

## II. Papers

# Mapping the Past: Eduard Paulus the Elder (1803–1878) and the Archaeological Survey of Württemberg<sup>1</sup>

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### Introduction

In 1858 Karl Eduard Paulus caused a minor sensation at the annual meeting of the General Association of German Antiquarian Societies (*Gesamtverein deutscher Geschichts- und Alterthumsvereine*, from now on referred to simply as the General Association) by presenting his archaeological map of the Kingdom of Württemberg, in south-western Germany. It was the first detailed map of an entire German state to record archaeological monuments. Systematic archaeological surveys and mapping of monuments and finds had occasionally been produced by scholars from the early nineteenth century, and some archaeological maps already existed for some regions; but Paulus' map, published in 1859, was exceptional. In this paper I will point out what was so new about this map. Moreover I will examine how the antiquarian research of Paulus in general, and his archaeological map in particular, were integrated into his extensive concept of the natural and cultural landscape. And I will discuss whether there were special conditions in Württemberg that promoted such enterprises – or whether this enterprise was the consequence of the private initiative of an individual.

Karl Eduard Paulus was born on January 29, 1803 in Berghausen, a small town south of Speyer (for a detailed biography see Hartmann 1878, Paret 1948, Wintterlin 1887). In 1806 his family moved to Stuttgart, the capital of the German state of Württemberg, which had just become a kingdom, and Paulus lived there till his death in 1878. Because of the Napoleonic wars it was a politically eventful period, especially in south-western Germany, where extensive territorial reorganization occurred. As the result of rationalization and secularization the territorial size and population of Württemberg had more than doubled by 1815 (Fenske 1992, Mann 1992, Reist 1968). This process was accompanied by changes in the internal political structure of Württemberg, the result of its acquisition of a constitution in 1819. Consequently its administration was thoroughly reformed, and Württemberg became one of the most advanced states in early nineteenth century Germany.

After starting his career as a forester, Paulus decided to apply for employment in the National Survey in 1823 (Paret 1948), being carried out by the newly founded 'Statistical-Topographical Bureau', and responsible for the surveying and mapping of the country and for the collection of official statistics. He worked for this authority until his retirement in 1877. Having begun his career in the survey working as a draughtsman, he was later responsible for a number of the pages of the first atlas of Württemberg. Right from the start Paulus collected additional information on the geology, topography, botany, ethnography, history and archaeology of his state. He was able to intensify this activity after 1842, when he became more involved with contributing to the county inventories (*Oberamtsbeschreibungen*), and after 1850 these were primarily compiled and written by him.

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As one of the founders of the Antiquarian Association of Württemberg (*Württembergischer Alterthumsverein*) in 1843 Paulus made considerable contributions to its success (for the history of this association see Maurer 1994). In particular he initiated and promoted its archaeological work and activities, and was principle contributor to the periodicals of the association over a long period. From 1856 to 1874 Paulus regularly participated in the annual meetings of the General Association, where he met the leading antiquarian researchers of his time, and where he was acknowledged as an authority primarily because of his archaeological maps.

### The Archaeological Work of Eduard Paulus

Paulus' archaeological research started as early as 1822 (Paulus 1875: 149). During the early years of his work for the national survey he undertook the mapping of archaeological monuments, as other surveyors did. But in addition Paulus searched for monuments during his leisure time as well. As a result, over the years he discovered hundreds of archaeological sites: Roman roads and settlements as well as the Limes, and also burial mounds, early medieval cemeteries, hill forts etc. He presented the results of this research in numerous publications of the Antiquarian Association of Württemberg, and in the form of different archaeological maps. He presented his first archaeological maps, showing parts of Württemberg, at the annual meetings of the General Association in Ulm (1855), Augsburg (1857), and Berlin (1858) (see the minutes of these meetings: Estorff 1855/56: 24, Estorff 1857/58: 15, Lisch & Adler 1858/59: 20).

In 1859 his archaeological map of the whole state of Württemberg was published, drawn at a scale of 1:200,000. Over the following decades four more editions of it were published. In 1875 Paulus supplemented the map with an explanatory text, and in 1877 with an inventory of all known monuments (Paulus 1875a, 1875b, 1877).



**Figure 1.** Archaeological map of Württemberg, marking Roman, old-Germanic(Celtic)andAlemannic (Frankish) remains, (3rd edition, 1876) by Eduard Paulus, Sheet I, 1:200,000 [Württembergische Landesbibliothek, Stuttgart].

The map was intended to be a distribution map and was based on the new accurate and detailed topographical map of Württemberg. For this reason the monuments could be located exactly, and the situation in the terrain was shown as well. The map also had a chronological dimension. Since Paulus did not accept the Three Age System, he instead divided the monuments into “old-Germanic (Celtic)”, “Roman” and “Alemannic (Frankish)”.<sup>2</sup> This corresponded to a succession of pre-Roman, Roman and post-Roman monuments, the “Roman” were marked in red, and the “old-Germanic (Celtic)” and the “Alemannic (Frankish)” in blue.

Although Paulus also used information from other researchers, most parts of the map were based on his own intensive and long-term fieldwork, using surveys and excavations. Paulus was keenly aware of this (Paulus 1875a: 149, 1875a: 152). When he started his work, only a very few sections of Roman roads were known. Scholars had mostly reconstructed them using written sources and field names. Paulus in contrast went into the field, where he closely investigated the terrain and looked for actual traces of the roads. He proceeded to track down any monuments very systematically. In this way Paulus’ work demonstrates very clearly the change in antiquarian practices, from investigations based mainly on written sources, to the inspection and recording of monuments *in situ*, and the recognition of monuments and artefacts as independent historical sources.

Paulus described his survey methods in a few articles, so they are well understood (Paulus 1856, 1875). As a first step he studied the conditions of the terrain using maps, and if possible actually in the field, and he consulted land registers, stock books and other historical sources, looking to identify field names and legends that referred to archaeological monuments. In this way Paulus tried to narrow down the investigation area as far as possible. Having thus determined an area in which he could reasonably assume to find a monument, he then went out into the field to inspect it, and if possible, in the company of a local man familiar with the local area. He first checked for visible remains. If nothing was left on the surface he looked for distinctive features in the terrain, and also for crop marks (Paulus 1856: 27, 30; 1875a: 151, 156), in order, for example, to trace the course of a road or of walls. He also asked local people whether stones or ceramics were found when ploughing, or whether anything unusual was known about the site. While following the course of a road he used a stick with an iron tip to detect stones under the surface (Paulus 1856: 30). When necessary he dug a test trench to make sure that archaeological remains were really present, and also to date them.

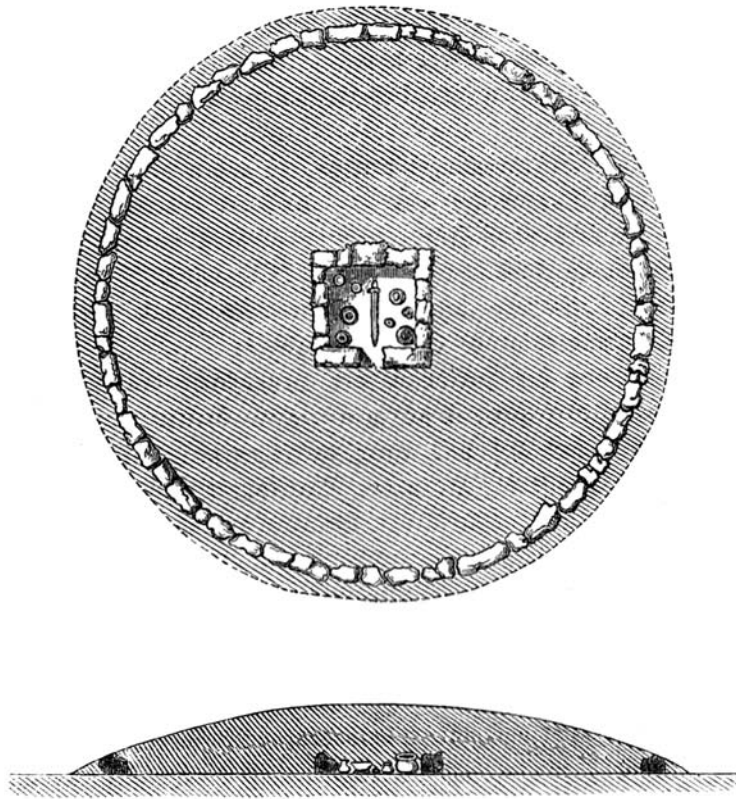
Unfortunately Paulus did not elaborate on his excavation methods in the same way that he did for his survey methods. But his few reports on the excavation of burial mounds suggest that his excavation methods were probably as systematic and exact as his survey methods (for a detailed description of Paulus’ observations concerning burial mounds see Paulus 1875a: 158–164). He not only looked for finds but also recorded their contexts (Paulus 1859: 20, 1875a: 158–164). He drew sections, and documented his observations by drawings and notes about features. He learned to distinguish the different types of construction of burial mounds, and to identify the grave goods typical of burial mounds or early medieval graves (*Reihengräber*), as well as the spectrum of finds at Roman settlements (Paulus 1875a: 153–154, 156). He paid particular attention to ceramics, and dated hill forts by comparing their ceramics to those in graves (Paulus 1875a: 165). Only if he was certain about the age and the character of a monument did he plot it on the map – if he had doubts, he did not (Paulus 1875a: 153, 156; 1876: 2).

In this way and over a number of years, Paulus drew the archaeological map of Württemberg, and the number of known monuments increased. He was well aware of the fact that the map was nevertheless incomplete – because he had investigated some regions less closely than others – and that subsequent generations would make further discoveries (Paulus 1875a: 152–153, 1877: 78). Furthermore he recognised that the chances of preservation and discovery were different according to the various types of monuments, and that this also affected his distribution maps (Paulus 1875a: 158–159).

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<sup>2</sup> This division he first put forward in a paper in 1859, in which he gave the first datings of the burial mounds of the pre-Roman period (Paulus 1859: 27–28).





**Figure 2.** Excavation plan of a burial mound, showing its construction and the grave goods *in situ* (Paulus 1854: 22).

The area of his work was primarily determined by practical factors, such as the regions he travelled around on behalf of the Statistical-Topographical Bureau, and those for which he had accurate topographical maps. The map therefore covers a nineteenth century political territory, and does not take into account prehistoric or historic conditions or biogeographic regions. And although Paulus wrote in a very neutral and factual style, it nevertheless is clear that he was a faithful and loyal public servant and citizen of Württemberg.

The aim of the map was not only to preserve information about endangered monuments, but also to provide Paulus with a basis for the reconstruction of prehistoric, Roman and early medieval settlement patterns. He did not treat the various types of monument as isolated from each other, but considered the connections between them (Paulus 1875a, 1875b). In this way he drew a picture of the Roman and the pre-Roman landscape, consisting of settlements and hill forts, road networks, different types of graves, the Limes etc. He brought the same perspective to bear on the pre-Roman settlement pattern, even though settlements of this period were not well known at this time, except for lake dwellings and hill forts. For Paulus there was a problem of preservation, because the ancient authors wrote about the wooden houses of the Germanic and Celtic people, which had subsequently decayed (Paulus 1875b: 78).

Paulus saw this reconstructed cultural landscape as embedded in its natural environment. Using the experience of his long period of fieldwork, he identified the typical landscape settings of the various types of monuments, e.g. the connection between fertile soils and settlements, the proximity of settlements to springs and rivers, or the characteristic conditions of the terrain where Roman roads were constructed (Paulus 1859: 3–4, 20; 1875a: 149–150, 155, 159). Moreover, he not only reconstructed the settlement patterns of the various periods, but he also recognised the partial continuity of settlement between the various time periods.

In this sense Denis Wood's claim, that "*maps construct – not reproduce – the world*" (Wood 1992: 17) could apply very well to Paulus' map, since it did not represent the landscape at a particular moment, but rather summed up the characteristics of different periods. And it showed not only remains that

were still visible and were part of the contemporary landscape, but also subterranean structures and remains that were only brought to light through excavation.

But Paulus' work and interests also ranged from geology and botany to folklore and history – the prehistoric monuments were only one part of his overarching conception of the landscape. This conception corresponded very well with the so-called *Vaterlandskunde*.

### The Concept of *Vaterlandskunde* and Its Institutionalisation in Württemberg

The term *Vaterlandskunde*, which can be translated as 'patriotic studies', emerged in a number of German states in the early nineteenth century. It described the systematic and scientific survey of all aspects of a state, from its geology and topography, to its statistics, folklore and history, and included antiquarian studies (Memminger 1822, Baur and Kluge 1970: 34–40). These were no longer just the province of upper-class knowledge (*Herrschaftswissen*), but were published and intended to be accessible to all citizens, and all levels and classes of society. During the nineteenth century 'fatherland' (*Fatherland*) was an ambiguous term in Germany. It could mean Germany, as a whole, that is the future unified nation state, which did not in fact exist until 1871. Or, as it did earlier in the nineteenth century, *Fatherland* more usually referred to the various sovereign states within Germany: the kingdoms, duchies, principalities etc.

In 1822 Johann Daniel Georg Memminger (1773–1840), a topographer and the long time director of the Statistical-Topographical Bureau in Stuttgart, published a long paper in the *Württembergische Jahrbücher* (Württemberg Annals) about new institutions that should promote *Vaterlandskunde*. In this paper he identified the five main purposes of such 'patriotic studies' or *Vaterlandskunde* (Memminger 1822: 1–10):

1. They had to have scientific value, and be connected with general geography and folklore.
2. They had to comprise detailed knowledge of the state that was indispensable to its administration.
3. They had to become an indispensable part of general education.
4. They were a necessary basis for civil and practical life. A responsible citizen could only participate in public affairs if he was informed about them.

And the final point, particularly emphasised by Memminger:

5. They had to promote patriotism and public spirit.

For Memminger one of the most important purposes of *Vaterlandskunde* was to create a collective identity for all the citizens of the new state of Württemberg.

To improve the situation several new institutions were founded (Baur and Kluge 1970, Kluge 1970), one of which was the Statistical-Topographical Bureau in Stuttgart, founded in 1820. It was subordinate to the Ministry of Finance and was therefore a civil institution – not a military one as it was in other German states. The bureau was in charge of the geodesic and topographic survey of the country, of compiling economic and population statistics, and of collecting material for the county inventories. Primarily the gathering of information about the various districts was deemed necessary for effective administration, especially since Württemberg had just doubled its territory. In addition the Statistical-Topographical Bureau was responsible for the production and promotion of scientific knowledge of the state and within the state (Memminger 1822: 10–23). So the bureau's responsibilities covered topics such as folklore or local history, including archaeology. Above all – and this was the real novelty – the results were to be made available to the public, in periodicals and in the form of maps, in order to promote the development of a new common identity.

Between 1821 and 1851 a topographical map of the whole state of Württemberg, drawn on a scale of 1:50,000, comprising 55 sheets, was gradually published by the Statistical-Topographical Bureau (Lindner 2003: 430). Over the following years several thematic maps were also published. At the same time inventories of the Württemberg's sixty-four counties, or *Oberamtsbeschreibungen*, were published successively, finishing in 1886. For this reason Württemberg is often regarded as one of

the best inventoried German states of the nineteenth century (Baur and Kluge 1970, Kluge 1970, Reist 1968).

To support the scientific efforts of the bureau a new association, the *Verein für Vaterlandskunde* (Association for Patriotic Studies) was founded under the patronage of the King of Württemberg and led by the finance minister (see Memminger 1822: 23–36). Since the membership of this association was elitist, the Antiquarian Association of Württemberg (*Württembergischer Altertumsverein*) was founded in 1843 (Maurer 1994; for a comparison with other states see Clemens 2004). Even though this association was open to a broader public, it was nevertheless characterised by a close relationship with the royal dynasty and the state. The head of the association was Count Wilhelm of Württemberg, a cousin of the king, and many of its members were government officials.<sup>3</sup>

### Archaeological Mapping and Surveying in Other German States

It can be argued that although Paulus' work was primarily the consequence of his own initiative and interests, it could only have taken place because of favourable conditions in Württemberg. The accurate topographical map, and the acceptance of such enterprises by the state, formed an indispensable basis for it. Paulus even received several medals and honours for his work, and even for his archaeological map, not only from the King of Württemberg, but also from other sovereigns (Hartmann 1878: 8).

Other German states also founded new institutions for national survey either during the Napoleonic wars or subsequently (Lindner 2003: 428–439; for a detailed example see Habermeyer 1993). But in contrast to Württemberg, in most other states the surveys were conducted by the military. Nevertheless topographical maps were published for other states. Most of these official maps did occasionally record archaeological monuments, but normally such records were both sparse and selective, not least since they were not the primary aim of these surveys, and their inclusion depended on the interests of the surveyor responsible for them.

Archaeological maps of other German states comparable to Württemberg's were not published until a decade or more later.<sup>4</sup> Accurate archaeological maps for the states of northern Germany were not even published until the early twentieth century.<sup>5</sup> This slow publication progress seems all the more surprising since the importance of systematic archaeological surveys and maps had been realized by several scholars in the early nineteenth century. For example, the Saxon official and antiquarian Karl Benjamin Preusker (1786–1871) regarded the localisation of archaeological monuments and finds and the drawing of distribution maps as one of the most important duties of the numerous new antiquarian associations (Preusker 1829: 31, 47–49). To gather the information required, Preusker recommended sending questionnaires to various local authorities, and to clergymen and officials. Preusker emphasised that the maps would not only give a better general perspective, but also that they might elucidate on the structure and function of particular monuments such as roads or defensive works.

In the 1850s the need for archaeological maps of all the German states was repeatedly discussed at the meetings of the General Association (e.g. see the report on the meeting in Dresden and Mainz in 1852: Schulz 1852/1853: 4). The Commission for the Study of the Limes (*Commission für Erforschung*

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<sup>3</sup> This was nothing unusual; for example the antiquarian associations of Saxony and Bavaria also had royal connections (Clemens 2004: 20–24, 309–310).

<sup>4</sup> For example Bavaria in 1879–1890; Baden in 1883; Hesse in 1888; Hohenzollern in 1894 (see Schumacher 1913).

<sup>5</sup> For example Mecklenburg in 1899; East Prussia in 1908; Thuringia in 1909 (Schumacher 1913). For most of the Prussian provinces (Brandenburg, Hanover, Nassau, Pomerania, Posen, the Rhine-Province, the Province of Saxonia, Silesia, Schleswig-Holstein, Westphalia and West Prussia) a general archaeological map had still not been produced by 1913 (Schumacher 1913). But for some of these states and provinces, inventories of monuments and finds had been published by the late 19th century (Schumacher 1909: 253).



*des Limes*) asked the governments of the southern and western states of Germany for topographical maps on which they could plot the course of the Limes. But the states' responses were very limited, and only the county of Nassau sent the requested maps promptly (Estorff 1853/1854: 29), a reflection of just how difficult the situation still was. At the meeting in 1854 the archaeological section stressed that they did not want the original military maps, but rather that they were requesting one or two copies of the maps that were already published.

A single archaeological map of all of the German states was thus far from becoming a reality, and most archaeological surveys from this time were usually limited to smaller regions. The research of Baron Georg Otto Carl von Estorff (1811–1877) in the Uelzen region of the Kingdom of Hanover (modern Lower Saxony) in northern Germany is a good example (for the work of von Estorff see Barth 1959). Von Estorff's map was drawn to a scale of 1:100,000 and published within his monograph *Heidnische Alterthümer der Gegend von Uelzen im ehemaligen Bardengaue (Königreich Hannover)*, or 'Pagan Antiquities in the Vicinity of Uelzen in the former Barden-district (Kingdom of Hanover)' (von Estorff 1846). It was the result of ten years work on behalf of the Historical Association of Lower Saxony (*Historischer Verein für Niedersachsen*). Along with the map, the monograph comprised descriptions of burial mounds and megalithic tombs, and a finds catalogue with drawings of the artifacts and monuments.

On the map von Estorff recorded not only archaeological monuments such as megaliths, burial mounds and hill forts, but also 'woods, lakes, ponds, stones etc., that are remarkable through legends' (von Estorff 1846: 123) – altogether around 7000 monuments. The map's border is decorated with drawings of megaliths, and in the upper left corner there is a detailed plan of the megaliths and burial mounds between the villages Haaßel, Niendorf and Secklendorf.

The map was based on the results of questionnaires, as with other contemporaneous maps, and also on field research by von Estorff himself. It differed from Paulus' map in several respects – quite apart from the different size of the area examined. The base map used by von Estorff was not derived from



**Figure 3.** Archaeological map of the Uelzen region, by G. O. Carl von Estorff, scale 1:100,000 (Barth 1959: Figure 2).

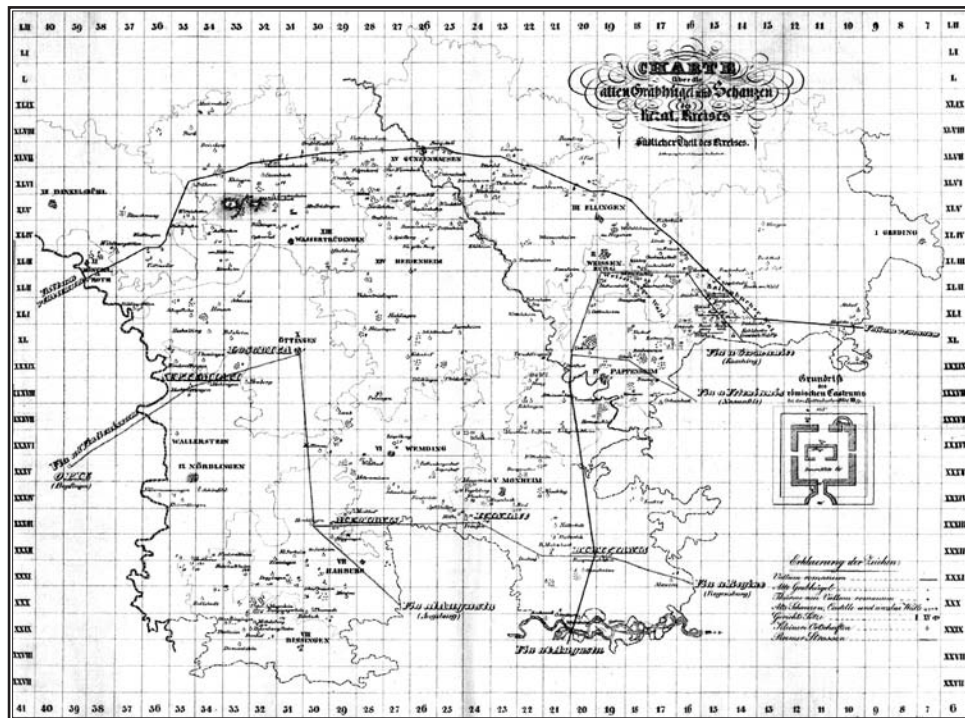


Figure 4. Map of the Bavarian district 'Rezatkreis', by F. J. von Stichaner (1836 (1837)).

an exact geodesic survey, and was therefore not precisely accurate (Bath 1959). Furthermore it was orientated according to the magnetic north pole. This inaccuracy was exacerbated by the fact that von Estorff did not draw his map while in the field, but afterwards, and in some cases years after visiting the monument in the field, with the help of a diary. For this reason the individual monuments could not be precisely located. And even though the finds catalogue and the plates were arranged according to the Three Age System, the map does itself does not reflect this chronological dimension.

In other German states the situation was similar, even though in some states accurate archaeological maps of particular regions existed as early as the 1830s or 1840s. One example is the map of the Bavarian district *Rezatkreis*, drawn by the Bavarian official Franz Joseph von Stichaner (1769–1856) and published in 1837 (Stichaner 1837; for a biography of von Stichaner see Schmitt 1899).

The map shows archaeological monuments such as burial mounds, Roman roads, the Limes, hill forts etc. It is based on cadastral maps, rather than on topographic maps, so relief is not shown. Moreover, the depiction of the course of Roman roads is more schematic than in Paulus' map of Württemberg. In an essay from 1834 von Stichaner described his method of detecting Roman roads (Stichaner 1834 (1835)). Using as the basis of his investigations, the *Tabula Peutingeriana*, an antique map showing the Roman road-system, he tried to identify the sites mentioned principally by using the names of modern cities, but he also paid attention to archaeological evidence, i.e. to the remains of the Roman roads themselves. Since he regarded the *Tabula Peutingeriana* as an accurate scale map, he considered the distance between the towns to be an essential criterion. Nowhere did he mention that he had ever gone into the field to try to trace the course of a road between two locations. An examination of the two 1837 maps seems to confirm the presumption that he more or less joined up the identified settlements on paper. His report was complemented by an inventory on which all monuments were listed in a table, briefly described, and particular observations recorded (Stichaner 1836 (1837): 43–101).

No similar maps of other Bavarian districts were produced at this time, and von Stichaner's map remained unique. A map of the prehistory of the whole of the Kingdom of Bavaria was first published between 1875 and 1891 by Munich teacher, Friedrich Ohlenschlager (1840–1916) (Ohlenschlager 1879–1891; see Schwarz 1972/1973: 224).



## Conclusion

This paper has shown that the work of Eduard Paulus stands at a point in the transition of archaeological research: between research based mainly on written sources, and research that recognised archaeological monuments as historical sources in their own right. Like the maps of von Stichaner and von Estorff, Paulus' work reflects the effort to systematically record known monuments, in order to get an overview of their differences and distribution, as well as to record and preserve this information for future generations. These efforts demonstrate both a growing awareness of the destruction of monuments by intensified agriculture and road building, and also the increasing systematisation of antiquarian research and the necessity of developing standardised classification.

But even though motives were often similar, conditions of work varied and consequently results differed. And so the map of Eduard Paulus was both exemplary and singular for its time because it combined the following characteristics: it was based on an accurate topographical map; it covered such a large area; it used field surveys; and it included a chronological dimension. Additionally, in its third edition it was accompanied by an inventory of monuments.

Although the making of the map began mainly as the result of individual initiative, its existence owed much to the official work of Paulus for the Statistical-Topographical Bureau. Furthermore the state promoted Paulus' efforts by publishing his map. In contrast, the two other maps were drawn up on behalf of local antiquarian associations, and were also published by them. The archaeological map of Württemberg shows how antiquarian studies were embedded into the broader concept of *Vaterlandskunde*, and how archaeological monuments were perceived as an integral part of the regional landscape. Thus the different maps presented in this paper reflect the territorial and political fragmentation of the German states, and show how this fragmentation affected antiquarian studies.

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