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Equine petroglyphs in Europe

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ABSTRACT

In recent decades, numerous examples have been reported of open-air petroglyphs on schists and slates that were attributed to the Upper Palaeolithic period. In the majority of cases, these motifs are said to depict horses. In this paper, a rich concentration of equine petroglyphs on granite surfaces of approximately known ages is taken advantage of to add to understanding the rates of rock surface weathering. The general topic of mistaken Palaeolithic rock art across Eurasia is explored, leading to the appreciation of the difficulties in defining a rock art style. One of these problems is that so many non-Palaeolithic elements have been incorporated in this style that it cannot be regarded as reliable. Another complication arises from the emotive conviction that Pleistocene 'art' is more important than Holocene. That belief probably stems from the notion that the Franco-Cantabrian 'art' substantiates the paradigm of 'civilisation' initially arising in Europe.

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1. Introduction

A review in of the petroglyphs of Siega Verde near Ciudad Rodrigo, far western Spain, showed that the site's corpus of rock art is mostly less than two centuries old, much of it dating from the early to the mid-20th century (Bednarik, 2009a). Previously, the equid and bovid images of the low-grade metamorphics site had been widely attributed to the Upper Palaeolithic. The report also mentioned, very briefly, that similar circumstances apply to thousands of other Iberian petroglyphs at open-air sites. There is in fact a large body of zoomorphic petroglyphs across the Peninsula, consisting almost entirely of horse-like and bull-like petroglyphs on sites of schist, phyllite or slate that have been ascribed to the final Pleistocene. Most recently the first such site has been reported from Germany and assigned to the Aurignacian (Welker, 2015).

What these sites all have in common is their lithology, which excludes the possibility of their rock art being Palaeolithic because, if exposed to precipitation, these metamorphic rocks retreat at a rate of 1–10 mm per millennium (Schwegler, 1995; Bednarik, 2007: 61). Therefore after several thousand years any petroglyphs on such supports tend to become erased as the schist hydrates and reverts to mud. This is amply demonstrated by rock inscriptions and dates often found engraved among the rock art, which after a few centuries become practically unreadable. In addition, at some of the sites, such as Siega Verde and many of the nearby Côa sites in northern Portugal, petroglyphs are subjected to bombardment by suspended loads of coarse angular quartz sand during frequent inundations, which accelerates their erasure.

Zoomorphic petroglyphs, especially of apparently equine figures, occur frequently across Europe, and not only on schist. Granite, like any rock, also retreats with time, but the rate varies widely, from 0.05 mm to 2 mm per millennium, depending on the lithology and environmental conditions. On average it weathers considerably slower

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than the low-grade metamorphics. To better understand the effects of weathering on petroglyphs, it is particularly helpful to calibrate weathering rates from features of known ages. For instance Bednarik (2009a) utilised engraved dates for this purpose. An alternative approach is to assess petroglyphs on surfaces of known, or at least approximately known, antiquities. The methodology of the present review is to begin with such a study of petroglyphs of known age on granite to provide a context for subsequently considering the generic issue of horse-like and other petroglyphs at open schist sites in Europe that have so often been assigned to the Upper Palaeolithic. The corresponding issues in Asia will also be reviewed, albeit very briefly.

2. The equine petroglyphs of Castro

In Salamanca, western Spain, just 32 km northeast of the Siega Verde site, lies Yecla de Yeltes. About 1 km south of the small town, extending over the plateau of a rocky rise overlooking the Varlaña stream, the Vettones began establishing a fortified Iron Age settlement in the 5th century BCE. The Vettones were probably of Celtic origins and formed a tribal confederacy in the 3rd century BCE that took part in the Second Punic War, eventually becoming absorbed into the Roman Empire through their defeat by Julius Cesar in 61 BCE. During the 3rd century CE, the Romans rebuilt the Castro fortifications and today's remains date mostly from that period. Further repairs and modifications occurred in subsequent centuries until the 5 ha village was finally abandoned late in the 12th century CE (probably shortly after 1184 CE, with a land donation by Fernando II to the Archbishop of Santiago Ecla).

What remains of Castro de Yecla la Vieja are primarily its impressive ramparts, extending approximately 1050 m in length. The massive dry-laid stone walls are mostly about 4 m high, ranging from 3 m to almost 5 m, with four strategically arranged openings. In their design, advantage was taken of the local terrain, especially by incorporating steep escarpments. The walls are entirely of the local granite, much if not most of it quarried on site. The area enclosed by the fortification has been filled to the height of the wall, but traces of quarrying activities are amply evident just outside the walls. These are surrounded by a first line of defence, a few metres from the main walls, consisting of rock outcrops and a low wall. Hundreds of petroglyphs have been executed on these structures, most of them occurring on the outside of the main ramparts, with a small number on bedrock, and in a tiny shelter on the eastern side of the high wall. These deeply pounded motifs are all heavily weathered, many of them so severely that their outlines are no longer definable. About 200 petroglyphs can still be recognised to some degree; many more were clearly present but have become indecipherable (Fig. 1). Those that have survived reasonably well have been suggested to depict mostly horses, although there are also some anthropomorphs and zoomorphs suggested to depict bovids and suids.

This wealth of petroglyphs on the walls of the Castro postdates the construction of the stone walls (as shown by the relative positioning of imagery), which could have occurred at any time between about 1700 and 800 years ago. The frequent occurrence of motifs that are barely perceptible suggests that other images may have disappeared altogether. The Castro granite contains occasional veins of quartz, is low in feldspar but has a high content of mica, in the form of flakes of up to 5 mm, and this latter component accounts primarily for its rate of surficial breakdown. The average annual rainfall at the site, 706 mm, is relatively high. It is therefore assumed that the surface retreat quotient is probably near the high end of the above-cited spectrum for granite (i.e. perhaps 2 mm/ka).

The Castro equine images show unequivocally that petroglyphs exposed to precipitation are subjected to erasure by surface retreat even on relatively weathering-resistant facies such as granites, at rates ensuring their obliteration within a very few millennia. The following proposals of Pleistocene ages for similar zoomorphic petroglyphs on more weathering-susceptible rocks such as schists, phyllites and slates need to be seen in this light.

3. Petroglyphs on low-grade metamorphics

The presumed horse images on a schistose outcrop near Gondershausen, Germany (Welker, 2015), are the most recent addition to a long list of percussion petroglyphs at European open schist and slate exposures that have been attributed to the Upper Palaeolithic (Fig. 2). In this case, an Aurignacian antiquity (i.e. >30 ka) has been suggested, based on perceived style. Although several Palaeolithic art specialists endorsed this assignment, the six zoomorphs were made <1000 years ago by a right-handed person with a fairly blunt steel chisel possessing a 8–9 mm long edge (Bednarik, 2016). The degree of weathering of the petroglyphs is identical to that of two inscribed characters among them; there are several metal points lodged in the rock outcrop; and the site is surrounded by extensive evidence of quarrying for roof tiles in recent centuries. Even the only argument in favour of Aurignacian age is flawed: equine motifs of similar stylistic parameters, such as those at Castro, are more common from historical periods across Eurasia than

Fig. 1. Zoomorphic petroglyphs on granite fortification wall at Castro de Yecla la Vieja, western Spain, <1700 years old.