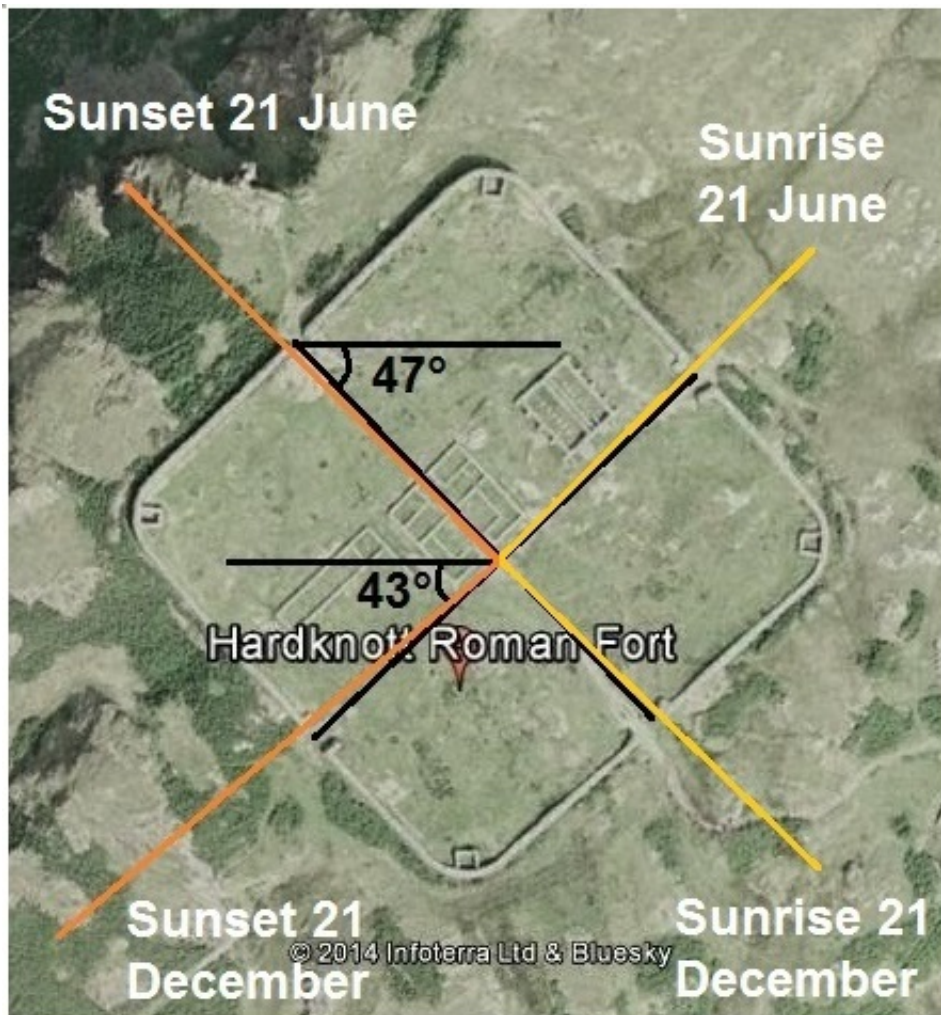


Physics professor finds old Roman fort in England aligned with the sun

January 9 2015, by Bob Yirka



The Hardknott Fort and sunrises and sunsets directions on solstices. The Roman fort had the sun passing through the four gates on solstices. Moreover, the four towers of its wall seem aligned to cardinal directions. Some differences exist; probably the fort is on a slightly inclined plane. Credit: Amelia Carolina Sparavigna, *Philica*

(Phys.org)—Amelia Carolina Sparavigna, a physics professor with the Politecnico di Torino in Italy has found that the gates that once led in and out of an old Roman fortress in north-west England aligned with the summer and winter solstices. She has also noted that the towers built on each of the corners were aligned with the cardinal directions. She has published her analysis, results and ideas on reasons for the alignment in her paper published in *Philica*.

The old square-shaped [fort](#) sits on top of a hill close to Hardknott Pass situated in Cumbria County overlooking the Eskdale River Valley. It was built by Roman soldiers and workers sometime before 138 A.D. as it was commissioned by Hadrian, who was ruling the empire at the time. It is mostly ruins now, but was once the site of a garrison, housing approximately 500 men. It was subsequently abandoned in the mid 2nd century during the Antonine push into Scotland and was thereafter occupied and abandoned repeatedly over the years since.

Sparavigna took an interest in the fort and used software she found online to work out the fall and rise of the sun on the fort during each solstice, and then Google Earth to compare what she had found with the fort's features. That led to the discovery that the fort is aligned such that when the [winter solstice](#) occurs, the sun, when it came up, would line with certain gates, and would set lined up with other gates. During the [summer solstice](#), on the other hand, the sun tended to align with different gates during sunrise and/or sunset.

Sparavigna cannot say for sure why the fort is aligned the way it is, but suspects it has a lot to do with the gods worshiped by the Romans at the time, noting that many buildings and communities were aligned in similar manner during Roman times. Of course it also seems plausible that the alignment with the [sun](#) was an unintended consequence of the

cardinal alignment of the walls, or it could have served a more practical purpose—maximizing the amount of light that entered the fort or helped to best see enemies approaching during different times of the year.

More information: Solstices at the Hardknott Roman Fort, Amelia Carolina Sparavigna , *Philica* ,
www.philica.com/display_article.php?article_id=442

Abstract

From the most ancient times, the Roman military camps were planned according to a certain ideal pattern that was also applied to the *coloniae*, the outposts established in the territories conquered by Rome. The planning of *castra* and colonies was based on a chessboard of parallel streets, the main of them being the *Decumanus*. Probably, some *Decumani* were oriented to confer a symbolic meaning to the place too. Here we discuss the distinctive layout of a *castrum* in the Roman Britannia, the Hardknott Fort, and its orientation to the solstices.

via [FoxNews](#)

© 2015 Phys.org

Citation: Physics professor finds old Roman fort in England aligned with the sun (2015, January 9) retrieved 25 April 2024 from
<https://phys.org/news/2015-01-physics-professor-roman-fort-england.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--