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THIS IS HOW WE DO IT
Methodology of pottery processing at Sagalassos

In this paper, we wish to present the main elements of the way we classify, process, date and store ceramic data related to the archaeological site of Sagalassos (SW Turkey), in particular that from Roman Imperial to Early Byzantine loci from excavations in the ancient urban zone. Following an explanation of the main building blocks according to which pottery finds are being classified – fabric, functional category, and type/variant – a few examples and illustrations serve to illustrate the way in which we work. The so-called 'Sagalassos Pottery Template' *that was created to this end allows to process all ceramic finds from an individual locus. The paper concludes with highlighting some current and future undertakings regarding the study of pottery and of finds more generally, and ways to integrate these into a single platform.*

Introduction

Artefacts embody part of the very essence what makes archaeology the discipline we are all dedicated to, whether it be a statue, a cut bone fragment, a pile of pottery sherds, etc. In order to make most of the basic data, detailed recording both in the field as well as in any subsequent step is a simple necessity, or should be at least. What we want, after all, is to obtain answers to questions, and this simply prompts a need for careful documentation. This, of course, pertains to stratigraphic excavation and intensive field survey, as well as to any ensuing stages in which structures and features, but also artefacts (and ecofacts) are dealt with and studied. The rapid progress of digital possibilities now allows us to store as well as investigate increasingly larger datasets. Yet, a basic and proper recording remains essential in order to trust our interpretations and conclusions as much as possible.

For obvious reasons, academic publications are chiefly concerned with data presentation and interpretation, formulating hypotheses, and so forth. It is rarer to gain a better understanding of the steps that precede the interpretive stage. In this paper, therefore, we wish to present in detail the basic methodological tools we employ at ancient Sagalassos and its environs regarding pottery processing and study, specifically that which concerns the Roman Imperial to Early Byzantine periods. Needless to say, this is but one approach, not always resulting in universal happiness, nor have our procedures reached final stages of development. Yet, we remain convinced of its underlying framework, satisfied in dealing with it in practice in the field and beyond, in answer to the majority of our scientific aims thus far.

Interdisciplinary Archaeological Research at Sagalassos: Aims & Scope

The *Sagalassos Archaeological Research Project* is an interdisciplinary scientific project that began in earnest in 1990, following several years of preliminary mapping and urban and epigraphic exploration, as well as the excavation of several test trenches. It is based at the University of Leuven (Belgium), and while previously directed by Marc Waelkens, since 2014 Jeroen Poblome took over coordination.

The project commits itself to the study of the ancient city of Sagalassos and its territory, with the overarching aim of reconstructing diachronic settlement life and ways in which people acted within, exploited, and shaped their natural environment. The main archaeological methodology that is employed is threefold. First, stratified excavations are carried out, predominantly within the urban area, and these continue to shed light on the history and development of the city proper, be it spatially, architecturally, socio-culturally, or other. Targeted excavations have also been carried out within its territory, and this very much ties in with the second methodological approach: extensive as well as intensive systematic surface prospection of the study region. Furthermore, a number of geo- and bio-archaeological disciplines are fully integrated within the project's scientific framework, strategically entangled with the project's general aims. These disciplines include geomorphology, archaeobotany, archaeometry, geology, archaeozoology, geophysical prospection, and physical anthropology. As such, the *Sagalassos Archaeological Research Project* truly is an interdisciplinary archaeological endeavour.

Letter	Functional Category
A	Cups
B	Bowls
C	Dishes
D	Plates/Trays
E	Mortaria
F	Containers
G	Pithoi
H	Larger Jars & Jugs
I	Small Jars & Jugs
J	Lids & Stoppers
K	Waterpipes
L	Ledge Handles
M	Oinophoroi
N	Wheelmade Oil Lamps
O	Mouldmade Oil Lamps
P	Amphorae
Q	Cooking Vessels
R	Bricks & Tiles
S	Funnels
T	Strainers

Fig. 1. The spectrum of ceramic functional categories as employed by the *Sagalassos Archaeological Research Project*.

Through this integrated approach, for over 25 years the *Sagalassos Archaeological Research Project* has been successful in investigating, reconstructing and understanding waves of continuity and change regarding settlement patterns, land and agricultural use, artisanal activities, exploitation of natural resources, socio-cultural and -economic practices, both within as well as outside of the territory's main urban centre (i.e. Sagalassos), often in comparison with trends against a broader geographical backdrop. Increasingly, a long-term analytical approach has been embraced, resulting in coverage between Middle Palaeolithic and Late Ottoman times.

Obviously, one crucial aspect of study is that of material culture, of which pottery comprises a significant portion. As a matter of fact, as an element within material culture studies, we consider pottery to be an appropriate medium with which to investigate questions that concern artisanal activities and technological customs, the socio-cultural makeup, regional and long-distance exchange patterns, and practices and traditions otherwise dealing with ancient daily life. In order for us to make any interpretive steps, however, the ceramic material recovered through either stratigraphic excavation or systematic surface survey campaigns requires to be sorted, classified and studied in detail, and subsequently stored. The remainder of this paper sets out to describe the very basics of this methodological framework, and to throw some light on how it works practically.

Basic Building Blocks: Fabric, Function, Shape, and Type/Variant

It is hardly worth mentioning that ceramic fragments form, as a matter of fact, the most ubiquitous artefact category that is encountered in both (stratigraphic) excavations and surface surveys. Ever since the *Sagalassos Archaeological Research Project* took off, has it leaned on a few simple convictions regarding the basic classifying and processing of pottery fragments. These – essentially – are fabric and shape. The combination of these two elements permeate our framework of ceramic research, which as such is aimed – at least theoretically – at the highest degree of uniformisation and systematisation. In other words, we wish to be able to classify each fragment, and not to ignore anything. Surface treatment – which includes slipping, or stamped or moulded decoration – can be considered to be a third element, although this has not yet received the same level of attention.

These three elements – or pottery fragments more generally – reflect not only our level of knowledge. More importantly, these reflect past persons' and communities' technical skills, socio-cultural choices, customs, preferences and expressions, economic relations with and integration within frameworks of any size, and so forth. And that is of course what we wish to understand.

In order to capture different levels of detail of classification, a stepped, alfa-numeric coding system was designed, always aiming for the highest detail when tabulating pottery finds, but allowing for less in case sherds are very badly preserved.

To this end, therefore, *fabric* was defined as the essential building block. Any sherd, no matter how worn, continues to present its fired clay paste. Fabric designation is systematised through sequential numbering, starting at '1'. *Shape* – or rather, a supposed broader, generic functional category – is the second step, and *type/variant*, within the broader definition of *shape*, represents the third classificatory dimension. *Shapes* are represented by capital letters starting at 'A' (for cups) and sequential numbers respectively starting at '100' for *types* and 101 for *variants*.

A clay paste or fabric we define through the observation of combined macroscopic properties, whereby we maintain beloved David Peacock's system of fabric characterisation. In the case of Sagalassos, our preliminary macroscopic fabric classification is backed up and refined following a programme of chemical and mineralogical fingerprinting, as well as provenancing[1]. As far as fabrics are concerned, the majority of what we encounter in Roman Imperial to Early Byzantine contexts pertains to the five main fabric groups – 1 to 5 – as these were originally defined by Poblome and Degeest[2]. In particular, Fabrics 1 and 4 are most common.

To each period, a set series of sequential fabric numbers is assigned. These sets reflect the project's research history, with

[1] P. Degryse/J. Poblome, Clays for Mass Production of Table and Common Ware, Amphorae and Architectural Ceramics at Sagalassos. In: P. Degryse/M. Waelkens (eds.), Sagalassos VI. Geo- and Bio-Archaeology at Sagalassos and in its Territory (Leuven 2008) 231–254; P. Degryse et al., Provenancing the Slip of Sagalassos Red Slip Ware. In: P. Degryse/M. Waelkens (eds.), Sagalassos VI. Geo- and Bio-Archaeology at Sagalassos and in its Territory (Leuven 2008) 255–260.

[2] Poblome 1999; Degeest 2000.

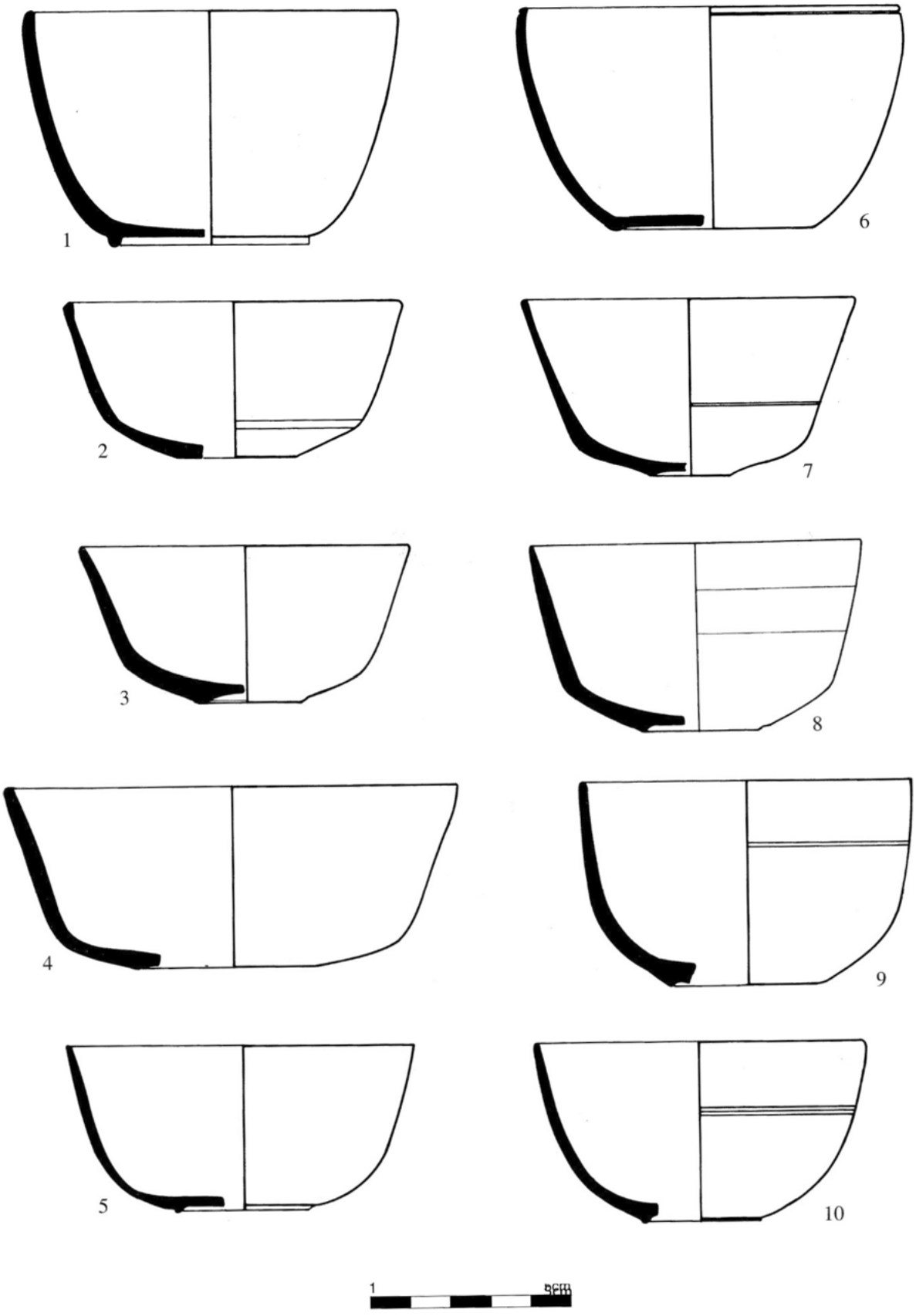

Fig. 2. Type 1A100 of the typo-chronology of SRSW (after Poblome 1999, 30–31; 342 fig. 5).

Fabric 1 very much representing seven Roman centuries, and not the late Neolithic phase amply represented in the Burdur Plain surveys, as should have been the case in ideal terms. Another issue is that an allotted set of fabric numbers, in the end, may prove insufficient. In practical terms, this is not necessarily problematic, though requires familiarity with the project's research history in detail. The elaboration of a fabric reference collection for each historical and/or ceramological epoch comes a long way in maintaining overview.

Fabric 1 concerns a clay paste made from clay raw materials that were quarried in the northwestern parts of the Çanaklı Valley, some 8 kilometres southeast from Sagalassos as the crow flies, and which was used prolifically during the Roman Imperial to Early Byzantine periods for the manufacture of the body of open and closed Sagalassos Red Slip Ware (SRSW hereafter)[3]. The occasional plain fragment (that is, unslipped) can be encountered. The slip mélange was made from clays quarried from within the Roman Potters' Quarter or its surroundings. The Potters' Quarter now is renamed as Eastern Suburbium, reflecting the broader variety of artisanal, funerary, religious, civic, waste management and other activities. The usage of the clay raw materials for slip and paste of Fabric 1 had earlier antecedents, albeit not necessarily in this combination. Fabric 4 is a clay paste group that originated from the nearby Ağlasun Valley, and which from Late Classical to Early Byzantine times was employed for the manufacture of cooking and otherwise utilitarian wares, and from the Late Roman period onwards for a local range of amphorae as well[4].

The designation of a type always consists of three digits, and starts at '100' regardless of fabric or functional category. In this way, '100' characterises a shape that possesses certain morphological characteristics that prompt making it into a separate type. Thus, starting at 100, each type created in this fashion is numbered in tens, so 110, 120, etc. Variants of a type are labelled as 101, 111, etc. Type variants are usually created based on the presence of certain morphological, decorative or sometimes technical characteristics. Although not expressed at the time of original publication, the measured metadata set underlying the classification of SRSW types and variants can be compared in intent with David Clarke's polythetic typological classification approach[5]. Generic function, then, is derived from combining fabric and type. **Figure 1** shows the range of functional categories, each represented by a capital letter.

An example is likely to clarify: an '1A100' (**fig. 2**) can be deconstructed as follows. '1' refers to Fabric 1, that is, SRSW. '100' denotes a specific type, whilst 'A' makes clear that we are dealing with cups as a functional category. Whereas there is no single 'morphological' definition of what a cup should look like, by using the ratio between height and width, or diameter, also here we adopt a systematic approach. In the same vein, a '1C100' (**fig. 3**) concerns a shallow dish that occurs plentifully in 2nd and 3rd century AD contexts.

The systematics of the SRSW classification operate on the nominal scale of measurement. As such, the resulting typology is arbitrary, in the sense that any other logic of classification could have been followed. From the outset, however, it was our intention to work within a pre-arranged system, classifying material according to the principles of taxonomy, and not paradigmatic ones for instance, or a classification system based on the systematics of grouping following no pre-arranged abstract template.

This combined conceptual, practical and analytical approach brings several advantages. First, it is very 'user-friendly', also by being flexible so as to easily include new findings. Secondly, even if we know or suspect certain fabrics to be part of a certain chronological period, in this system chronological parameters or references are not made explicit. As a matter of fact, the use of hundreds and tens for specific types, but especially the use of letters for functional categories, are applied for other periods as well, allowing shifting groups post factum if need be.

Whereas we need to refrain from overinterpretation, this approach allows us to trace (dis)continuity in the long-term development of a broader, regionally-embedded morphological repertoire. One of the clearest and therefore most interesting examples of this, so far, is the mastos[6]. The mastos is a shape that can be traced back to Hellenistic times, for which it is labelled specifically as 11A130, fabric 11 being a largely Hellenistic-period fabric, A again denoting cups, and 130 obviously referring specifically to the mastos. Yet, the mastos still very much formed part of the Early Roman Imperial repertoire of those workshops that were now manufacturing SRSW, and is then labelled as 1A130. In other words, the same functional category, the same type, but a different fabric.

From Basic Building Blocks to a Practical Tool: the *Sagalassos Pottery Template*

These three rather unassuming building blocks form the basis of principally any research at Sagalassos that deals with ceramic remains, from oil lamps to bricks. Actually, this methodology is suitable for any material category that

[3] J. Poblome, The Potters of Ancient Sagalassos revisited. In: M. Flohr/A. I. Wilson (eds.), Urban Craftsmen and Traders in the Roman World (Oxford 2016) 377–404.

[4] J. Poblome et al., It is never too late… The Late Roman Initiation of Amphora Production in the Territory of Sagalassos. In: I. Delemen/S. Çokay-Kepçe/A. Özdizbay/Ö. Turak (eds.), Euergetes. Festschrift für Prof. Dr. Haluk Abbasoğlu zum 65. Geburtstag 2. Suna & Inan Kiraç Research Institute on Mediterranean Civilizations 1 (Antalya 2008) 1001–1012; J. Poblome, The Economy of the Roman World as a Complex Adaptive System. Testing the Case in Second to Fifth Century CE Sagalassos. In: P. Erdkamp/K. Verboven (eds.), Structure and Performance in the Roman Economy. Models, Methods and Case Studies. Collect. Latomus 350 (Brussels 2015) 97–140; M. Corremans/J. Poblome/P. M. Bes/M. Waelkens, The Quantification of Amphorae from Roman Sagalassos, Turkey. In: B. Horejs/R. Jung/P. Pavúk (eds.), Analysing Pottery. Processing – Classification – Publication. Stud. Arch. et Medievalia 10 (Krakow 2010) 285–303; P. M. Bes/L. Vanhecke, Turning over a New Leaf. Leaf Impressions of *Styrax officinalis* L. and *Vitis vinifera* L. on Late Roman Sagalassos Amphorae. HEROM 4/1, 2015, 107–166.

[5] D. L. Clarke, Analytical Archaeology (London 1968) 131–145; 187–229.

[6] M. van der Enden/J. Poblome/P. M. Bes, Sagalassian Mastoi in an Eastern Mediterranean Context. In: S. Drougou (ed.), 9th International Scientific Meeting on Hellenistic Pottery, Thessaloniki December 5–9th 2012 (Athens 2018) 925–945; J. Poblome/P. M. Bes/V. Lauwers, Winning Hearts, Minds and Stomachs? Artefactual or Artificial Evidence for Romanization. In: M. Meyer (ed.), Neue Zeiten – neue Sitten. Zu Rezeption und Integration römischen und italischen Kulturguts in Kleinasien, Wien, 31-3 bis 2-4-2005 (Vienna 2007) 221–232.

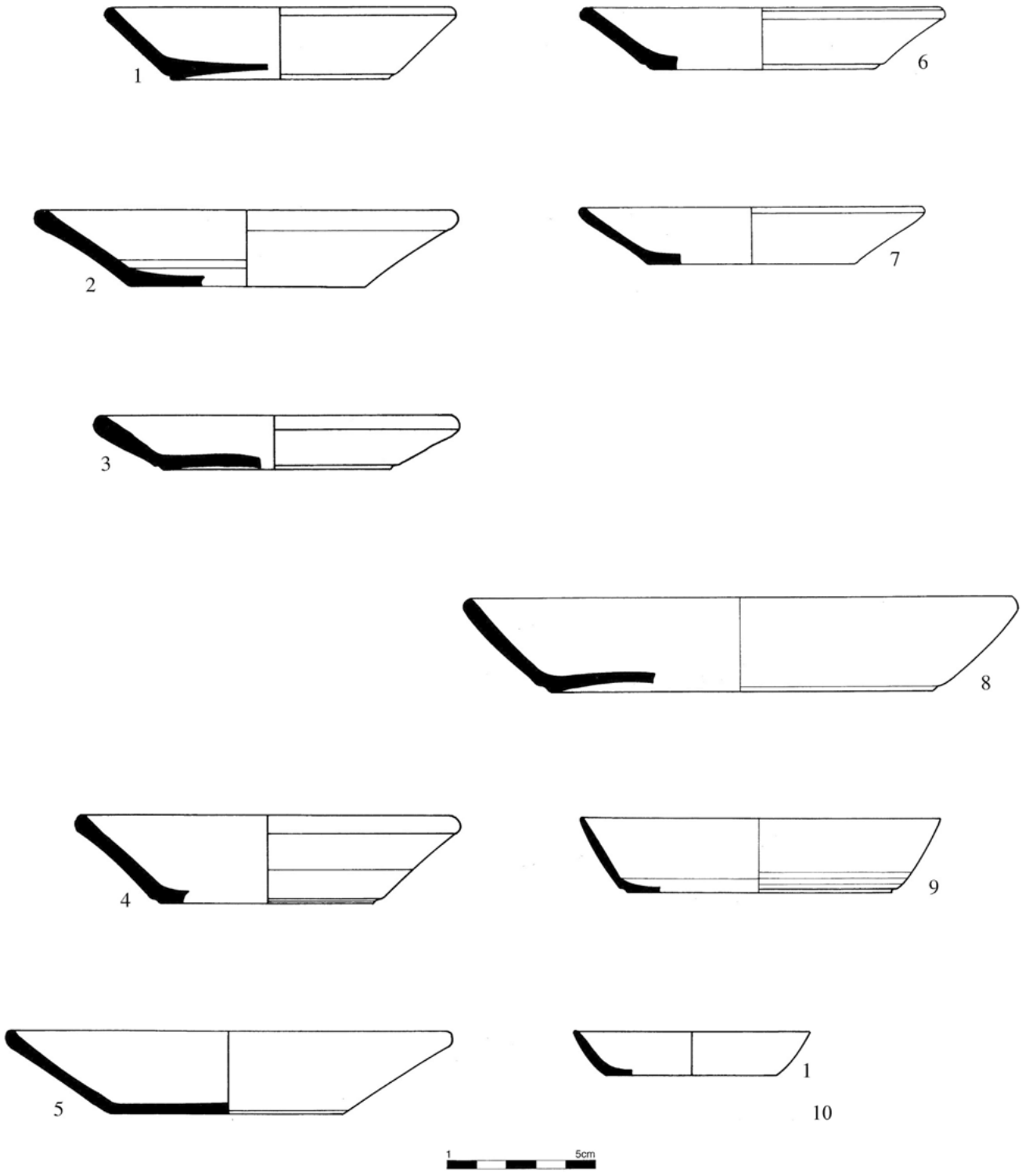

Fig. 3. Type 1C100 of the typo-chronology of SRSW (after Poblome 1999, 106–107; 386 fig. 47).

has inherent characteristics allowing it to be moulded into a typological and/or chronological framework.

Given the substantial variety of fabrics and types, and the wish *and* need to accommodate these, eventually led to our *Sagalassos Pottery Template*, the layout and use of which originally focussed on pottery from the Roman Imperial to Early Byzantine periods. Not only are these centuries the most commonly represented in the archaeological record within urban Sagalassos. Moreover, detailed typo-chronological frameworks had already been published for open SRSW[7], as well as for closed SRSW, kitchen and cooking wares, cosmetic vessels and amphorae[8]. These groups were, however, never fully and systematically integrated regarding the study of individual contexts or loci.

[7] Poblome 1999.
[8] Degeest 2000.

	FUNCTIONAL LEVEL				TYPE LEVEL				COUNT				WEIGHT			
ID	General Functional Category	Functional Category	Specific Functional Catego	Object	Fabric	Functional Grou	Type/Variant	Description	R	B	BS	H	R	B	BS	H
	Personal Ornaments	Jewellery		Bead												
				Pendant												
		Dress Accessories		Button												
		Cosmetic Articles		Unguentarium												
	(Household) Implements	Kitchenwares	Preparation	Mortarium												
				Krater												
				Jar												
				Jug												
				Bowl												
				Strainer												
			Cooking	Chytra												
				Kakkabos												
				Lopas												
				Tagénon												
				Lid												
				General												
		Tablewares	Serving	Jar												
				Jug												
				Askos												
				Oinophoros												
				Krater												
				Pedestal												
				Plate/Tray												
				Funnel												
				Stopper												
				Lid												
				Strainer												
			Consumption	Cup												
				Bowl												
				Dish												
				Tondo Dish												
				Ledge Handle												
				Appliqué												
	Furnishings	Lighting		Wheelmade Oil Lamp												
				Pedestalled Oil Lamp												
				Mouldmade Oil Lamp												
				Candleholder												
				Figurine												
				Soldier's Mask												
				Terracotta Plaquette												
				'Theatre Mask'												
		Sewing & Spinning Equipment		Loomweight												
		Leisure Articles		Music Instrument												
				Gaming Piece												
				Toy												
		Miscellaneous		Religious Item												
				Incense Burner (?)												
	Architectural & Structural Fittin	Construction		Tile												
				Brick												
				Hypocaust Tile												
				Brick & Tile												
				Waterpipe												
				Wall Fitting												
	Agricultural Production	Storage		Pithos												
				Pithos/Container												
				Lid/Stopper												
				Amphora												
	Production	Pottery		Kiln Fragment												
				Kiln Spacer												
				Mould												
				Slag												
				Stamp												
				Patrix												
				Matrix												
				Waster												
				Tool												
				Cassette (?)												
				Lining (?)												
		Glass		Crucible												

Fig. 4. The basic, skeletal framework of the *Sagalassos Pottery Template* (© Sagalassos Archaeological Research Project).

Therefore, the *Sagalassos Pottery Template* was originally created in EXCEL, with classification data grouped on one sheet featuring a table, the skeletal framework of which consists of a number of vertical and horizontal parameters, as well as a long list of vertical values, the individual types, or 'IDs'. The basic, skeletal framework is illustrated in **figure 4**.

In order to gain some familiarity with the template, let us take a closer look at its different components. The classification sheet of each pottery template holds four main headings: Functional Level, Type Level, Count and Weight. Functional Level is subdivided into four subheadings: General Functional Category, Functional Category, Specific Functional Category and Object. This tiered hierarchy works from a more general presumed function to the more specific. Secondly, Type Level details a specific type/variant, according to the three parameters (fabric, functional category, and type/variant) discussed above. Third (and fourth), count and weight allow for a full count and weight quantification – of rims (R), bases (B), body sherds (BS) and handles (H) respectively.

Regarding the template's vertical built up, we discern six broad categories under the heading of 'General Functional Category': Personal Ornaments, (Household) Implements, Furnishings, Architectural and Structural Fittings, Agricultural Production, and Production. These can, yet not *need*, be further divided into one or more Functional Categories, Specific Functional Categories and/or Objects. Ultimately, under the heading Object we come down to the individual type level, and each entry here represents a unique com-

	FUNCTIONAL LEVEL				TYPE LEVEL				COUNT				WEIGHT			
ID	General Functional Categor	Functional Categor	Specific Functional Catego	Object	Fabric	Functional Grou	Type/Variant	Descriptio	R	B	BS	H	R	B	BS	H
187							100			26				227		
188							101		9	15			688	296		
189							110			1				5		
190							120		3				40			
191							130			1				6		
192							140									
193							150		471				5390			
194							160		8				66			
195							161									
196							162		56				734			
197							163		5				64			
198							170		692				9654			
199							171									
200							180									
201							190		172	3	1		1286	38	6	
202	Household Implements	Tablewares	Consumption	Bowl	1	B	191		252	20	48		2934	324	289	
203							200									
204							210									
205							220		4				102			
206							221		11				214			
207							230									
208							231									
209							232		2				24			
210							233									
211							240									
212							241									
213							250		7				136			
214							251									
215							260		29		2		908		30	
216							000		8	102	4		164	2975	49	

Fig. 5. Segment of the pottery template for context SA-1997-PQ-6, showing SRSW bowls.

bination of fabric, functional group and type/variant, as explained in detail above. **Figure 5** shows a segment of the pottery template – the section for bowls in SRSW – of one context within a large dump, which was excavated in 1997 in what was then called the Potters' Quarter (now Eastern Suburbium).

All data that are generated by the various excavations, surveys and other related scientific endeavours in and around Sagalassos are being incorporated into the so-called *Sagalassos Integrated Information System* (SIIS), a digital platform, under continuous construction yet which greatly enhances our interpretive strength. But that is matter for another paper. Up till the 2016 campaign, however, an individual pottery template file is copied from the 'mother file' – which is the one being updated when necessary – for each individual context or locus that is being studied and processed. In this way, over the past ten years or so we have amassed close to 1,400 individual pottery template files, each representing and containing the pottery from a single archaeological locus, either from excavation (mostly) or survey. In order to facilitate the subsequent transition process of the data from these individual files into SIIS, each individual type – i.e. the unique combination of fabric, functional category, and type/variant – is assigned an 'ID'. This forms the key with which to connect between the pottery templates and SIIS, facilitating an easier exchange process and querying of the data.

It goes far beyond the scope of this paper to present the full variety of individual types, but suffice to say that, including results from the campaign of 2016, no less than 383 individual ID's have been created for the Roman Imperial to Early Byzantine periods. The majority does concern actual types/variants, whereas a small number allows us to enter more general fabric-, functional category- and/or type-/variant-sherd groups as well. The local Fabric 4 can serve as an example. Especially in Late Roman and Early Byzantine loci, (body) sherds of amphorae and kitchen wares in Fabric 4 cannot always be unequivocally distinguished, yet by including these fragments as 4P/Q000 – the P/Q referring to both functional groups respectively, the 000 signifying the unidentified typology – the information is nevertheless captured. Similarly, entry or ID 1H/I000 refers to fragments in Fabric 1 of jars and jugs respectively that are of unidentified typological specification.

In order to limit the actual number of fabrics it was decided, however, that the incorporation of fragments/vessels that are likely or – better still – definitely non-local would follow a different logic. In this way, 'imports' are sorted and subsequently quantified by general and specific provenance, type or ware, and functional category. **Figure 6** shows an overview of what in this respect currently has been identified at ancient urban Sagalassos, and to a small extent within its study region. As said, this deviation from our methodological path was prompted by the rather large variety of imports, even if attested numbers usually are small. Our intention also was to avoid labelling – for instance – African Red Slip Ware as 'Fabric 36', which would have an internal logic, but not make sense externally, as (almost) everyone else would much better and more clearly understand the term African Red Slip Ware. Their count and weight data is of course added to the pottery template in question.

Additionally, in order to get some quantitative and qualitative grip on the state of preservation of the pottery – and with that of the archaeological locus from which it originates – each pottery template contains a second worksheet that allows to fill out qualitative parameters concerning the degree with which residual and/or intrusive fragments can be identified, indicate the degree of general fragmentation of the pottery, as well as list the number and degree of restorable vessels which, in the case of Sagalassos, is not often the case. Last, we also created the possibility to make qualitative observations regarding breakage patterns and the taphonomy of the pottery fragments in question. For instance, are there fragments that

General Provenance	Specific Provenance	Type/Ware	Functional Category
Iberian Peninsula	Baetica	Dressel 20/Haltern 70	Amphora
	Southern Spain	Beltrán IIA-B/4*	Amphora
	Southern Spain*		Amphora
France		Gauloise 4*	Amphora
		Gauloise family*	Amphora
Mauretania*		Agora K109/Dressel 30*	Amphora
Central North Africa		Maña C1*	Amphora
	Region of Lepcis Magna*	Tripolitana III	Amphora
		Spatheion 1	Amphora
		*	Amphora
		ARSW	Tableware
Italy	Campania	Late Graeco-Italic/Dressel 1	Amphora
			Amphora
	Southern Calabria/Eastern Sicily	MRA1b*	Amphora
		Keay LII	Amphora
		ITS*	Tableware
Black Sea		*	Amphora
Black Sea/Aegean		Opaiţ C1/Agora P25728*	Amphora
(Eastern) Aegean	Rhodes	Rhodian-Type	Amphora
	Kos	Dressel 2-4	Amphora
	Knidos	Knidian-Type	Amphora
	Chios		Lagynos*
		Kapitän II	Amphora
		Globular Amphora*	Amphora
	Maeander Valley	LRA3	Amphora
		LRA3 (reduced)	Amphora
		LRA3	Amphoriskos
		LRA3	Oinophoros
		LRA3	*
		Cylindrical Aegean 1/Agora P8164	Amphora
	Southeast Aegean	Samos Cistern Type	Amphora
	Ephesos/Maeander Valley	Asia Minor Grey Ware	Tableware
		ESB	Tableware
	Region of Pergamon	ESC	Tableware
Southern Asia Minor	Perge*	Lead-Glazed	Tableware
	Pamphylia		Tableware
	Southern Lycia	ST1/ST2	Cooking Ware
	(Southern) Lycia	'Lyciennes kaolinitiques'	Cooking Ware
Cilicia/Hatay		Dressel 2-4	Amphora
	Anemorion*/Bıçkıcı*	Agora G199	Amphora
		Agora G199	Amphora
	Cilicia Tracheia	Agora M239	Amphora
		LRA1 (Pieri B1)	Amphora
		LRA1	Stopper
		ESA	Tableware
Cyprus		Agora G199*	Amphora
		ESD	Tableware
		CRSW/LRD	Tableware
		*	Cooking Ware
Cilicia/Cyprus		Agora G199	Amphora
		LRA1	Amphora
		LRA1 (Pieri 1A*)	Amphora
Central & Southern Levant	Northern Palestine*	Peacock & Williams Class 65	Amphora
	Gaza-Negev	LRA4 (Pieri B1)	Amphora
		LRA4	Amphora
	Negev*	LRA4	Amphora
	Central Coastal Levant	LRA5 (Pieri 3)	Amphora
		LRA5 (Pieri 3-4)	Amphora
		LRA5	Amphora
	Akko Region	LRA5 (Pieri 1)	Amphora
		LRA5	Amphora
	Region of Scythopolis	LRA6	Amphora
	Akko Region	LRA9/Agora M334	Amphora
	Central Coastal Levant		Amphoriskos
			Cooking Ware
			Oil Lamp
Egypt	Nile Valley	Egloff 172	Amphora
		LRA7	Amphora
Regional	Bağsaray		Tableware
			Jug(let)
Unprovenanced		Dressel 2-4	Amphora

Fig. 6. The range of non-local pottery identified thus far in excavations (mostly) and surface surveys at Sagalassos and within its study region. Fields marked with an * are uncertain.

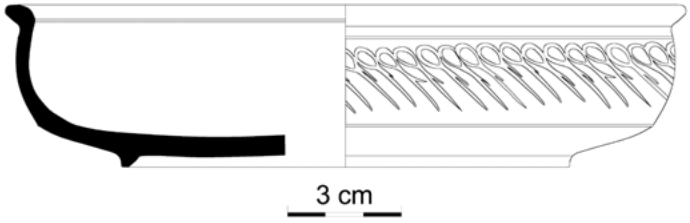

Fig. 7. A newly identified type of open SRSW, type 1C230 (© Sagalassos Archaeological Research Project).

show signs of weathering, which might have been caused by waterlogging, or manuring? Or are there sherds or items that show signs of use (primary or secondary), such as soot around an oil lamp's nozzle?

Both the quantitative and qualitative data thus gathered for each individual locus form the very basis of further interpretation. The cross-locus querying of a combination of types and functions is possible, feeding data to a range of questions related to past practices with social or functional implications. Also, the quantitative data allows us to illustrate the proportions between the local/close-regional, regional and supra-regional origins of the pottery, and in this way to observe in what ways and to what extent Sagalassos was connected to different chains of local and regional production as well as external sources[9].

Finally, SIIS includes for each material category as well as locus type the option to generate chronological data. The details of this operation are again food for another paper, but basically revolve around the distinction between relative and absolute chronological information, based on data derived from stratigraphical analysis, seriation techniques and typological classification, as well as associative cross-dating, epigraphical or architectural data and analytical techniques such as C^{14} or dendrochronology. Each date is noted and argued as a range, defined between an Upper Margin, Upper Date, Lower Date and Lower Margin, allowing for querying specific moments as well as ranges, including an appreciation of accuracy of the estimation.

Potential & Pitfalls

One of the benefits of our methodological approach is that three simple parameters allow for a – figuratively speaking – endless combination of fabrics, functional categories and types/variants. This flexibility also does not limit itself to a specific chronological or historic period.

As such, it also allows to easily include a new type into the existing framework, if of course there are good reasons to do so. For example, the study of a large number of contexts from previous excavations in the Eastern Suburbium brought to light several specific shapes that previously had gone unnoticed, probably because of their rarity. One in particular (**fig. 7**) was nonetheless common enough, and with a distinct combination of morphological and decorative features merited making this a new type of open SRSW (type 1C230). Interestingly, thus far its occurrence seems to be restricted to loci that are spatially and functionally related to SRSW workshops in the Eastern Suburbium.

Once the study, classification and entering of ceramic data from a particular locus is finished, whereby finds can be selected for illustration and/or photography, the data in a pottery template become a rather static set of data and qualitative observations. We mentioned earlier that this quantitative and qualitative data form the very basis for any further interpretation. Dependent on the questions that are being asked, indeed this data can be put to immediate use. But this does not reduce the interpretation of the pottery found at and around ancient Sagalassos to an automated procedure. Indeed, the study of pottery does not let itself be captured into absolute and relative quantities and observations alone. Therefore, the ceramic assemblage requires to be studied in full detail, but also compared with adjacent loci for a better stratigraphic understanding. Also, for further detailed interpretation, this data needs to be discussed within the archaeological context from where it originates, within its architectural and broader spatial setting, as well as in relation to other find categories. Whereas this sounds logic and simple, taking these steps in reality however is not always straightforward.

Current & Future Steps

Whereas the pottery template originated as a means to accommodate the processing and storage of Roman Imperial to Early Byzantine ceramic finds per context, this methodological platform is being extended in several ways.

First, the study of ceramic finds from periods other than the Roman Imperial to Early Byzantine follows the same methodology. In particular, this initially involved the identification of fabrics and the study of the material of the Byzantine period, results of which have been published previously[10]. In more recent years, much effort has gone into the Late Classical and Hellenistic ceramic finds[11]. As a

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matter of fact, a nearly uninterrupted ceramic framework and sequence now exists for the territory of *Sagalassos*, ranging from the Late Neolithic to the Late Ottoman periods, the fruit also of extensive and intensive surveys and the subsequent processing of the ceramic finds.

Secondly, the remarkable scarcity of primary or near-primary contexts at Sagalassos largely prevents detailed analyses of the entire finds spectrum. As the great majority of the excavated contexts at Sagalassos are at least secondarily deposited, the attested ceramic and other finds leave much to be desired for a detailed functional and stratigraphic analysis, which is not to say that no valuable information can be retrieved from an interpretation of these finds. Previously, at Sagalassos, attempts have been made to merge context and material finds into a 'contextual analysis'[12]. More generally of course, the process of understanding material remains within its context occurs throughout, whether it be for chronological, functional and/or other purposes, being one of the key tasks of archaeologists. More recently, however, new excavations immediately to the east of the Neon library building, brought to light well preserved contexts with a wide range of material finds[13]. Even if the detailed description and analysis of this specific excavation encapsulates the very problem of understanding and pinpointing functional assemblages – given the presumed broad variety in materials and (quantitative) composition – the excavations in question, as well as those carried out in 1991 and 1993 within the same area, offer a good opportunity to take the pottery template one step further, by integrating it with other material find categories. The purpose is to think about and create a single platform into which all find categories from a particular locus can be integrated. This not an easy task. Many material categories allow to be moulded into a typological framework, yet obviously not all share the same set of basic measurable parameters. Whereas ceramic and glass finds generally share elements such as profile, rim, general morphology, this is much less the case with metal finds. This implies that there is no one-size-fits-all solution, but the continuation of this important effort will in itself be highly instructive. So far, integration of information is attempted from the elaboration of the metadata related to General Functional Category, Functional Category, Specific Functional Category and Object.

Actually, in the process of going over the current pottery template as a preparation for the writing of this paper, it became clear that the template in itself can also be improved. This does not concern the general framework, the relevance of which we remain convinced of as an important methodological tool in classifying, storing and studying ceramic data. Rather, exactly because we do not perceive the template as something static, minor shifts and matters of terminology continue to improve it for future use.

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