses – with convincing results – the Kernel Density Estimation. Regrettably his classification of up to six levels in the maps from "very low" to "very high" is not explained.

Apart from grasping the shear site density, Wehner strives to model the spatial relation of the settlements by estimating the network centrality of each site. This is methodologically very interesting, as he tries to map by this "centrality, which results from the surplus of meaning" (p. 69). Surplus of meaning ("Bedeutungsüberschuss") is ascertained by Wehner for the strongholds, which are uniformly interpreted as places of residence of the elite, and the size of the fortification in relation to all the others from the same time period is understood as an indicator of rank. He assigns the strongholds of Hohennauen and Brandenburg as places of high centrality in the early Slavonic phase. In the case of the later this is not surprising, while in respect to Hohennauen it assures and justifies the assumptions of previous research in recent years. To a lesser extent the reviewer is ready to agree with Wehner's opinion concerning the locations of middle Slavonic fortifications. Following the author, they are remarkably often situated on the edge of the settlement densities - a position that he explains as a decreasing power of domination apparent in a declining influence on the spatial structures. At the same time, Wehner argues that the strongholds of this period not only were favourably built on minor lifts within wetlands, floodplains and mires but that for approximately a century low water levels resulting of specific climatic circumstances in the second half of the 9th and the 10th century provide attractive habitats for establishing unfortified settlements next to the strongholds. Today such sites are not easy to trace as they are often covered by sediments. However, it is debatable to which extent this has altered our view on spatial relationships of the middle Slavonic strongholds and their neighbourhood. In contrast it is without doubt that the distribution of the ramparts enabled their residents to control the rivers. But those rivers seem to have served as lines of communication and were nothing less than the backbones of the settlement areas, which Wehner characterises as structured in lines (p. 135). Therefore, if the elites occupied the rivers, is it not most likely that they still dominated the spatial development of settlement areas?

In addition to the strongholds, Wehner points out the appearance of a new type of site in the middle Slavonic phase: trade settlements and trading centres. Neglecting the quantitative imbalance of sites in respect of the phases and therefore the above-mentioned probability to provide evidence of this kind of settlement for the early Slavonic phase, Wehner recognizes an increasing differentiation of the settlement structure in the younger phases. While this by no means should be excluded, as the reviewer wishes to underline, and is even likely, it is not statistically proven. However – and that remains to be emphasized – the approach to itemise the uniform mass of unfortified settlements is of great importance and worth pursuing. How difficult this is, is reflected in the attempt to grasp sites with a surplus of religious meaning. Wehner cautiously maps together evidences of pagan and Christian religious practices: churches, sacred places, hoards and burial places (pp. 127–132). The result demonstrates according to Wehner the rather far spread of Christian symbols and behavioural patterns within the tribe as well as the continuing practice of traditional cults in the periphery and in the core area. Consequently, the author questions the reliability of previous research that describes the *Stodorani* as pagans and the influence of the early bishop's see in Brandenburg as quite restricted to the immediate neighbourhood and the elites (p. 132).

It is truly impressive to which extent Wehner uses his variables and the diligent work he spends on collecting and arranging numerous details from very different disciplines and sources (macrobotany, palynology, profound knowledge of the finds and features). Thus, it is downright unsettling how Wehner keeps his readers short of the synthesis. The weighting and the conclusive evaluation of the five variables in respect to the three phases are reduced to two pages of text together with one graph and six small-format maps within (!) the résumé (pp. 133–138). Here, Wehner determines overlapping patterns and core areas of traffic, economy, domination and religion, describes visible differences between the chronological phases and indicates even deviations between the variables. The latter would be an almost ideal starting point to discuss the obviously changing economic basis and legitimacy of the elites who build the strongholds. Furthermore, it would have been a great additional benefit to compare the results with adjacent areas, which are assigned to other tribes, and to have a look on (certainly carefully selected) studies of similar spatial scale not only in the realm of medieval archaeology but also of any other period or culture with hierarchical settlement systems. Even if this would include - with regard to the already hard work the author spent on his investigation - only a few studies, Wehner this way would illustrate the significance of his results. Currently the relation between the care Wehner took to interweave an amount of information - for instance the facts he has in store for establishing a climate change from the 9th to the 10th century, or his well justified model of economic evolution in the late Slavonic phase - and the final discussion is not convincing. Quite similar, Wehner relegates recurring methodological doubts and the crucial question of the contemporaneous perception of nature and landscape in medieval times to the footnotes, whilst he pretends in the main text a certainty that he as a true researcher cannot feel.

Despite the objections raised by the reviewer, Wehner unquestionably created a compelling basis for further research in the area, with a detailed catalogue (pp. 200–298), numerous lists and extensive references. Likewise, those who are interested in the publication primarily for methodological issues will make worthwhile discoveries.

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