

From Observation to Interpretation: The Data Recording and Processing System Developed at Khirokitia (Cyprus, VII-VI Millennia BC)

ODILE DAUNE-LE BRUN

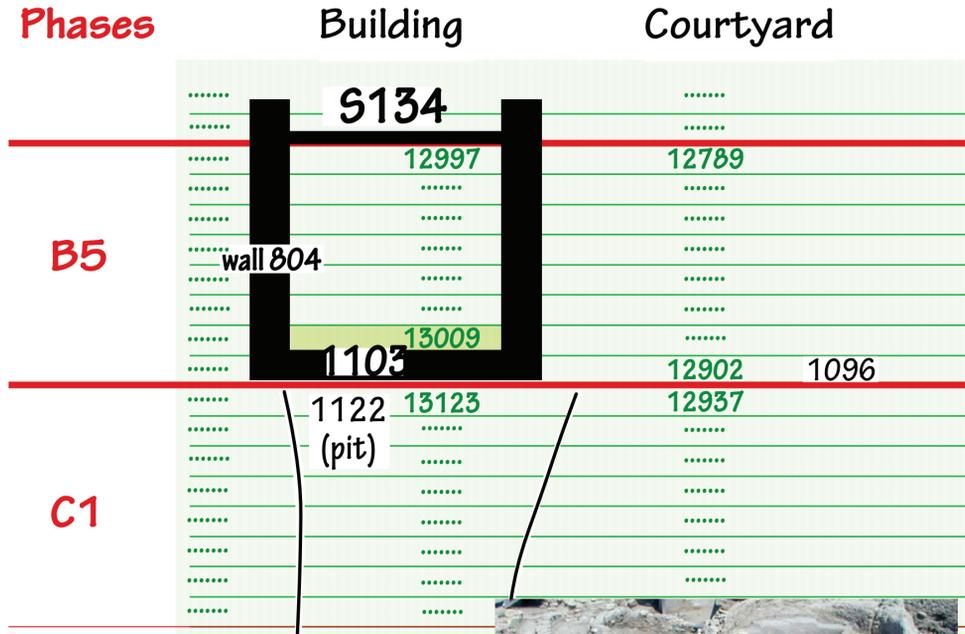
This paper should be considered as a short manual for ease of use of the Khirokitia field archives (1976-2007) that have been published online since 2009.¹ It presents the development at Khirokitia of an original recording system that was elaborated in the fifties by Jean Perrot (CNRS), a specialist in Middle and Near Eastern archaeology, for the excavation of prehistoric as well as historic sites.

Archaeological investigation starts with excavating, observing and recording facts: the archaeologist produces his own archives, but one particular aspect of this basic activity is that archaeological digging is systematic destruction. The field archives constitute therefore all that remains of a site's contextual data after its excavation, or all that remains of a site after its complete destruction, as it happened in 2005 with Cape Andreas-Kastros.²

The excavating and recording system used at Khirokitia was developed in the fifties by Jean Perrot (CNRS), a specialist in Middle and Near Eastern archaeology, for the excavation of domestic as well as monumental architecture from prehistoric and historic sites. Its main concern is to separate as much as possible the systematically excavated and recorded archaeological facts from the interpretation of these data by the excavator. These interpretations are susceptible to later questioning by the excavator himself /herself or by any other researcher. The field investigation accuracy, of course, depends on the nature of the site and the objectives of the scientific program.

¹ The online archive is accessible from: <http://archives.mae.u-paris10.fr/index.php/fouilles-khirokitia-1977-2007>; see also: Le Brun 1984; 1989; 1994.

² Cape Andreas-Kastros, a Cypriot Aceramic Neolithic site located in the northern part of the island and excavated in 1970-1973 (Le Brun 1981) was bulldozed by the occupying forces army in 2005.



LOCUS = feature (architectural element, open space, building components, domestic installation, grave...), test trench... It contains the "LEVÉES".

LEVÉE (arbitrary or geoarchaeological layer) = excavated sediment and material associated, recorded in the "catalogue de fouille" and located (XYZ) on a daily plan ("journal graphic"). It is the content of a "LOCUS".



Figure 1: Khirokitia excavating and recording system (French Archaeological Mission at Khirokitia).

As such, this system does not differ from others, while its originality lies in some specific procedures for implementing the principle of strict separation of facts and interpretation.

One procedure is the clear distinction between two different kinds of facts: the "locus" first, considered as a container, that is a structure (habitation unit, wall, courtyard, domestic installation, etc.) or even a test trench, and second, the content of the "locus", that is sediments and material resulting of the excavation of a "locus" (Fig. 1). Both are identified by a series of numbers, the "locus" numbers series being different from the "catalogue de fouille" numbers series.

The excavating process is carried out within the limits of a locus and of the same stratigraphic division or subdivision, by systematically removing layers of sediment, so-called “levées” (Fig. 1). The thickness of each “levée” depends on the archaeological and sedimentary context, and on the objectives of the scientific program. For excavating at Khirokitia, a maximum of ca. 5cm thickness has been set by the French team. Each “levée” may be arbitrary, in which case its thickness is ca. 5cm, or geo-archaeological, in which case its thickness may vary from 1 to 5cm. The first advantage of this method is the limitation of unfortunate mixing of material due to mistakes during the excavation. Another advantage is the provision of a rather precise image of the context, for example in a house, on top of the floor, or in the fill that is after its abandonment. Another advantage is also to postpone or correct, during or after the excavation, the identification of an arbitrary or geo-archaeological “levée” (layer) as to its contextual and stratigraphic position.

The specific procedures of data recording on the dig are considered to be of crucial importance and are based on the association of two documents: the daily plan, so-called “journal graphic” (Fig.2) and the excavation catalogue, so-called “catalogue de fouille” (Fig. 3), where the weight is placed on graphic rather than textual descriptions. The “journal graphic” summarizes the daily work, with “locus” numbers in black, the location of the excavated areas (“levées”) with “catalogue” nos. in green, and heights above sea level (a.s.l.) in red. The description of the sedimentary context and the inventory of the associated material are recorded in the “catalogue de fouille”. Other information is also visible on the plan, such as the appearance of new structures (“locus”), stratigraphic details, pictures taken or topographic drawing “top-plans” carried out.

Using this method, it is possible after the season, to follow as though in a film, the daily progress of the excavation, in its spatial and temporal dimensions, starting from the first day moving forward, or on the contrary from the last day moving back, and to follow step by step the history of the village (Fig 4-5).

The preference given to graphic descriptions accelerates the daily recording process and is handled by one person only. This allows that recorder to have an overview of the excavation not only from the first to the last day of each season, but from season to season. This improves the coherence of the observations and descriptions. This advantage can be seen when comparing to other projects, where recording is fragmented and difficult to unify. The emphasis on graphic recording also results in

23/7/2003

KHIROKITIA										levée
13551	Matériel	recueilli + esq	conservé	fiché	carré	Nord	Est	Hauteur		
	Céramique									Démontage
	Obsidienne									sol refectio
Carré 31.2/28.9	Silex	12 + 38	7	-						Sédiment
Niveau D	Pierre									lit de terre beige compacte à base compacte ac patite lgts blancs en dent de 1145 repose directement sur
Locus 1142	Pierre (vaisselle)									Stratigraphie
Structure 5145	Os (outils)									Arrêt sur sol blanc très compact sous ante
Sol 1142	Faune	24 +								Stratigraphie 1145
Nature bd	Coquillage									
Tamassage	Charbon	x	x							
	Graines									
	Echantillons									
	Divers									
13552	Matériel	recueilli + esq	conservé	fiché	carré	Nord	Est	Hauteur		
	Céramique									Démontage
	Obsidienne									sol surf
Carré 32/28.7	Silex	M + 12	7	-						Sédiment
Niveau D	Pierre									terre beige, fine + lgts granuleux blancs, suit à la base de la couche orange + pp pierres au N.
Locus 1150	Pierre (vaisselle)	en loc. 1	1	-						Stratigraphie
Structure 5145	Os (outils)									contre banquette
Sol 1142	Faune	35 +								Arrêt sur sol gris cendré à l'E m r + W = 1151
Nature S	Coquillage									Stratigraphie
Tamassage	Charbon									ante banquette et ilies!!
	Graines									
	Echantillons									
	Divers									
13553	Matériel	recueilli + esq	conservé	fiché	carré	Nord	Est	Hauteur		
	Céramique									Démontage
	Obsidienne									sol 1, hier sud
Carré 31/28	Silex	49 + 46	18	-						Sédiment
Niveau D	Pierre									grosses pierres + gros galets situés au lieu à partir beige très compacte - N: sur lit de terre à partir, S: directement sur sol
Locus 1145	Pierre (vaisselle)	Liban 1	1	-						Stratigraphie
Structure 6.1	Os (outils)									Arrêt sur sol beige ou blanc lime lit
Sol 1142	Faune	50 +	22	vert. 1 pierre						Stratigraphie
Nature xm	Coquillage									
Tamassage	Charbon									
	Graines									
	Echantillons									
	Divers									

Levée n°	Inventory of the associated material (completed the next day, after cleaning / washing / sorting the material)	Description of the sedimentary and stratigraphic context
...		
Locus n°		
...		

Figure 3: "Catalogue de fouille" file, dated 23 July 2003, with "levée" No. 13552, the location of which is indicated in the daily "Journal graphique" (French Archaeological Mission at Khirokitia).

overcoming the difficulties due to the diversity of languages in an international team, and today it may facilitate the online access to the Khirokitia field data.

The other field records are the same as on any excavations: top-plans, drawings and pictures, object inventories, all identified and organized according to a locus and/or catalogue numbers. The online archives do not yet include vectorized plans and digital pictures that started to be produced on the excavation at the beginning of the nineties.

"Locus" notebooks complete the documentation. They consist of synthetic summaries of the data gathered for each locus season after season, during and after the dig: stratigraphic observations provided by the "journal graphic" and sedimentary contexts descriptions provided by the "excavation catalogue", pictures and other means.

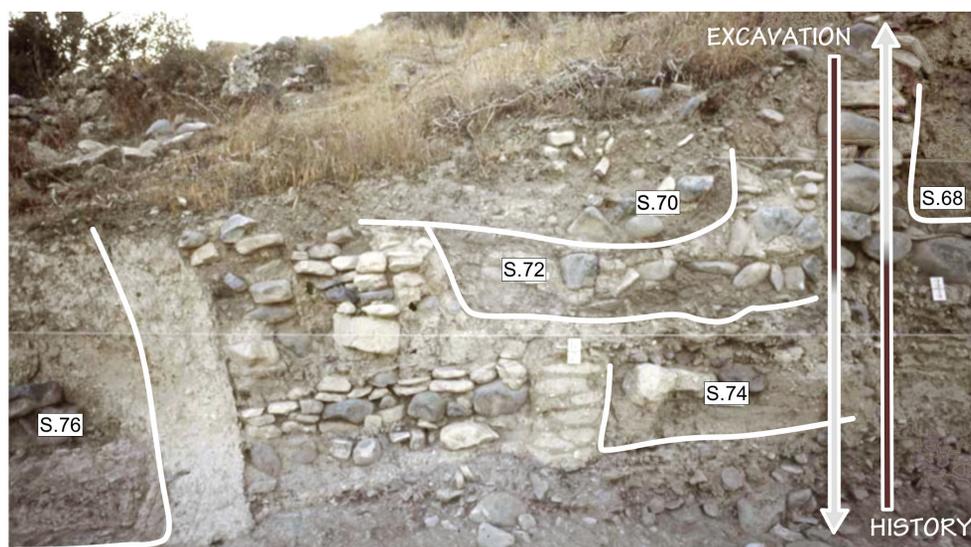


Figure 4: Excavation proceeds blindly from top to bottom, that is upside down history, as illustrated on this section created by a bulldozer for opening a path in the early 1970s, which shows a succession of habitation units (French Archaeological Mission at Khirokitia).

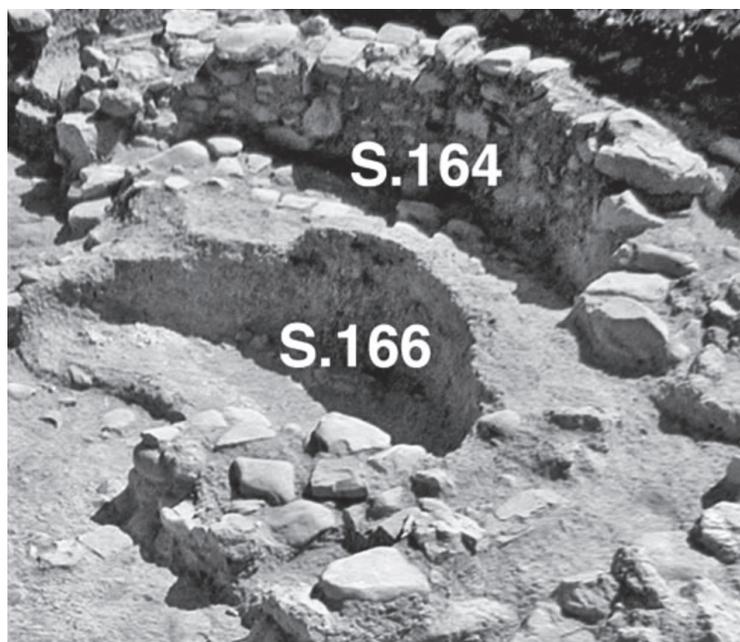


Figure 5: Succession of two partly destroyed habitation units uncovered on the northern slope of the site in 2006 and 2007 (French Archaeological Mission at Khirokitia).

This logic and systematic recording system was easily turned into a database that was initiated in 1987. The objectives were to cope with the volume of the data provided by the excavation and to ensure easy access to all the data for each researcher involved in Khirokitia's program. The database is structured around three main tables linked by two numbers: the "locus" and the "excavation catalogue" numbers.

The digitization in 2008 of Khirokitia field records has not only enriched the information system but also greatly improved the automatic management of the data. Researchers may now have access to all the data, without consulting the physical records anymore. It has also opened up new perspectives, one of them being to provide to the wider public open access to the Khirokitia information system through a web navigator.

Nevertheless, the great possibilities of computer tools and methodologies as to recording and treating data, should never let us forget that our basic work starts on the excavation and that a solid database first requires a strict structuring of the field data.

Bibliography

- Daune-Le Brun, O. 2016. "Le numérique pas à pas: La fouille du site Néolithique de Khirokitia (Chypre)." In *Archives de l'Archéologie Française à l'Etranger*, edited by E. Bellon and A. Rohfritsch, *Les Nouvelles de l'Archéologie* 145: 33-36.
- Le Brun, A. 1981. *Un Site Néolithique Précéramique en Chypre: Cap Andreas-Kastros*. Paris: Association pour la Diffusion de la Pensée Française.
- Le Brun, A. 1984. *Fouilles Récentes à Khirokitia (Chypre), 1977-1981*. Paris: Editions Recherche sur les Civilisations.
- Le Brun, A. 1989. *Fouilles Récentes à Khirokitia (Chypre), 1983-1986*. Paris: Editions Recherche sur les Civilisations.
- Le Brun, A. 1994. *Fouilles Récentes à Khirokitia (Chypre), 1988-1991*. Paris: Editions Recherche sur les Civilisations.

Περίληψη

Το άρθρο αποτελεί ένα σύντομο οδηγό χρήσης για τα ψηφιακά αρχεία από τις εργασίες πεδίου που έλαβαν χώρα στη Χοιροκοιτία μεταξύ 1976 και 2007, τα οποία έχουν δημοσιευθεί στο διαδίκτυο από το 2009. Παράλληλα, παρουσιάζεται η εξέλιξη του συστήματος καταγραφής που χρησιμοποιήθηκε στη Χοιροκοιτία, το οποίο αναπτύχθηκε τη δεκαετία του 1950 από τον Jean Perrot (CNRS) για την ανασκαφή προϊστορικών και ιστορικών θέσεων.