Innovation at Persia's frontiers

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Innovation at Persia's Frontiers: Sasanian Campaign Bases and Defensive Barriers

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A recent joint fieldwork project between the Iranian Cultural Heritage, Handcraft and Tourism Organisation (ICHHTO), the Iranian Center for Archaeological Research (ICAR) and the Universities of Edinburgh and Durham has explored the Great Wall of Gorgān and the Tammīsheh Wall. These defensive barriers in modern Golestān, Iran, were of a similar date, as shown by their similar architecture and scientific dating. The construction of the Great Wall of Gorgān, frequently misattributed to the Parthians (most recently by Ellerbrock / Winkelmann 2012, 85), and that of the Tammīsheh Wall is now firmly dated to the AD 420s-540s (Sauer et al. 2013, *passim*, especially 593-599). The historical context suggests that it took place in the first half of this period, rather than the second.

These barriers employ construction techniques which are different to those used in any Roman long walls. They were built of fired bricks, with a large-scale canal system providing the water for brick production. The scale of construction works dwarfs all barriers in the late Roman world. The Great Wall of Gorgān reached c. 195 km length, though with its western end buried under marine sediments, almost certainly well over 200 km, and the Tammīsheh Wall over 11 km (**fig. 1**). If the two walls were in fact part of a single barrier, the missing link buried under marine sediments of the Caspian Sea, as circumstantial evidence suggests, their combined length may have amounted to some 250 km. The height of the walls is unknown, as the sought-after fired bricks have everywhere been robbed until no section of the brick wall remained upstanding. The probably contemporary Ghilghilchay Wall (**fig. 1-2**), built of sun-dried mud bricks not suitable for reuse, survives to a height of up to 6-7 m in the vulnerable coastal section (Aliev et al. 2006, 154) and will have been substantially higher prior to decay. With one brick kiln, each measuring some 4 x 7 m and the combustion chamber being 2 m high, every 37-86 m in our survey areas, there may have been as many as 3,000-7,000 kilns to enable the construction of the Gorgān and Tammīsheh Walls. The combined size of over 30 forts along the walls, densely filled with military barracks (**fig. 3**), is estimated at well over 80 ha. It is clear that this construction project, of unparalleled architectural design and extraordinary scale, was not based on any models from elsewhere, but reflects independent design and provides evidence for the Sasanian Empire's remarkable resourcefulness.

In the hinterland of the Gorgān Wall four heavily fortified compounds, averaging some 40 ha interior size each, have been found (**table 1**). One of them, Qal'eh Kharābeh, yielded radiocarbon dates of the same time period as the Gorgān Wall and we may assume that the other three are of a similar age. There are further large compounds which share some architectural characteristics with these four and may be contemporary, but more fieldwork is needed to test this hypothesis for each of them. Neatly aligned double-rows of rectangular enclosures, undoubtedly for tents, have been identified via magnetometer survey at Qal'eh Kharābeh (**fig. 4**) and one of them partially excavated. Wide access corridors between each double row may also have provided space for tethering horses. Each 40 ha-compound will have sheltered thousands of horsemen on campaign, perhaps 10,000 in total to judge by the spacing of tent enclosures and the base's

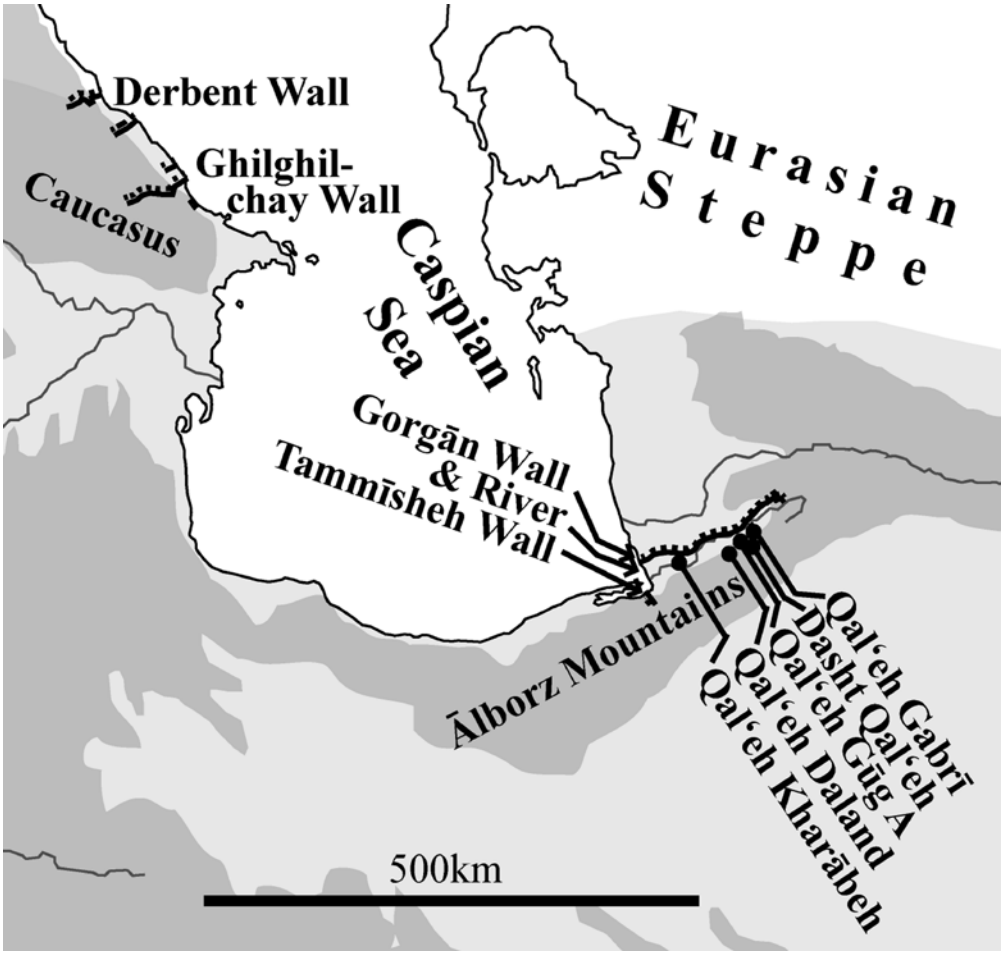

Fig. 1. Frontier walls in the north of the Sasanian Empire. Dark shading: mountainous terrain; light shading: approximate extent of the Sasanian Empire

Fig. 2. The coastal section of the Ghilghilchay Wall, in modern Azerbaijan, reaches impressive dimensions. The horses on the left (to the north) of the wall provide an idea of its scale

Table 1. Sasanian campaign bases in the Gorgān Plain (excl. several additional possible and probable representatives): standardised architecture for units of standardised size, of c. 10,000 men each?

Name	Internal dimensions (approx.)	Size, (excl. defences, incl. citadel)	Corner citadel	Moat (width)	Towers per side	Raised canal(s)
Qal'eh Gūg A	665 x 665 m	c. 45 ha	Reused, polygonal	?	22 (?)	?
Qal'eh-ye Daland	655 x 655 m	c. 43 ha	None	Yes (c. 60 m)	20	Yes
Qal'eh Kharābeh	630 x 650 m	c. 42 ha	New, square	Yes (c. 70 m)	20	Yes
Gabrī Qal'eh	585 x 585 m	c. 35 ha	New, square (?)	Yes (c. 80 m)	?	Yes

overall size. Vegetius' claim (1.21, 3.10) that the Late Roman army no longer built marching camps, whilst postulating that the Persians had copied doing so from the Romans, seems to be true in so far as the Persians in Late Antiquity indeed built temporary military bases, unlike the Roman army at the time. Unconvincing by contrast is Vegetius' hypothesis that the emergence of such installations in the east was a result of copying, as there is no parallel for heavily defended campaign bases of similar design in the west. Indeed, as, to our knowledge, we lack archaeological evidence for any new Late Roman temporary camps, the Persian campaign bases must be the products of local innovation, even if probably inspired by earlier Central Asian compounds of similar design. They are much larger than any Late Roman, exclusively military, bases built from scratch, suggesting that the number of well-organised troops the Sasanian Empire could mobilise was significant. If Vegetius (3.10.14-16) is right that (more transient?) temporary Persian camps were often built of sacks of sand, there will be many more than we will ever know.

Our fieldwork on the Gorgān Wall and in its hinterland (Sauer et al. 2013), as well as recent research on sieges at Dura-Europos (James 2011a; 2011b; 2009; 2005) and Hatra (Hauser / Tucker 2009; Tucker 2010) and on military equipment (James 2006), has shown that the Sasanian army was in the vanguard of development. Scholars, who believed the Sasanian army to be disorganised and heavily reliant on *ad hoc* drafts of unprofessional soldiers (e.g. Rubin 1995, 290-291), have been proven wrong. It now appears that, in terms of its level of organisation, capabilities and probably numerical strength, the Sasanian military matched the Roman army – and may have more than matched it by the 5th to 7th centuries (Sauer et al. 2013; cf. Howard-Johnston 2012).

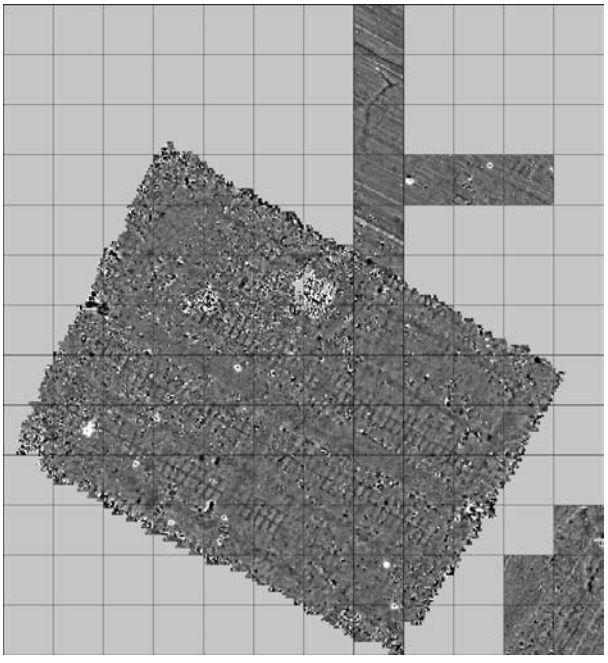

Fig. 3. Magnetometer Survey of Fort 4 on the Gorgān Wall by the joint project, Abingdon Archaeological Geophysics and the ICHHTO, notably Roger Ainslie et al., showing clearly three of the fort's four double barracks. Each survey square measures 30 x 30 m

Such findings help to explain the Sasanian Empire's ability to invade the Roman Empire repeatedly. The empire's largely successful border defence and investment in infrastructure and irrigation also appear to have led to unprecedented population growth, urban expansion and prosperity in various territories in the interior. Symptomatic is the discovery that a large city, Dasht Qal'eh, in the fertile land south of the Gorgān Wall was established at, and occupied for, a similar period of time as the forts on the wall (**figs 1, 5**). At 3 km^2 interior size, it was evidently designed for a substantial number of inhabitants and also boosted

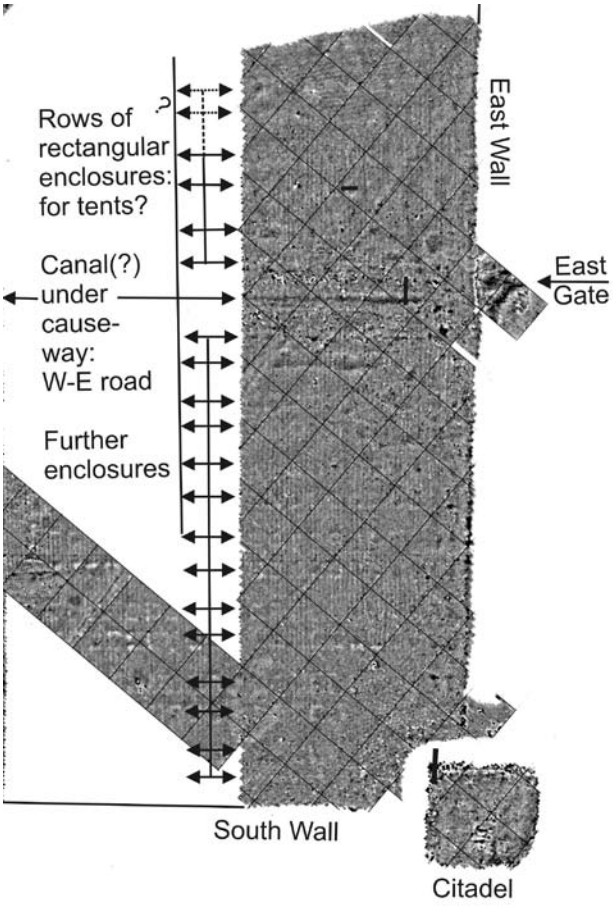

Fig. 4. Magnetometer Survey of the south-east of Qal'eh Kharābeh by the joint project, Abingdon Archaeological Geophysics and the ICHHTO, showing double rows of rectangular enclosures, each probably enclosing a tent. Each survey square measures 30 x 30 m

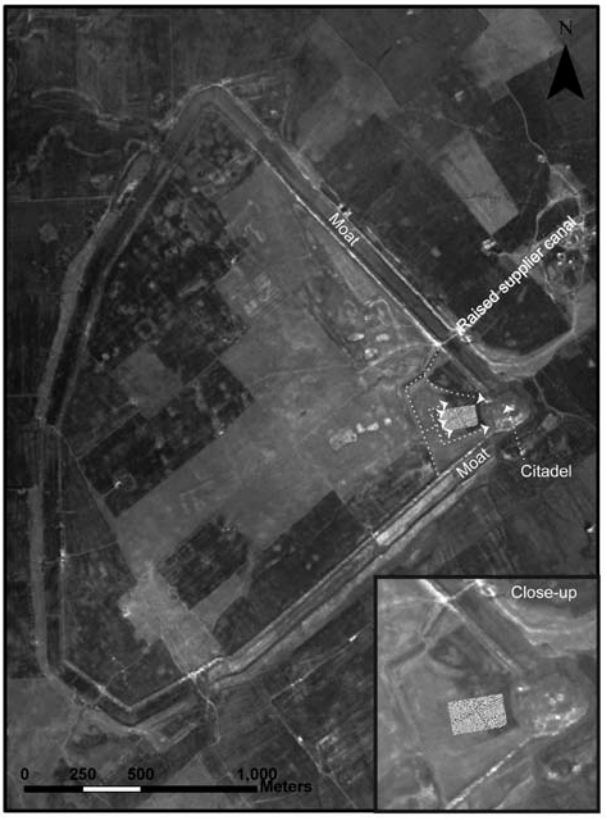

Fig. 5. Dasht Qal'eh, a city of c. 3 km^2 interior size in the hinterland of the Gorgān Wall. Radiocarbon dates indicate that the foundation of the geometric compound, sharing architectural features, i.e. a broad moat and corner citadel with Sasanian campaign bases, dates to the same period as the construction of the Gorgān Wall. Effective defence, it seems, led to a period of urban growth and economic prosperity. CORONA Satellite image by courtesy of US Geological Survey

impressive urban architecture, notably colonnaded streets and probably a flowing water supply (Sauer et al. 2013, 382-406; Amin Pour 2012, 353). Long underestimated or disregarded by the scholarly community, there is no longer any doubt that the Sasanian Empire's ability to embark on large-scale construction projects and its remarkable geographical extent over more than four centuries, expanding its large dominion even further in the late 6th and early 7th centuries, was not the result of chance, but of prudent strategies.

Acknowledgements

This article represents a concise summary of some of the results of our joint fieldwork project. A much more detailed report with extensive references has been published a few months after the 22nd Limes Congress (Sauer et al. 2013), even if the above article includes additional recent publications and observations. The full report also contains more detailed acknowledgements (*ibid.*, xiv-xvi) of the numerous individual supporters of our project. Here there is only space to gratefully acknowledge the generous financial support provided by several organisations, without which our fieldwork from 2005 to 2009 would not have been possible: the Arts and Humanities Research Council, the British Institute of Persian Studies, the Iranian Cultural Heritage, Handcraft and Tourism Organisation, the Iranian Center for Archaeological Research, the British Academy, the University of Edinburgh, the Iran Heritage Foundation, the Stein Arnold Exploration Fund, the Carnegie Trust for the Universities of Scotland and the Ancient Persia Fund. The European Research Council has kindly funded further fieldwork on the Sasanian Empire from 2012 onwards, including a visit of the Ghilgilchay Wall.

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