

1_1_Project_Overview

The "Early urbanism in prehistoric Europe?: the case of the Trypillia mega-sites" Project has collected a wide range of field, excavation, analytical and post-excavation data in their pursuit of the eight Project aims. The Project completed the following operations in their seven field seasons in Ukraine:

The 2009 season:

- (1) geophysical prospection of 15ha of the South-Eastern part of the mega-site;
- (2) intra-site gridded collection of 128 30m x 30m grid squares (11.5ha) of the mega-site;
- (3) coring of buried burnt structures with recovery of daub samples for AMS dating;
- (4) excavation of a burnt house (House A9), with flotation of samples from the burnt feature;
- (5) intensive, systematic fieldwalking of 55ha of fields near the mega-site; and
- (6) pollen coring of two small peat-filled basins 15 and 20km from the mega-site.

The 2012 season:

- (7) the excavation of the so-called 'mega-structure' (66 x 22m);
- (8) geophysical prospection of a further 50 ha of the mega-site;
- (9) mechanical coring of 100 burnt structures to recover daub containing charred plant remains;
- (10) intensive, systematic fieldwalking of a further 20 km² of the Nebelivka hinterland;
- (11) pollen coring in the stream-beds adjacent to the mega-site and in more distant peat-bogs;
- (12) soils investigation of the Nebelivka site and hinterland;
- (13) post-excavation and post-fieldwalking processing of pottery, animal bones and other finds.

The 2013 summer season:

- (14) the excavation of two Trypillia features: a pit near a Trypillia house and sections across linear features identified in the 2012 geophysical plots.
- (15) the Ukrainian side's excavation of two house-and-pit complexes B17 and B18.
- (16) geophysical prospection of a further 150 ha of the mega-site

(17) mechanical coring and test-pitting of 50 burnt structures to recover samples for AMS dating

(18) on-site soil micro-morphological investigations.

(19) intensive, systematic fieldwalking of a further 20 sq. km of the Nebelivka hinterland

(20) palaeo-environmental investigations of further sites near to Nebelivka and within a 30-km radius

(21) post-excavation and post-fieldwalking processing of pottery, animal bones and other finds.

The 2013 autumn geophysics season:

(22) completion of the last 50ha of the site to be covered by geophysical prospection.

The 2014 season:

(23) the completion of the excavation of the Trypillia pit begun in 2013;

(24) joint investigations of sections across the Northern and Southern sectors of the perimeter ditch;

(25) exploration by the Ukrainian side of small, circular features with strong geophysical anomalies which may have been kilns;

(26) excavation by the Ukrainian side of an unburnt house in the Southern sector;

(27) test-pitting of over 40 more burnt and unburnt structures to recover samples for AMS dating;

(28) intensive, targeted fieldwalking of 143km along river courses in the Nebelivka macro-region;

(29) on-site environmental sampling of the perimeter ditch, pits and test pit layers;

(30) post-excavation and post-fieldwalking processing of pottery, animal bones and other finds

(31) building of two replica 'Neolithic' houses in the centre of Nebelivka village

The 2015 short season:

(32) targeted fieldwalking of 15m² in the macro-territory (25km radius) of the Nebelivka mega-site;

(33) the burning of the two-storey 'Neolithic' house built in summer 2014.

The 2017 short season:

(34) Excavation of the burnt remains of the experimental 'Neolithic' house

The location of all trenches (Ukrainian - '*rozkop'*') and test pits ('*shurf'*') is presented on the site plan ([ADS LINK TO 4_2_2_1 & 4_2_2_2](#)).

The open-access ADS archive is complemented by the open-access monograph entitled 'Early urbanism in Europe: the case of the Trypillia mega-sites' (edited by Bisserka Gaydarska & John Chapman) and hosted by De Gruyter ([URL: xxxxxxxxxxxxxxxxxxxxxxx](#)). Similar themes and material are covered in both the ADS archive and the monograph, with a greater emphasis on interpretation and narrative in the monograph and the vast majority of basic data in the ADS archive. The correlations between the ADS archive structure and the monograph chapters are defined in the first Table:

MONO-GRAPH CHAPTER	CHAPTER CONTENT	FIELD-WORK ACTION	ADS AREA	ADS ARCHIVE CONTENT
1	Introduction		1	Aims & objectives
2	Research design		1_2 & 1_3	Research questions & summary of methodology
3.1	Fieldwalking	5, 10, 19, 28	2_2	Location of fields; photos of 'sites'; finds lists; finds photos & drawings
3.2	Intra-site gridded collection	2	4_7	finds density plots; finds lists
3.3	GIS settlement patterns - Trypillia		2_1	Maps; site lists;
3.4	GIS settlement patterns - micro- and macro-region	32	2_2	Methods; period maps; map of barrows.
4.1.1	Pollen studies	6, 11, 20	3_4	Summary of method & analyses; pollen & NPP frequency lists
4.1.2	Soil micromorphology	18	3_7, 5_2, 5_4 & 5_7	Summary of method; summary of results for five contexts
4.1.3	Molluscan evidence	29	3_5	Summary of molluscan

				frequencies by context; full molluscan lists
4.2	Geophysical investigations	1, 8, 16, 22	4_2 - 4_6	Summary of method; raw data plots; interpretative plots
4.3	Excavations			
4.3.1	The mega-structure	7	5_1	GIS plots by Phase and material; field photos by context; sections; finds lists, photos & drawings;
4.3.2	Coring and test-pits	3, 9, 17, 27	4_8 & 5_3	Location of Test Pits on geophysical anomalies; context sheet, plans & sections, trench photos, finds list, photos & drawings, summary.
4.3.3	Sonda 1 Pit	14, 23	5_4	context sheet, plans & sections, trench photos, finds list, photos & drawings.
4.4.1	Ditches	24	5_6	Plans & sections, trench photos
4.4.2	House A9	4	5_2_1	Plans & sections, trench photos, finds list, photos & drawings.
4.4.3	Houses B17 & B18 and pits	15	5_2_2	Summary, trench photos
4.4.4	Industrial structure and pits	25	5_5	Summary, trench photos.
4.5	AMS dating			
4.6	Building analyses			
4.7	House-building and - burning	31, 33, 34	6	Estimates for building & fuel; site photos.
5.1	The pottery		5_1 - 5_7	Pottery lists, photos & drawings for all major excavation units; GIS plots for 2012 mega-

				structure
5.2	Ground and polished stone			
5.3	Chipped stone			
5.4	Special finds		5_1 - 5_4	Finds lists, photos & drawings for all major contexts.
5.5	Animal bones		3_6	Summary, bone frequencies & distributions.
5.6	Plant remains		3_5	Plant and molluscan lists for major excavation units.
6.1	The Nebelivka mega-site			
6.2	Mega-sites - a comparative approach			
6.3	Low-density urbanism - a global approach			

In terms of the principal eight research aims, we have managed to achieve all but one of the eight aims, as follows:

(1) *the settlement plan of Nebelivka*: we completed the first complete geophysical plan of a large Trypillia mega-site in 2013 (Chapman et al. 2014). This geophysical research enabled the definition of a new research agenda for Trypillia mega-sites, based upon a range of hitherto unknown plan elements (including, partially burnt and unburnt houses, pits and pit-lines, concentric ditches, possible industrial features and new and complex arrangements of individual plan elements (especially houses). A major analysis of this plan has been published (Chapman & Gaydarska 2016; see also Hale, in press). The major tension in the creation of the Nebelivka site was created by the 'local' implementation of house arrangements in striking variations from the global 'template' of the main structural elements of the site (the two concentric rings of houses, the internal radial streets and the 'empty' central zone). The accuracy and detail of the new geophysical plan allows the development of a bottom-up model for Nebelivka.

(2) *the internal chronological sequence for Nebelivka*: despite the collection of over 80 AMS dates, many with standard deviations of 20 - 25 years, we have been hindered in the production of an internal chronological sequence for Nebelivka by the flat plateau of the calibration curve over the period of the mega-site occupation. Our best estimate from

Bayesian modelling is for an occupation of 150 - 200 years - 3900 - 3750 / 3700 cal BC Millard, in press).

(3) *the micro-regional settlement context of Nebelivka*: the Project has completed intensive, systematic fieldwalking of over half of the land within a 5km radius of the mega-site. The surprising result was the absence of any other Trypillia 'site' scatters and extremely rare off-site Trypillia discard within this 5-km radius. This finding means that there was no such phenomenon as a mega-site 'hinterland' in the sense of classic Near Eastern settlement distributions (Adams 1965; Johnson 1973). Even within a 25-km radius of Nebelivka, there were remarkably few coeval (Phase B-II) settlements, throwing doubt on Linda Ellis' (1984) claim for a 4-level settlement hierarchy in the Uman area. Targeted Project fieldwalking in the Nebelivka macro-territory was based on the pattern of site location close to the hydrological network and led to the discovery of two new Trypillia sites. However, the principal results were a large number of (mostly post-Trypillia) barrows (Russian 'kurgan') and Late Bronze Age and Iron Age site scatters (Cherniakov group).

(4) *the regional settlement context of Nebelivka*: Dr. Marco Nebbia's source-critical analysis of the Trypillia Encyclopaedia database of c. 2,000 sites has led to the identification of a much smaller group of c. 500 settlements which can be identified to phase, accurate location and site size. A series of sophisticated spatial analyses has demonstrated a diachronic development of settlement clustering from Phase A to Phase C-II. At the time of Nebelivka, all of the Phase B-II settlements within a 100-km radius of Nebelivka could have provided people to support a major congregation site at the Nebelivka mega-site over the duration indicated by the Bayesian modelling of the AMS dates.

(5) *human impacts of the Nebelivka mega-site*: the retrieval, analysis and AMS dating of the Nebelivka 1B sediment core, located 250m from the North-Eastern edge of the mega-site, has provided the first record of vegetation history and human impacts so close to a Trypillia mega-site. In complete contrast to the expected very strong human impact from a mega-site whose population had been modelled as over 12,000 people (Burdo & Videiko 2016), the results from this core showed a much more modest human impact which began before dwelling at the mega-site and continued after its abandonment. Five lines of evidence - cereal values, deforestation, charcoal values, soil erosion and water quality - combined to demonstrate a low level of human impact, indicating that the Project needed to look afresh at the nature of the mega-site.

(6) *the experimental construction and burning of 'Neolithic' houses*: the Project constructed two 1/3-scale 'Neolithic' houses -one one-storey and one two-storey - in the summer of 2014, using resources local to the village except for the cut timber (pine). The houses became summary statements of their local environment, with building materials taken from all parts of the landscape. Negotiations with the Village Mayor meant that the Project could burn down only the two-storey house. The complete filling of the house with cut timber meant that we achieved complete combustion, unlike in other experiments. It is noteworthy that the

burning of the house consumed 8 - 10 times more timber than its burning. The excavation of part of the burnt house remains was accomplished in summer 2017.

(7) *an interpretative model of the foundation, growth and decline of Nebelivka*: there are now nine separate lines of evidence against the currently accepted model for Trypillia mega-sites - the '*maximalist*' model of many thousands of people living permanently and all-year-round for a long period of time (Müller et al. 2016). The Project has developed two alternative models to this position - what we have termed the '*minimalist*' model. Until the Project manages to elaborate a Bayesian model for the internal chronology of Nebelivka, we cannot fully validate the three competing models of the growth of the mega-site. The *circulation model* envisages extended groups with common descent living in settlements within 100km of Nebelivka supporting those living at the mega-site. One group *per annum* is in control of the mega-site, its provisioning and major seasonal events. The *seasonal aggregation model* views Nebelivka as a congregation site for primarily summer gatherings, with different groups coming for one - three months each year and with small numbers of permanent residents. The *pilgrimage model* envisages Nebelivka as a place of major pilgrimage, with groups from villages as far as 100km away visiting for a week or two weeks during the pilgrimage season (seven months in snow-free times). One long-term trend occurring irrespective of which alternative model is supported is the gradual diachronic change in the ratio of living houses (occupied by kin groups) to dead houses (abandoned and burnt to leave the remains of low 'memorial' mounds). This indicates a gradual transformation of Nebelivka from a dwelling site into a dwelling site with a strong and growing ancestral presence.

(8) *the Trypillia mega-sites in the global context of urbanism*: the Project's study of global urban trends has emphasised the wide range of settlement forms that do not fit neatly into the classic Childean model of Near Eastern urbanism. The Trypillia mega-sites would appear to be one of the earliest examples, if not *the* earliest, of another form of urbanism - low-density urbanism (Fletcher 2009; Fletcher et al., in press; Gaydarska 2016: 2017). The consequence of the substantial reductions in population estimates - perhaps to a few thousand rather than 12,000 - for all three of the alternative models proposed for Nebelivka is that we are looking at major agglomeration sites whose designation as 'urban' rests on the relational perspective on urbanism - viz., the far larger size of Nebelivka than all other settlements in a 100-km radius. It is also important to note that, unlike in the Childean urban model, low-density urban sites often lacked successor cities. This is clearly the case for the Trypillia mega-sites, whose successor settlements were so small as to be often undetectable.

Table 2 illustrates the links between the eight Project aims, the structure of the ADS archive and the chapter structure of the monograph.

AIM	SUBJECT MATTER	ADS archive area	Monograph chapter
1	<i>settlement plan of Nebelivka</i>	4_1 - 4_7	Ch. 4.2: geophysical investigations
2	<i>the internal chronological</i>	4_8 & 4_9	Ch. 4.3.2: excavations of the test pits; Ch. 4.4:

	<i>sequence for Nebelivka</i>		AMS dating
3	<i>the micro-regional settlement context of Nebelivka</i>	2_2	Ch. 3.4: GIS settlement patterns - Nebelivka micro-region
4	<i>the regional settlement context of Nebelivka</i>	2_1	Ch. 3.3: GIS settlement patterns - Trypillia
5	<i>human impacts of the Nebelivka mega-site</i>	3_4 - 3_5	Ch. 4.1: Palaeo-environmental studies
6	<i>the experimental construction and burning of 'Neolithic' houses</i>	6	Ch. 4.7: House-building and -burning
7	<i>an interpretative model of the foundation, growth and decline of Nebelivka</i>		Ch. 6.1: the Nebelivka mega-site
8	<i>the Trypillia mega-sites in the global context of urbanism</i>		Ch. 6.2: mega-sites: a comparative approach; Ch.6.3: low-density urbanism - a global approach