



HAL
open science

The orientation of the Mithraeum at the Vindobala Roman Fort (Rudchester Mithraeum)

Amelia Carolina Sparavigna

► **To cite this version:**

Amelia Carolina Sparavigna. The orientation of the Mithraeum at the Vindobala Roman Fort (Rudchester Mithraeum). Philica, 2017. hal-02201609

HAL Id: hal-02201609

<https://hal.science/hal-02201609>

Submitted on 31 Jul 2019

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

The orientation of the Mithraeum at the Vindobala Roman Fort (Rudchester Mithraeum)

Amelia Carolina Sparavigna

Department of Applied Science and Technology, Politecnico di Torino

Published in enviro.philica.com

Abstract

Here we discuss the orientation of the Mithraeum at the Vindobala Roman Fort of the Hadrian's Wall. As we can see using software giving the sunrise direction on satellite maps, the orientation of this temple and the direction of the sunrise on December 25 are in good agreement. As in the case of another fort of the Hadrian's Wall, the Roman Fort of Brocolitia that we discussed in a previous article, the orientation of the temple was probably chosen to recall the birth of Mithras.

Keywords: Archeology, Archeoastronomy, Solar Orientation, Solstices, Satellite Images, Google Earth.

As told in Philip Parker's book, which is proposing a "Journey along the Frontiers of the Roman World" [1], the cult of Mithras seems to have had its greatest number of devotees in the Roman army. For this reason, we expect to find moving along the frontiers of the Roman Empire, some places for the worship of Mithras (the Mithraea). These temples were small, being the cult of the god confined to little congregations of men. The ideal temple was resembling a subterranean cave, being Mithras a god born from a rock. Actually, in some statues we find him represented as emerging from a rock, already in his youth, "with a dagger in one hand and a torch in the other" [2,3]. The birth was celebrated on 25 December, the day for the worship of the return of the light after the Winter Solstice, when the direction of the sunrise was evidencing a small detectable change from its southern direction.

The Mithraea in Britannia, mentioned by [1], are those of Brocolitia (Carrawburgh), Housesteads and Rudchester. Of Brocolitia, we told in [4]. Here we discuss the Mithraeum of Vindobala, today the hamlet of Rudchester. Vindobala was the fourth fort on Hadrian's Wall, after Segedunum (Wallsend), Pons Aelius (Newcastle) and Condercum (Benwell). The site of the fort is bisected by B6318 Military Road. The Mithraeum of this fort is known as the Rudchester (or Rutchester) Mithraeum.

This Mithraeum has an interesting orientation. Before discussing it, let us consider some facts about Mithraea [5]. Usually, it is told that they have their nave oriented in the direction of the sunrise on equinoxes. However, quite different orientations are possible too [6]. In the case of the Mithraeum of Brocolitia, we found an orientation along the sunrise on the winter solstice [4], that is, towards the point of the horizon that the ancient Romans defined as the "oriens brumalis" [7]. In [4] we used satellite maps

and a software giving the sunrise and sunset direction on them. A figure from [4] is here reproduced in the Figure 1, giving the sunrise on December 25 at Brocolitia.

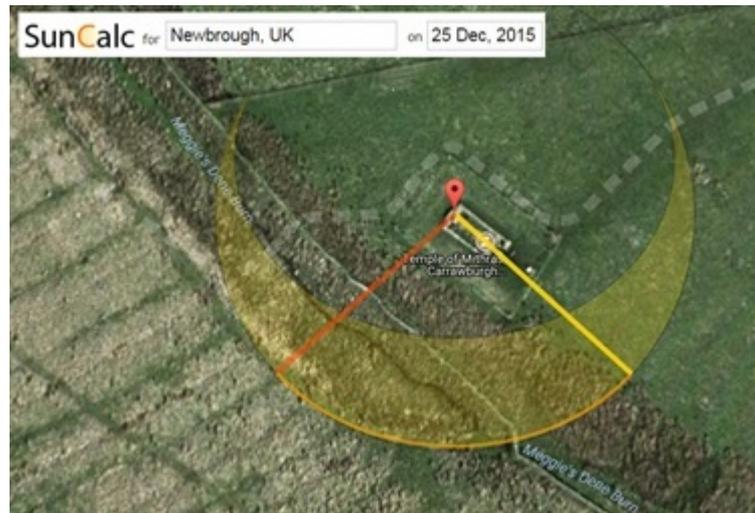


Figure 1: Thanks to software like SunCalc.net, we can see the direction of sunrise and sunset on any day of the year. The yellow line gives the direction of the sunrise and the red line that of the sunset. The orange curve is representing the apparent motion of the sun in the sky. In this image, we can see that the direction of the nave of the Mithraeum at Brocolitia is in good agreement to that of the sunrise on December 25.

In my opinion, it was possible that who built the temple at Brocolitia had referred to the birth of Mithras through the orientation of the nave. To find orientations of other Mithraea, some articles were studied and reported in [5]. When I wrote [5], I knew only Brocolitia oriented along the direction of the sunrise on winter solstice. Now, I can tell that another Mithraeum exists oriented towards the “oriens brumalis”, that is, the southern sunrise: this is the Rudchester Mithraeum.

Since I was not able to identify this Mithraeum in satellite maps, here I use another approach. A remarkable web site exists discussing and providing fundamental information about the Roman cult of Mithras. The site - we can find it at www.tertullian.org/rpearce/mithras - was created by Roger Pearce starting from 2000. Thanks to Pearce, we have the possibility to see the plan of the Rudchester Mithraeum [8]. Using the drawing in [8], turning it to have an orientation True North, and adding it as a layer to a satellite image of SunCalc.org (Figure 2), we obtain the Figure 3.



Figure 2: Adapting the drawing in [8], turning it to have an orientation True North, we obtain the image on the left. We can use it as a layer to add to the satellite image of SunCalc.org, showing the direction of the sunrise on 25 December.



Figure 3: Using the two images from Figure 2, we can compare the direction of the axis of the temple and of the sunrise at Rudchester on December 25. The alignment seems quite good.

As a conclusion, we can tell that we have two Mithraea, close to the Hadrian's Wall, which have, through their orientation, a link to the winter solstice and therefore to December 25, the day of the birth of Mithras. Let us also observe that astronomical orientations, in particular orientations along sunrise/sunset on the solstices, were used by the Romans in the planning of military forts and colonies (see for instance, [9-15]). For this reason, the fact that the Mithraea of Brocolitia and Rudchester have, more or less, the same astronomical orientation seems more than a coincidence.

References

- [1] Parker, P. (2010). *The Empire Stops Here: A Journey along the Frontiers of the Roman World*, Philip Parker, Random House
- [2] Vv. Aa. Wikipedia <https://en.wikipedia.org/wiki/Mithraism>
- [3] Vermaseren, M. J. (2011). The miraculous Birth of Mithras. In László Gerevich. *Studia Archaeologica*. Brill. pp. 93–109.
- [4] Sparavigna, A. C. (2017). The Winter Solstice and the Mithraeum at Brocolitia, Carrawburgh (June 22, 2017). *PHILICA*, Article n. 1049. Available at SSRN: <https://ssrn.com/abstract=2991247>
- [5] Sparavigna, A. C. (2017). On the Astronomical Orientation of Mithraea (June 23, 2017). *PHILICA*, Article Number 1055. Available at SSRN: <https://ssrn.com/abstract=3003103>
- [6] Sclavi, S., Monaco, M., Carnevale, F., Ranieri, M., Gaudenzi, S., Polcaro, F. V., & Scatigno, C. (2016). The Orientation of the Mithraea in Ostia Antica. *Mediterranean Archaeology and Archaeometry*, 16(4), 257-266.
- [7] Vinaccia, G. (1939). *Il problema dell'orientamento nell'urbanistica dell'antica Roma* (Vol. 1). Istituto di studi romani.
- [8] Roger Pearce. CIMRM 838 - Mithraeum. Rudchester, Northumberland, Britain. Available at <http://www.tertullian.org/rpearce/mithras/display.php?page=cimrm838>
- [9] Sparavigna, A. C. (2016). Roman Towns Oriented to Sunrise and Sunset on Solstices. Available at SSRN: <https://ssrn.com/abstract=2777118> or <http://dx.doi.org/10.2139/ssrn.2777118>
- [10] Sparavigna, A. C. (2016). The Town Planning of Pompeii and Herculaneum Having Streets Aligned Along Sunrise on Summer Solstice. Available at SSRN: <https://ssrn.com/abstract=2802439> or <http://dx.doi.org/10.2139/ssrn.2802439>
- [11] Sparavigna, A. C. (2016). I Castra Albana Orientati Verso Il Solstizio D' Estate (The Castra Albana Oriented to the Summer Solstice). *PHILICA* Article number 632. Available at SSRN: <https://ssrn.com/abstract=2808242>
- [12] Sparavigna, A. C. (2017). L'antico tracciato urbano di Venafro ed il solstizio d'estate. 2017. <hal01538368>
- [13] Sparavigna, A. C. (2017). The Walled Town of Alife and the Solstices. *Philica*, *Philica*, 2017. Available HAL, <hal-01464777>
- [14] Sparavigna, A. C. (2014). Solstices at the Hardknott Roman Fort (December 17, 2014). *PHILICA* Article number 442. Available at SSRN: <https://ssrn.com/abstract=2745184L>, <hal-01464777>
- [15] Sparavigna, A. C. (2017). The Solstices and the Orientation of the Roman Fort of Segontium (June 22, 2017). Available at SSRN: <https://ssrn.com/abstract=2990995>

Information about this Article Published on Tuesday 12th September, 2017 at 18:32:07.

The full citation for this Article is:

Sparavigna, A. (2017). The orientation of the Mithraeum at the Vindobala Roman Fort (Rudchester Mithraeum). *PHILICA.COM* Article number 1109.