Modelling the North Assyrian imperial core

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Abstract

Between the second and first millennium BC the Middle and especially Neo-Assyrian empires carried out extensive re-organization projects, which deeply transformed the landscape of northern Mesopotamia through the creation of great territorial infrastructures. Besides involving the establishment of new capital cities, such interventions were implemented through the construction of massive state-created regional networks of canals that supplied water to the Assyrian capitals and their hinterlands as well as to major provincial centres. Their construction enabled the irrigation and agricultural production intensification in large parts of the "Assyrian dry-farming belt" and made available navigable waterways for the transport of goods and people. The paper will discuss these profound changes through a bottom-up approach based on the study of the organization of the rural hinterland of the last Assyrian capitals and its transformation into an imperial landscape by means of fresh data resulting from the survey conducted by the 'Land of Nineveh Archaeological Project' of the University of Udine in the Eastern Upper Tigris and the Navkur regions.

Keywords

Empire building, Assyrian core, Iraqi Kurdistan, Irrigation systems, Faida canal and rock reliefs.

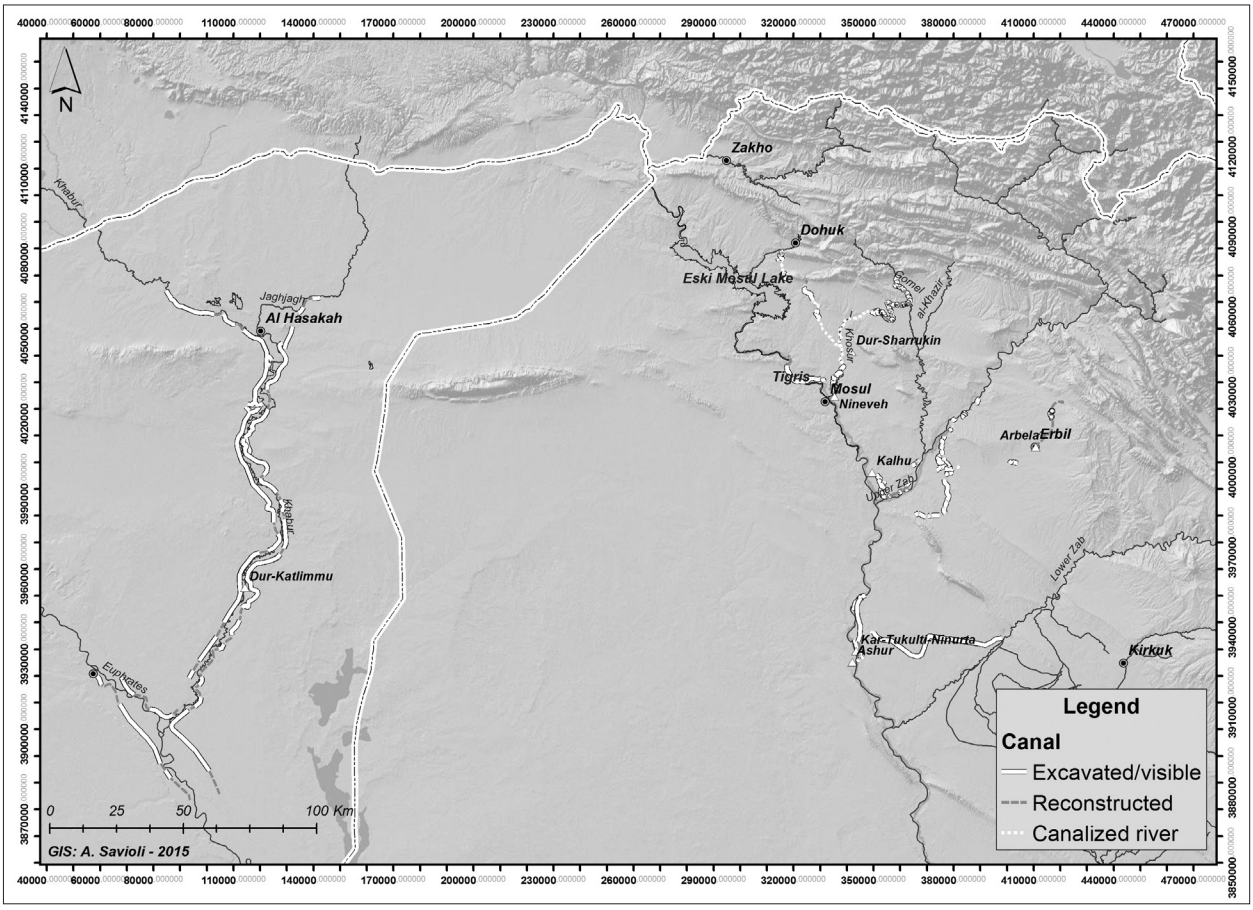

Figure 1
Main water systems in the Assyrian homeland
(LoNAP, produced by Alberto Savioli; based on Safar 1946; Oates 1968; Ergenzinger, Kühne 1991; Dittmann 1995; Ur et al. 2013)

As Bleda Düring[1] pointed out in his new volume dedicated to the formation of the Assyrian Empire, in recent decades research into Assyrian imperialism has been fuelled above all by historical studies, while a decidedly minor contribution has come from archaeological investigations. As a result of this approach, the research agenda has been defined primarily by historical perspectives linked to analysis of the extensive written records from the archives that have been unearthed, with a focus on imperial ideology and propaganda, the functioning of the Assyrian court and administration, and the empire's military machine.[2] With some exceptions,[3] archaeological research has often been aligned with, and to some extent shaped by this perspective, devoting itself to the study of many aspects of Assyrian material culture linked to the imperial elites, especially architecture and palace reliefs, as well as the production and circulation of ivory inlays, metalwork, glyptics and pottery. However, only rarely have attempts been made to define an overall archaeological approach to the study of the Assyrian Empire in its core region centred on the Middle Tigris and its tributaries, examining the profound transformations of the natural, rural and social landscapes that occurred in this region following the empire's establishment. Only in

[1] Düring 2020, pp. 1-2.

[2] See e.g. Fales 2001 and, most recently, Liverani 2017.

[3] Parker 2001; Düring 2015; Düring, Stek 2018; Morandi Bonacossi 2018a.

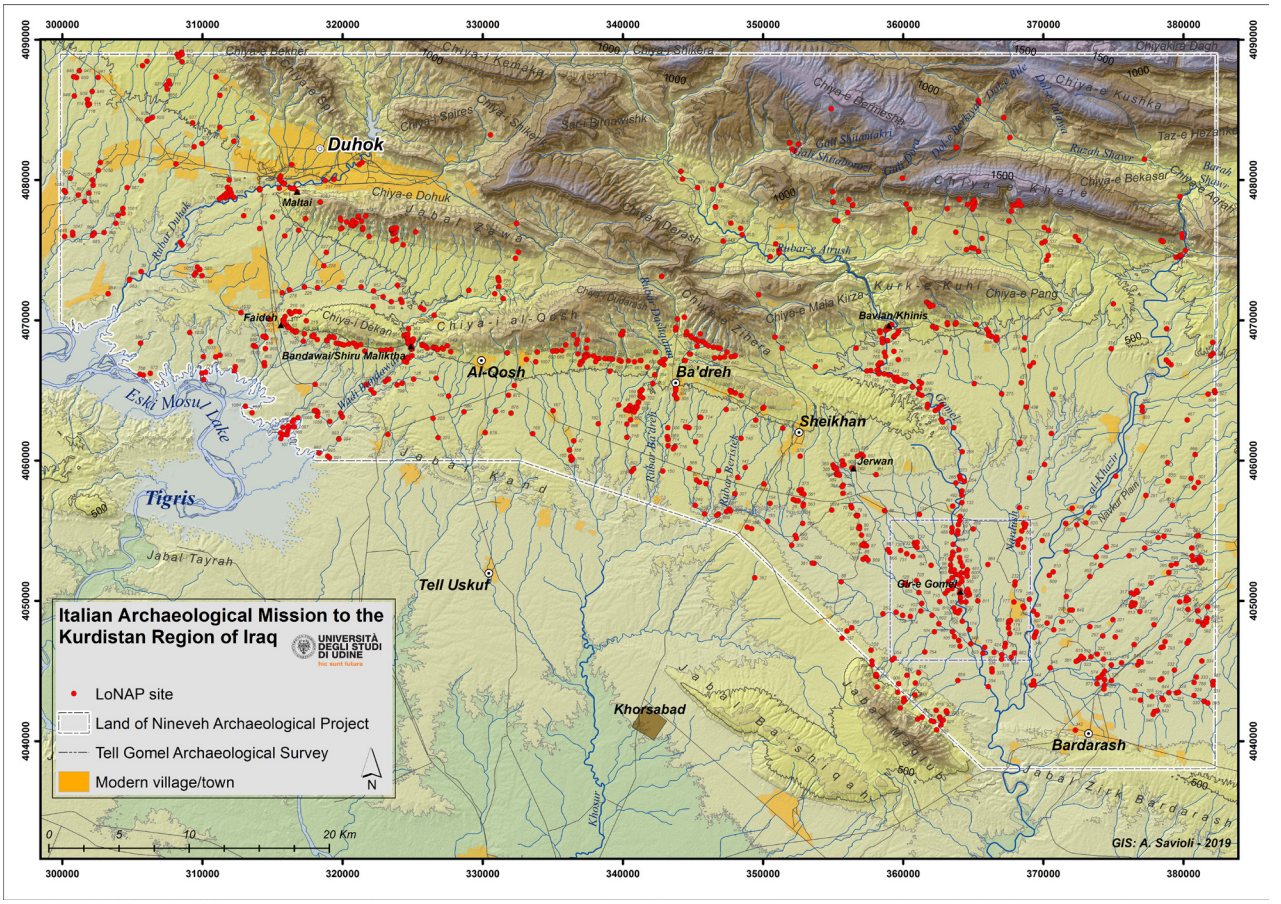

Figure 2
Distribution of archaeological sites discovered in the 2012-2018 survey campaigns (LoNAP, produced by Alberto Savioli)

recent years has archaeological research resumed in the significant part of the 'Assyrian Triangle' corresponding to the region of Iraqi Kurdistan. This has enabled the development of landscape archaeology projects aimed at understanding the empire's transformative impact in terms of changes in settlement patterns and demographics, creating infrastructures that profoundly altered the management of water resources and the agricultural economy – and the ideological construction and commemoration of this new imperial landscape.[4]

As has been discussed in more detail elsewhere,[5] the creation by first millennium BC Assyrian rulers of extensive regional irrigation systems in the heart of the empire (Fig. 1) made it possible to intensify land occupation and the agricultural economy through the foundation of new administrative centres and rural villages and to increase settlement in areas previously considered marginal for farming. However, these interventions were part of a broader and more complex framework. The measures implemented by the Assyrian imperial administration, in fact, had as their objective the material construction and ideological commemoration of a new imperial landscape created through

[4] See in particular the Erbil Plain Archaeological Project (EPAS; Ur et al. 2013 and in press; Ur, Osborne 2016) and the Land of Nineveh Archaeological Project (LoNAP; Morandi Bonacossi 2016, 2018a, 2018b; Morandi Bonacossi, Iamoni 2015).

[5] Morandi Bonacossi 2018a, 2018b.

the foundation of large fortified capitals and provincial administrative centres; the deportation of enormous numbers of prisoners of war from Assyrian military campaigns in the Levant, south-eastern Anatolia, the Iranian plateau and Babylonia; the construction of irrigation systems of regional extension that profoundly changed the natural hydrology in the heart of the empire; the creation of dense networks of farming villages; and lastly the symbolic appropriation of the new imperial landscape thus created by means of dissemination throughout the land – often in association with these new hydraulic works – of symbols of royal power and its divine legitimacy (monumental rock reliefs and celebratory cuneiform inscriptions).

The results of the Land of Nineveh Archaeological Project, conducted by the University of Udine from 2012 to 2018 in the Duhok region in Iraqi Kurdistan (Fig. 2), have yielded a detailed understanding of the extent of the material and ideological transformation imposed on the territory by the imperial elite in a particularly important part of the Assyrian Empire's core: the northern hinterland of its last two capitals, Khorsabad and Nineveh.

The Neo-Assyrian period was the greatest period of development in the region's settlement history. From a geomorphological perspective, the area is characterized by the presence of extensive rolling plains in the Duhok and Al-Qosh region, with well-drained soils that have moderate agricultural potential, and the Sheikhan and Navkur floodplains, with well-drained agricultural soils, good water retention capacity and high production potential. The region's hydrology is similarly favourable to agriculture due to the presence of permanent watercourses (the rivers Rubar Duhok, Wadi Bandawai, Gomel, Nardush and Al-Khazir) and numerous karst springs that feed the dense wadi network and high water table. Thanks to these vital resources, and their proximity to the large urban centres of Khorsabad and Nineveh and location on the route that connected the provincial centre of Arba'il (Erbil) with the Upper Tigris Valley, the plains of the 'Land of Khorsabad and Nineveh' in the Neo-Assyrian era became a densely settled region – and a strategic 'granary' for the supply of the imperial capitals, whose population had significantly increased due to the forced resettlement of deportees from military campaigns.[6]

The surface survey conducted by LoNAP showed the existence of a very densely settled landscape, with numerous small and very small sites, probably rural villages and farms. Compared to the previous Middle Assyrian period, the number of settled sites in the region grew by 63%[7] and the aggregate settled area by 67%. Moreover, as many as 47% of the Neo-Assyrian sites were either not occupied in the Middle Assyrian period (despite having been settled in previous periods) or were new foundations. The greatest changes in the settlement pattern are seen in the Duhok, Al-Qosh and Ba'dreh rolling plains, which – compared to the Sheikhan and Navkur plains – have shallower and less fertile soils. The settlement pattern became denser, with a tendency to expand into previously less cultivated areas. Similarly, settlement intensified in the interfluvial areas of the fertile Navkur plain, for example along the wadis that flow into the Gomel from the west, between the Gomel and the Khazir, and along the wadis that flow into the latter from the east. This settlement strategy of filling agricultural zones previously considered economically marginal has also been well documented by surveys conducted in other regions of the empire's central core.[8]

The data collected in the LoNAP area, in the other parts of the 'Assyrian Triangle' and in the western regions of the imperial core therefore show that a profound change in the economic strategy of land use occurred, which involved moving beyond agriculture based on the cultivation of the

[6] Oded 1979, pp. 366- 369.

[7] Similar sharp increases in the number of sites settled in the Neo-Assyrian era – especially small and medium-sized ones – have been documented by surface surveys conducted in the northern and western parts of the empire's central core (Cizre-Silopi, North Jazira Project, Hamoukar, Wadi Ajij, Lower Khabur, Jebel Abd el-Aziz, Tell Beydar, Wadi Amar, Balikh, Tabqa, Karkemish, Jabbul; summarised in Morandi Bonacossi 2000 and Wilkinson et al. 2005, fig. 9).

[8] See, for example, the North Jazira Project (Wilkinson, Tucker 1995, pp. 60-61, fig. 41), the western Assyrian territories (Wilkinson 1995, pp. 145-147; Morandi Bonacossi 1996, pp. 105-182, figs. 20, 29, pls. 4-6; Wilkinson et al. 2005, pp. 37-44, figs. 9, 12; Ur 2010, pp. 111-114) and the lower valleys of the Chai Siwasor and Chai Kurdara between Nimrud and Kilizu in the EPAS survey area (Ur, Osborne 2016, fig. 16.3).

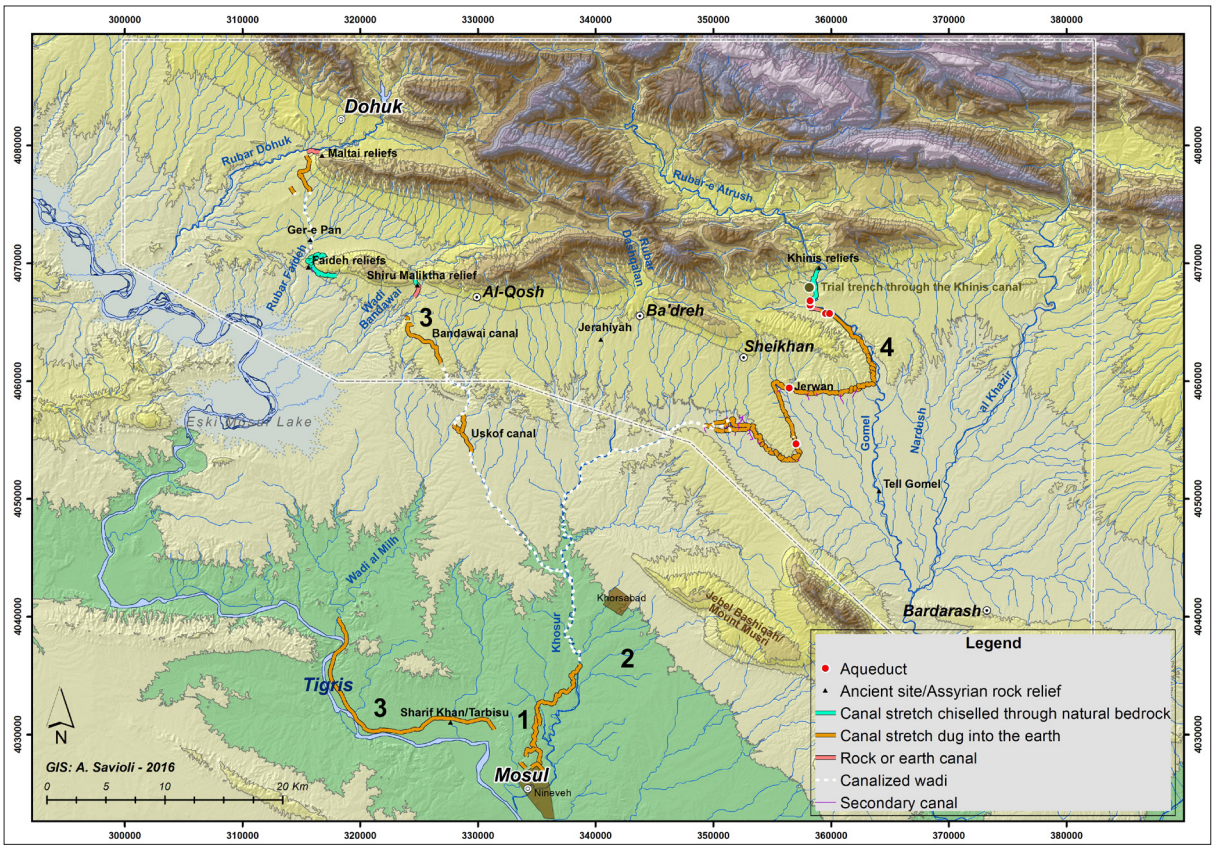

Figure 3
Reconstruction of the surveyed Neo-Assyrian canals in the Nineveh hinterland (LoNAP, produced by Alberto Savioli)

hinterland of the longest-occupied nucleated tells in favour of a more extensive cultivation strategy, with the more widespread exploitation of many more agricultural niches.[9]

This strategy of agricultural extension aimed at increasing the expanses of cultivated drylands was accompanied by a parallel program of intensification of rural production designed to compensate – through the introduction of new agricultural technologies – the low productivity of dry farming due to scarce and irregular rainfall.[10] It was in the Neo-Assyrian period, after the first achievements in the Middle Assyrian,[11] that Assyrian sovereigns built

[9] See also Wilkinson et al. 2005, p. 41.

[10] Sargon II introduced the seed plough into Assyrian agriculture, which is depicted on the glazed brick façade of the temple of the god Sin at Khorsabad (Place 1867-1870, III, pls. 4, 26, 31) and on fragmentary bronze gate bands from the Adad (Place 1867-1870, I, p. 129; III, pl. 72/10) and Nabu temples (Loud, Altman 1938, pl. 50/24; see also Curtis 1999, pp. 249-251, fig. 2). The use of the seed plough in place of the less efficient traditional plough is also recorded in written documents from the second half of the 7th century BC (see the discussion in Curtis 1999 and Dornauer 2016, pp. 204-205). The use of iron ploughshares instead of those in bronze is archaeologically well documented starting from at least Sargon's reign (Curtis 1999, pp. 252-253).

[11] See in particular, the *pattu meshari* canal ('Canal of Justice') built by Tukulti-Ninurta I to ensure the water supply of his new capital, Kar-Tukulti-Ninurta (Dittmann 1995). For the attribution to this Middle Assyrian ruler of the stretch of the eastern Khabur channel between the point where it was diverted from the River Jaghjagh (the Khabur's main tributary) to the site of Tell Sheikh Hamad/Dur-Katlimmu, see Kühne 2018, with an in-depth discussion of the archaeological and written evidence and previous hypotheses.

Figure 4
One of the rock reliefs along the Faida canal before excavation
(Photograph: D. Morandi Bonacossi, 2012)

extensive regional hydraulic systems in the heart of the empire (Fig. 1). The most extensive and complex of these was the network of weirs, canals, canalized *wadis*, embankments and stone aqueducts built between 702 and 688 BC by Sennacherib to irrigate the countryside north of Nineveh and bring water to his capital (Fig. 3). I have examined elsewhere the technological characteristics and chronology of this complex system of imposing canalizations,[12] whose construction was probably begun by Sargon II with the channels of Maltai and Faida (see below) – which were subsequently integrated into the larger hydraulic project of his son Sennacherib – and was commemorated by the grandiose rock reliefs carved on cliff faces in Maltai, Faida, Shiru Maliktha and Khinis and the monumental cuneiform inscriptions of Khinis and Jerwan. Research conducted in 2019 by the Kurdish-Italian Faida Archaeological Project[13] involved the archaeological exploration of a new sector of northern Assyria's hydraulic system, the Faida canal, bringing to light this rock-cut channel with an exceptional group of celebratory rock reliefs carved along one of its flanks.

I have discussed elsewhere the attribution to Sargon II of the construction of this canal plus its reliefs, as well as the Maltai canals and reliefs that feature the same scene of divine adoration by the sovereign.[14] Today, the Faida canal, which is 4 m wide on average, 8.5 km long, and was fed by a system of karst springs located a dozen kilometres away south

[12] Morandi Bonacossi 2018b, 2018c.

[13] The project is co-directed by Hasan Ahmed Qasim (Duhok Directorate of Antiquities) and Daniele Morandi Bonacossi (University of Udine).

[14] Morandi Bonacossi 2018b, pp. 91-98.

Figure 5
Rock relief along the Faida canal after excavation (Height: 1.50 m, width: 4.55 m)
(Photograph: Alberto Savioli, 2019)

of Duhok, is almost completely buried under thick layers of earth deposited by erosion of the hillside of Çiya Daka, around the base of which it ran. Secondary canals branched off from the main canal, allowing irrigation of the surrounding fields and increasing agricultural production in the Assyrian countryside in the hinterland of the empire's last capitals. Overall, the Faida canal and the two Maltai canals made it possible to irrigate an area of about 30 km.[2] To this intensively cultivated agricultural zone were added others irrigated by subsequent canals built by Sennacherib, thus making the 'Land of Nineveh and Khorsabad' a strategic granary for the supply of the capitals – because of its fertility and productivity, together with its proximity to Khorsabad and Nineveh which meant that large quantities of grains and other agricultural products could be transported at low cost.

Along the left bank of the Faida canal, the Assyrian ruler had large panels (just under 5 m wide by 2 m high) carved in the rock, representing the sovereign himself on either side of a series of deities standing on their symbolic animals. Initially, only the upper portions of the relief panels emerged from the earth that filled the canal (Fig. 4); the upper frame was visible, and in some cases the tops of the tiaras worn by the gods. In 1973 Julian Reade had identified the location of three buried bas-reliefs along the canal, but was unable to uncover them due to the political and military instability that characterized the region in that period of bitter confrontation between the Kurdish Peshmerga and the army of the Baathist regime.[15]

[15] Reade 1978, pp. 159-164.

Forty years later in August 2012, during the LoNAP archaeological survey, University of Udine archaeologists identified six new reliefs along the Faida canal. Seven years later, thanks to the collaboration between Udine University and the Duhok Directorate of Antiquities, a total of ten rock reliefs were known in Faida. The bas-reliefs discovered so far portray the Assyrian ruler represented twice, at both ends of each panel, together with the statues of seven deities on pedestals placed on the backs of emblematic animals (Fig. 5). The animals carrying the deities' statues walk to the right, in the same direction as the water current that once flowed in the canal. The divine figures represent the god Ashur, principal deity of the Assyrian pantheon, on a *mushkhushshu* dragon and a lion with horns (the *abūbu* monster, symbol of the flood[16]); his partner Mullissu, seated on an elaborate throne supported by a lion; the Moon god Sin, also on an *abūbu* monster; the god of wisdom, Nabû, on a *mushkhushshu* dragon; the Sun god Shamash on a horse; the storm god Adad on an *abūbu* monster and a bull; and Ishtar, the goddess of love and war, on a lion.

The sculpted panels of Faida belong to the wider panorama of Assyrian rock reliefs present along the north Assyrian hydraulic network built by Sargon and his son Sennacherib in the Duhok region. These rock-art complexes constitute the 'royal signature' imposed on the new imperial landscape created by the Assyrian rulers, consisting of a striking series of monuments and commemorative inscriptions loaded with religious and ideological meanings in order to celebrate the region's appropriation and profound transformation not only by means of a landscape engineering project, but also through its ideological commemoration.

Starting from the Middle Assyrian period, the imperial elite thus began a program of radical transformation of the countryside in the empire's core, between the Tigris and Khabur basins. New provincial capitals and centres were founded and the population living in these territories was greatly increased by the forced resettlement in urban centres and the surrounding countryside of large numbers of deportees from Assyrian military campaigns.[17] Agricultural production was intensified through the foundation of a dense network of rural villages and farms scattered throughout the territory and the colonization of areas previously considered agriculturally marginal. The construction of vast regional hydraulic systems, which fed intensively cultivated, high-productivity agricultural enclaves such as that of Maltai and Faida described above, supported the development of dense rural settlement, which in the 'Assyrian Triangle' region has been well documented archaeologically by the surveys conducted by LoNAP and EPAS in the plains of Duhok and Erbil. The creation of these regional irrigation channel networks – probably also used as waterways for the fast and low-cost transport of cereal crops – profoundly transformed the production bases of the empire's central core, guaranteeing solid economic support for its development. This new imperial landscape was ideologically commemorated through sculptural programs and celebratory inscriptions that embodied the constant presence of Assyrian rulers in the territory and their control – at the gods' command – of the area of chaos and disorder located in the lands beyond the walls of the cities.[18] These new waterscapes in the Assyrian heartland thus fulfilled Assyrian rulers' ambitions to achieve (and make visual) imperial control of the universe.

The Faida, Maltai, Shiru Maliktha and Khinis rock-art complexes still reserve much information and many surprises. However, they are also endangered sites that are threatened by atmospheric agents, the expansion of local productive activities, vandalism and illegal excavations. Their protection, conservation and enhancement represent the most urgent responsibility that archaeologists currently face.

[16] Seidl 1998.

[17] For possible archaeological evidence of the presence of deportees in the Nineveh hinterland, see the Neo-Assyrian cremation cemetery found at the site of Gir-e Gomel (Morandi Bonacossi et al. 2018, pp. 82-86).

[18] Pongratz-Leisten 1997, pp. 251-252, 2015, p. 421.

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