

7 PARAMETERS FOR THE PROCESSING AND TYPOLOGICAL CLASSIFICATION OF POTTERY FINDS

The archaeological literature proposes several approaches to excavated pottery, depending on the nature of the site or on a focus on a specific method which would satisfy set parameters. It is very important to start by selecting data that are relevant for our study and will provide answers to specific questions, and to select variables which will make it possible. These include the size, texture, shape, hardness, shaping method, surface treatment, firing method, decorative elements, use, depositional context etc. The next step in pottery processing is the choice of the most suitable method of analysing a particular variable. (For example, we can observe and analyse shape from the perspective of its morphological or functional properties). Bearing in mind that the parameters listed above are interrelated, it is important to know what we want to learn from specific pottery material and what the questions are that we seek answers to (Knappett 2005: 673–674).

Clearly, the information and documentation available about a site will, in most cases, determine the method to be applied and the parameters that will be set. The final result will provide relevant information which will enable us to arrive at an answer to the question posed at the beginning of the study. Various approaches to pottery study still lag behind those that focus on analysing vessels' shapes. Together with other pertinent information, discussed in previous chapters, this approach aims to establish sequences which allow us to sort the collected data. There are several approaches to pottery typology, but in all cases a number of aspects must be taken into consideration. Some of these will be presented in the following chapters.

WHY TYPOLOGY?

This tool is designed for the reconstruction of culture history in time and space. This is the beginning and not the end of the archaeologist's responsibility.

(Ford & Steward 1954: 52)

The above heading is a question typically asked of me by students in my lectures year after year. The question is a reflection of flawed understanding of typology, resulting from the traditional perception of pottery processing, whereby typology is used only to establish chrono-cultural sequences. Seeing typology as an obsolete method leads to a loss of critical thinking and understanding of objects which are part of the material culture. Two dimensions are central to typologies – time and change. Given that typologies are essentially about changes, they are therefore about time, too (Sørensen 2015: 90). In the present era of various analyses that are available to us, typology is no longer merely an instrument used to put pottery finds in relative chronological order; it is much more than a time indicator. At this moment, there are probably thousands of practical typologies used by archaeologists every day, because each find must be placed in a matrix of space and time before those data can be used for a different purpose (Adams & Adams 1991: 9).

Typology is an archaeological instrument which has no expiry date: it has been done, it is being done, and it will be done for a very simple reason, because it is one of the basic tools we use

to create and order and direct archaeological data (Sørensen 1997: 179). However, if the typology is random, and if it is not connected to the object itself (its production, meaning etc.), then the order being introduced is void of almost all meaning (Sørensen 2015: 91).

For this reason, typology is the first step in the processing of pottery material, and what makes it different from the typologies done several decades ago is that now this step is by no means the last one – actually, it is the beginning!

Archaeologists will always need typology to collect all the data on pottery sherds and divide them into the categories they have created. In doing so, their goal is to process the data that will help them read all those pieces of information hidden in a pottery vessel. In order to process such information, first we need to summarize it, place it within a set framework in line with the parameters we have created and clearly defined. Such a data system, which is both intuitive and rational, is what makes a typology.

Within this context, the focus of interpretation is not only describing pottery sherds, or placing artefacts in relative chronological order, but providing answers concerning the social lives of the people who produced those artefacts, their position within the community, production organization, product distribution, technological choices and adaptation to the environment, traditional elements, religiosity of the community, etc. Questions can be asked from various perspectives, depending on the affinities of the person devising the typology. Thus, the first step in the development of any typology must be defining its purpose, which means asking the questions we want answered.

In practice, in the initial phase, typology is always intuitive, and affected by our reading and acquisition of literature on the pottery of a particular period, and by our first encounter with the pottery being processed. Gradually, our concepts change either consciously or unconsciously, as we begin to differentiate between various types of pottery material and place them in frameworks we have created. As we become more experienced with the processing of pottery material, our concepts will also change, and this will yield continual feedback between the pottery artefacts and our ideas about them. This process will not stop as long as there is new pottery material that needs to be processed (Adams & Adams 1991: 19).

For this reason, approaches to typological classification of pottery are always diverse – and they should be diverse – primarily as a result of scientists' different preferences, different types and physical properties of the material, different methodologies and other technical and documentation conditions. Our perceptive abilities, our interests, our social, economic and cultural backgrounds all affect the questions we ask and the answers we receive, and thus two archaeologists will never produce identical interpretations of any archaeological phenomenon. Instead, each archaeologist's interpretation simply becomes a 'target' for other archaeologists to re-evaluate or discard (Banning 2000: 8).

For archaeologists, data-publishing is still a problem, which is reflected in publications that list all the collected data, resulting in countless pages of very little interpretative value. This brings us to the issue of typology and its purpose. A typological analysis of pottery should meet at least four requirements. The first two have been presented in the works by Carla Sinopoli (1991), and those are: *verifiability* – at any moment, data should be statistically verifiable, and *replicability* – data should be replicable, which means that anybody applying the same criteria can obtain the same results. The other two requirements should be *consistency* and *intelligibility*. Consistency implies that whoever produces the typology should define their parameters, variables and attri-

butes clearly, irrespective of the selected method of typological classification, and give consistent attribution to pottery material within the set criteria. Intelligibility is perhaps the most important criterion of any typology and the most difficult one to satisfy. It requires all typologies to be clear, adjustable and open to further analysis. If a typology serves no purpose, this is because the typologist has neglected to specify what its purpose should be (Gardin 1980: 81), but it is almost impossible to have a typology which would be meaningful only for the person who had developed it. This simply means that the typologist does not comprehend the purpose of their typology.

Classification involved in the development of a typology can serve various purposes. Adams & Adams (1991: 157–168) mention three main categories: basic, instrumental and multiple purposes, where each of them can be further divided into several subgroups. The basic-purpose classification can be divided into descriptive, comparative or analytical, and the last of these categories can be further subdivided into intrinsic, interpretative or historical. Descriptive typologies are mostly morphological and closed typologies. Comparative typologies are used to compare material from different sites, periods and regions, and they must be open. Intrinsic classification is made for those archaeologists whose primary interest is objects, and not the people who made and used those objects. It focuses more on the features of the objects than on the social and economic contexts in which those objects were made. The interpretative purpose is used primarily in the field of prehistoric archaeology, and in the focus of its interest are the people who produced and used an object, information concerning the technology (shaping technique, firing method etc.), economy and social organization. Historical purpose aims at studying the development and change over time and space. The instrumental-purpose typology focuses primarily on the relative dating of artefacts, ethnic identification and reconstruction of the social organization. A multiple-purpose typology, as its name suggests, serves several purposes, be it intentionally or not. It often happens that the archaeologist becomes aware of a secondary purpose of his typology during the study of his material, or once it is over. On the other hand, multiple purposes can be envisaged right from the beginning of a typology development. This approach causes problems during typology development, and one of the possible solutions to this problem is taxonomy, which will be discussed in the following chapters.

The purpose of typology is the first and most important in a range of steps which define the type formation. Therefore, each practical typology should have a clear purpose from the start, and thus avoid a situation in which the typology is an end in itself.

Typologies are generally considered to be archaeologists' subjective creations, rather than reconstructions of categories that were important to those who produced or used them (Trigger 1989). This problem is noticeable in traditional typology, still in use today, where the definition of types is the only form of analysis and interpretation, and pottery sherds are not studied as objects which were actively involved in people's social life, but rather as passive pieces of fired clay. Every vessel was produced for a reason, each one had its purpose, and they all carry their stories. Fortunately, there are various ways in which traces can be read (macroscopically and microscopically) from the vessel, ranging from the method of its shaping through use-alteration analysis to its final disposal, and our role is to reconstruct its use-life (Skibo 2013). Typology is there to help us classify data sets on pottery material, and structure them in a way which will serve a purpose. As early as 1983, Braun wrote one of the much-quoted phrases, "*pots as tools*," which contains the very core of what should be borne in mind when processing excavated pottery.

HISTORICAL OVERVIEW OF THE TYPOLOGICAL CLASSIFICATION OF POTTERY MATERIAL

The typological phase of the processing of archaeological material was introduced around 1880, when Pitt-Rivers developed a typological approach to studying the material excavated in his excavations. At the same time, Flinders Petrie came up with his own model of seriation and chronological ordering of graves dug during excavations in Egypt (Orton et al. 1993: 8–13; Trigger 1989; Renfrew & Bahn 2004: 27–36). In the 1920s and 1930s, a great number of typologies were developed in relation to various materials, and most of those used today were probably formulated during that period. Between 1920 and 1950, many theoretical discussions and debates focused on this topic. (For an overview, see Adams & Adams 1991). In the beginning of this typological-chronological phase, the main goals were a vertical (chronological) and regional distribution of pottery finds. The methodological approach was based on seriation and development of cultural chronology on the basis of quantitative data, obtained by simple counting of pottery sherds. Only in the contextual phase did the idea mature that some other measurements could be used as indicators of quantity of pottery material (weight, vessel capacity etc.). Chronological sequences were created on the basis of types which Gifford (1960) described in the middle of the 20th c. as “specific kinds of pottery embodying unique combinations of recognizably distinct attributes.” In time it became clear that such a single-layer division is insufficient, and its elaboration into types and type variants has been widely accepted.

Many papers and scholarly debates have been devoted to this ‘phenomenon’ and its application during the study and analysis of pottery material (Phillips 1958; Wheat et al. 1958; Smith et al. 1960; Ford 1961; Sabloff & Smith 1969; Smith 1979). In the 1960s, several circumstances contributed to a new scientific momentum in archaeology, and also in typology.

The contextual phase, which began around 1960, was marked by the work of Anna O. Shepard. It was a turning point for pottery analysis and the development of foundations for a number of practical and theoretical analyses. Her 1956 work addressed all aspects of pottery analysis: chronology (type identification), distribution (identification of raw material and trade sources) and technological development (physical properties of vessels). We could say that, as a result of her work, pottery analysis developed in all possible directions. One of those was the integration of ethnographic studies, scientific methods and technological analyses.

The scientific methods which were introduced into pottery analysis in the 1960s influenced the study of excavated pottery in three important areas: dating, origin of the raw material and identification of the pottery’s function. Furthermore, their contribution was also felt in the study of pottery technology and manufacturing methods, and the processes of its shaping. Authors interested in the technological aspect of pottery have developed their studies in two directions. One of them was the study of technology as an indicator of social progress (For an overview, see Loney 2000), while the other includes chemical and physical analyses of pottery and considers them from a viewpoint influenced by ethnography.

The development of the typology and classification of pottery material, and its supplementation with new knowledge and approaches, began in the late 19th century and continues to this day. Over time, computers and various statistical methods have improved data layout and transparency, and facilitated data manipulation. Typological analysis of pottery – as of any other archaeological material – depends primarily on the repertoire, on data representativeness. The

method of data collection (stratigraphic excavation, field survey or the study of material kept in a museum collection) will have a clear impact on the interpretation of the material studied (Sinopoli 1991: 47).

Much has been written about the definition of the vessel type and approaches to typological analysis, and these works have contributed to a number of constructive discussions in which various scientists involved in the study and typological analysis of pottery have participated. Thus, typological analysis of pottery has involved scholars from various fields of interest: philosophy, mathematics, anthropology, ethnology, information technology, biology, linguistics. If we add to these those scientific disciplines that participate in the analysis of the composition and source of clay used as the raw material, and various dating methods, we can say that pottery analysis is the best example of interdisciplinarity, without which we could not imagine today's archaeology as a scientific discipline.

POTTERY CLASSIFICATION

Classification of pottery into types is the first of the steps necessary if we wish to use data on pottery for further, more detailed, analysis. How much information we can gather and present through typological classification – that question is still open and causes many a debate among archaeologists.

There is no formula, mathematical equation or standardized method which we can use to select correct or right information from the vast quantity of data offered by pottery. The choice will depend primarily on the material excavated from a site and its general features. Thus, if all the pottery under examination is black, colour will evidently not be useful or relevant in dividing the pottery inventory into subtypes or groups. On the other hand, if the colour of the pots is different from the colour of the bowls, and if it varies from black to light grey, colour will be a useful parameter for establishing a range of variables by which we can determine the frequency and importance of this phenomenon (Sinopoli 1991: 43–44). Our decision on variables that can be recorded for a pottery sherd will follow the same direction. Some of the variables will be more important and useful than others, depending on our interests. For this reason, when data are interpreted, it is of utmost importance that we start the analysis by setting a conjecture that can be tested, and then selecting measurements and data which will lead us to credible conclusions (Kingery 1981: 463). This approach requires the archaeologist to know his pottery inventory before he begins to study it and define certain variables.

Establishing pottery types can be approached in two ways. One includes recording objective facts about the vessel's shape on the basis of pottery sherds, while the other is based on assumptions, that is on the already established knowledge of vessels and their shapes as pertaining to a certain period or culture (Orton et al. 1993: 77–78).

Before we set the basis for typological classification, it is very important to decide which samples we will collect for analysis, and which data we wish to collect. Generally, there are two techniques: random sampling and judgment sampling. As far as pottery goes, random sampling means that any sherd is of the same value and can be selected for analysis, and it does not depend on other sherds selected from the pottery inventory. Judgement sampling is based on the knowledge and experience of the archaeologist, who will choose and select pottery sherds relevant for the analysis depending on his field of interest. This choice is much simpler, but some relevant data

can be omitted in the final interpretation (Sinopoli 1991: 46–49). The choice of a sampling method will depend on a range of parameters (the stratigraphy of the site, documentation, type and quantity of available material, etc.).

Once we have selected the method to be used in sorting the excavated pottery, the next step in our study will be classification. There are three kinds of typological classification: intuitive or traditional typology, type-variety typology, and quantitative or statistical typology.

Before we describe each of these classifications, we should emphasize the difference between a typology and a classification, between variables and attributes. Typology is actually a particular kind of classification; it is not meant for categorizing and labelling items, but rather for their separation into smaller groups which correspond to categories and labels in our classification. The process is called 'sorting', and the groups of categories into which items are sorted are called 'types'. To put it briefly, a typology is a special kind of classification, made for sorting entities, or objects. Unlike many other classifications, typology is always experimental to a certain extent, at least in its early phase. In contrast to other kinds of classes, a type is also a sorting category. Thus, classification is the act of creating categories, and sorting is the act of putting things into categories after they have been created. One is a process of definition, the other of attribution (Adams & Adams 1991).

Types are created to serve a useful purpose. Therefore, as far as typology goes, subjectivity is unavoidable and necessary. The goal of the classifier is to dictate the selection of variables and attributes that are to be considered in the typology, and to have that selection determine the nature of the resulting types.

An attribute is a definable aspect of each particular variable, and while variables are conceptually independent, attributes are not. In each type, there can be only one attribute for each variable. For example, the variable is the colour of the vessel, and its attribute is red. Each attribute is exclusive, which means that one attribute precludes others. Thus, a sherd cannot have walls that are both thin and thick, or a rim which is both inverted and everted. Variables are criteria of meaning, and attributes are criteria of identity. Variables can be characterized as dimensions of variability. They specify properties that are manifest in all of the types in a typology, but now always in the same way. For example, every vessel has properties such as shape, weight, colour and texture, but those properties can be manifest in different ways.

Generally, there are four grades of decision-making underlying the formulation and use of typology. These are the selection of variables and attributes for type formulation, the labelling and designation of types, and the sorting of entities. The majority of material which is the subject of our pottery analysis and study consists of sherds, and thus our entities are sherds, rather than entire pottery vessels. Nonetheless, our types are not types of sherds, but types of entire vessels. Thus, when sorting entities, it is important to compare as many attributes as possible, and not just diagnostic sherds which can be attributed with certainty to a specific type, because the type is defined not by a single attribute, but by a combination of attributes (Adams & Adams 1991).

TYPES OF TYPOLOGY

When discussing types of typology, we should start with the earliest and simplest of them: the *traditional typology*. This denotes sorting sherds into groups of more or less similar sherds. Such a typology can be very successful if the archaeologist who is processing the material has a lot of

experience with pottery. However, this method of typological processing depends exclusively on our perception, on our ability to detect patterns even though we cannot always explicitly define what factors contribute to the patterns we perceive (Sinopoli 1991: 50).

The traditional typology has matured and evolved over time, as numbers of archaeological excavations, pottery inventories and scientific interest have increased. Robert Whallon (1972) attempted to move away from the traditional typology by introducing a hierarchical method of attribute evaluation, identifying those attributes that were primary and more important than others when sorting vessels into groups. Thus, to define a type of vessel, a single variable was necessary, defined by two opposing features (attributes). The traditional typology has its limitations, and it is difficult to replicate; it is suitable for certain issues relating to relative chronological changes, but it is not satisfactory for the interpretation of technology, style or production (Sinopoli 1991: 49–52).

Type-variety classification of excavated pottery is the most widely spread typology; it emerged in the 1960s as a response to the large quantity of pottery material excavated in the American southwest (Wheat et al. 1958). In its early days, the proponents of this typology were not particularly concerned by what a *type* really was or by its possible definition. A type was determined by a very small number of diagnostic traces, and it was defined by the period of time and the area in which it appeared. During the subsequent development of this kind of typology, classification of finds went in the direction of solving specific questions and problems.

Orton, Tyers & Vince (1993: 76–79) differentiate between two methods of *type-series* classification where each type represents a series of vessels, assumed to be of a more-or-less similar shape. The unstructured way consists of singling out a pottery sherd, which is labelled Type One. The next sherd is compared with it, and, if different, it is labelled Type Two. The method continues until the whole pottery material has been studied. The advantage of this approach is its simplicity and potential to increase the number of types, as well as the ability to start with a small amount of material which can be expanded at a later stage. It is very suitable for processing material from extensive and long-lasting excavation campaigns.

The structured approach goes in a different direction, and requires initial knowledge about the overall pottery material before its classification. The pottery is first divided into groups on the basis of vessel shapes, for example, Type I – bowls, Type II – plates, Type III – pots, etc. Then each group is subdivided into subtypes (I.A, I.B...) on the basis of shape, style, decoration, dimensions or any other attribute. Finally, individual types within a group can be numbered (I.A.1, I.A.2...), resulting in a clear typological classification, open for further analysis (Orton et al. 1993: 77–79). It remains the typologist's responsibility, as he defines the types, to take into consideration some other features of the material (for example, the technological aspect) too, with a view to specifying the purpose of his typology.

The *quantitative typology* involves creation of a typology and its interpretation using various statistical methods, with an important role played by defining variables. Flinders Petrie was a pioneer of seriation, which he used to determine the relative dating of Egyptian graves back in 1899; that was a paper-based precursor of statistical seriation. In the early days of archaeological statistics, in 1953, Albert Spaulding wrote: "statistics are never a substitute for thinking, but statistical analysis does present data which are well worth thinking about" (according to Lock 2003: 127). Thanks to the computerization which ensued after the 1970s, in modern archaeology statistical methods are applied as regular tools for data summarizing and interpretation.

Counting is a normal part of the archaeologist's work. We count pottery sherds, stones, bones, layers, samples and everything that is entered into archaeological records. Although archaeology belongs to the humanities, archaeologists often have to use various statistical methods. Not because they want to, but because they need to quantify the data collected. Statistical methods are there to assist us and enable us to filter the multitude of data which we have measured (the height of the vessel, the thickness of the walls, the diameter of the rim, the thickness of the bottom, etc.). The creation of a database in which quantitative data are entered opens up possibilities of comparison and establishing patterns which we cannot perceive while studying a mass of potsherds. Thus, statistics poses a range of new questions which are open for testing. Some archaeologists shrink from statistics, considering it boring and incomprehensible, while some others use it when presenting their data in tables and graphs, but never calculate standard deviations, medians or correlations between attributes and variables.

As has been said about the creation of typology, statistics and quantification are not the end of pottery processing, but rather its beginning. These tools help us identify, filter, test and present, more easily and in a transparent way, similarities, differences and patterns in a processed set of data (VanPool & Leonard 2001): in our case, in pottery sherds. Quantitative methods and statistics are applied to the data, and the data consist of our observations and measurements of a certain pottery sherd, stone tool or bone (Drennan 1996; Shennan 2001; VanPool & Leonard 2001; Lock 2003). What shapes the data are our theoretical and research questions, and parameters set clearly at the beginning of the study.

It has been said above that there are no rules or mathematical formulae which would dictate the method and scope of collecting data. The data will be simply what we make them be! Clearly, every archaeologist possesses a certain level of previous knowledge of the issue under consideration, and it is likely that he will include in his study the considerations that are key to the interpretation of a problem or question. The first step will be to set variables for the data, and each perceived quality is a variable. The selected variables can involve diverse measurement methods, depending on the interest of the person studying the pottery. For example, technological variables will encompass those parameters which are linked to the raw material (clay), production and firing methods, and mechanical changes in the vessel. The variables which make it possible to measure the size and shape of pottery vessels are interrelated, and include the diameter of the orifice, the vessel's size, its maximum diameter, the diameter of the bottom, the thickness of the walls, etc. The vessels are divided into groups depending on their shape (bowls, plates, pots...), and additional measurements can be used to establish more detailed divisions within those groups. This approach can be used to identify chronological and stylistic variations. Variables relating to decorative features and surface treatment include the pottery decoration techniques described previously, and identification of colour. The recording of decoration present on a vessel will consist of its position (on the rim, neck, belly) and the technique employed (pointing, incising, impressing etc.) (Sinopoli 1991: 53–67). The purpose of this method is to use statistical methods to obtain data which can then be formed, grouped and searched in various ways.

Archaeological analyses most often employ descriptive statistics, which allows data summarization in either numerical or graphic form. Numerical values include the typical and main features of the collected data, and a sum of average or medium values. Graphs enable us to present the collected data visually, be it in tables, histograms or other kinds of graph (Drennan 1996). All things considered, we do not even merely select facts from an infinite quantity of data we have

collected, or we could collect, but we order them on the basis of our solely subjective perception, on the basis of how we see them and how we will categorize them (Banning 2000: 7–34). There are questions which always remain open: Have we collected sufficient data? Have we made a proper selection? Which data will be presented during interpretation? These questions form part of the overall processing of pottery material, and there is hardly any archaeologist who does not ask them while studying excavated pottery. The response lies in the decision on the degree of processing, analysing or measuring at which one has to stop, and this is true especially when it comes to data summarizing and final interpretation. All the data are filtered through the subjective prism of the person processing the pottery. Collecting more data, by measuring a number of variables on the pottery, can result in an enormous quantity of data which will be presented, but have no interpretative value, if in the final phase they are not properly filtered. This does not mean that all those data should not be considered and measured; they should just be properly evaluated.

It is worth emphasizing that pottery material excavated and recovered from a site can never paint a complete picture of inhabitation of the site or the period. Proper sampling (whether using random sampling or judgement sampling) will provide us with a representative sample, in terms of a general range of pottery material found at a specific site.

Regardless of the way and method selected for analysing excavated pottery, it is important that they be based on some previously set parameters which will provide answers to the questions already raised. Only if we follow this approach can our answers be relevant indicators of what we are trying to learn from the numerous variables offered by the pottery.

MORPHOLOGY OF POTTERY VESSELS

The morphology of a pottery vessel can be described and classified in a number of ways, and it is up to the archaeologist to choose the appropriate way to analyse his pottery material. P. Rice (1987: 224–226) highlights four main characteristics relating to pottery morphology: capacity, stability, accessibility (of the vessel's contents) and transportability. Although there are other characteristics linked to the vessel's function, those listed above relate only to the vessel's morphology.

Before we set parameters for a typological classification of pottery, it is important to be aware of the anatomy of pottery. Pottery anatomy has been accepted and used all over the world, and its main parts correspond to parts of the human body. Each vessel can be described or characterized in many different ways, with reference to particular parts and their proportions. To put it simply, a vessel has three primary parts: orifice, body and base (*Fig. 15, p. 67*). These components are important in terms of the vessel's construction, function and possible decorative elements, and their relative proportions determine its shape category (Rice 1987: 212). Secondary shape attributes include various kinds of handles, grips, spouts and feet attached to an already shaped vessel (Horvat 1999: 80). The primary and secondary parts of the vessel constitute the vessel's morphology, the starting point for the classification and analysis of the main shapes of pottery vessels.

PRIMARY PARTS OF THE VESSEL

Orifice – The main characteristic of the vessel's orifice is its relation to the maximum diameter of the vessel. This component is linked primarily to the vessel's function, and it is relevant to the accessibility of the contents.

Body – This has been defined as the portion between orifice and base, which includes the maximum diameter of the vessel or the region of the greatest enclosed volume. The size of the body also affects the vessel's height, a component associated with its capacity.

Base – This is the bottom part of the vessel, responsible for its stability (*Fig. 15, p. 67*).

Not all vessels have such simple shapes, though; they are often much more complex, and their structure can be divided into several more parts (Horvat 1999) (*Fig. 16, p. 68*):

1. LIP/RIM - *ORIFICE*
 2. NECK
 3. SHOULDER
 4. BELLY
 5. BOTTOM
 6. FOOT
- } *BODY*

The **lip** is the upper edge of the vessel, and its transition to the neck is not angular, but vertical. The lip can also be profiled so that it leans towards the vessel's inner or outer side.

The **rim** is a part of the vessel which is specially shaped or elaborated, and its contact with the vessel's wall is angular or truncated. The lip and rim together form the vessel's orifice. Some authors use only the term *rim*, without additional distinction, which is also a common way of classifying the main elements of pottery vessels.

The **neck** is the part which restricts the vessel's orifice and turns into the vessel's upper part (shoulder).

The **shoulder** is the upper part of the vessel, below its neck.

The **belly** designates the lower part of the vessel, which turns into the base (bottom/foot). Together, the shoulder and belly constitute the vessel's body.

The foot is usually attached or applied to a vessel already shaped, that is, to its base or bottom. Smaller feet can be modelled together with the vessel, or pulled out of the vessel's body (for example, in the cases of bowls with four stubby feet and bowls with cross-shaped, ring-shaped or cylindrical foot (Pls 11, 12, 17, 18).

SECONDARY PARTS OF THE VESSEL – HANDLES AND GRIPS

Types of handles and grips and their working techniques will be discussed only within the framework of the processed Vučedol material, rather than with a view to all the prehistoric cultures. The only purpose of handles is functional, that is to facilitate the lifting and carrying of vessels. Handles are attached to the vessel's external wall, which can be specially prepared for their attachment. The preparation involves impressing the wall so that the lug end of the handle can cling to the vessel as firmly as possible. The end of the handle is additionally smeared over the wall for better adhesion (*Fig. 17, p. 69*). The handle can also be simply fixed to the wall with additional smearing and elaboration. The main classification is based on the method of fixing handles, and on their position on the vessel's body, as well as on their shape, section, orientation and contour (Horvat 1999: 100–101).

Based on the position of the handle, we distinguish between tunnel handles and strap handles. The tunnel handle is set horizontally to the vessel's wall, and its cross-section can be concave, convex, saddle-shaped (*Fig. 18, p. 69*) or elliptical (*Fig. 19, p. 70*).

Large, thick handles were positioned mostly where the shoulder turns into the belly, while small ones could also be set in the area between neck and shoulder. Handles of this shape are

most frequently found on pots whose size demands larger and thicker handles, with a view to facilitating the pot's handling. In the majority of cases, these were pots used for food preparation, and handles were a necessary part of their morphology, since they made it possible to lift such pots and place them over a fire. A large quantity of pottery hooks, used to suspend vessels above a fire, have been recorded in nearly all the sites of the Vučedol Culture, including those at Ervenica and Damića Gradina (*Fig. 26, p. 75*).

Tunnel handles on pots were often decorated by grooving (*Fig. 20, p. 70*). Such a decoration could have a dual function: aesthetic and functional. Grooved tunnel handles could have been deliberately shaped in this way to facilitate pot handling, because fingers attach better to the grooved hollows, which thus prevent the pot from slipping out of the hand. As a rule, such grooved handles can be found on pots (*Fig. 21, p. 70*).

Strap handles are set vertically to the vessel's wall. Their cross-section can be elliptical, concave or convex. Generally, the upper end of the handle is located at the rim, while the lower one ends on the vessel's shoulder or belly. Such handles can be found primarily on bowls (*Fig. 22, p. 71*), jugs and cups (Pl. 30).

Just like handles, grips also differ on the basis of their position, orientation, section, contour and forming technology. Grips can be attached or smeared onto the vessel's wall, pulled out of the vessel's wall or modelled. Their purpose can be more or less functional. A grip can be used for holding the vessel, as a prop that facilitates lifting and moving the vessel from one place to another.

The position of the grip varies depending on the vessel type. On low bowls, grips are located immediately below the rim or at the vessel's widest part (*Fig. 23, p. 71*). Grips can also feature a small loop used to hang the vessel (*Fig. 24, p. 72*), and they very often appear together with handles.

TERMINOLOGICAL PROBLEM

Terminology is of key importance for anybody wishing to acquire specific knowledge of the science to which it relates, and it depends on the quantity and quality of previously acquired knowledge (Erdeljac & Willer Gold 2009). Unfortunately, the majority of professional literature in Croatia discussing archaeological pottery does not use a uniform terminology, resulting in an endless number of labels and phrases used to indicate both primary and secondary parts of vessels and the methods and styles of their decoration. For example, grips are still named only on the basis of how they are visually perceived, and thus we distinguish among those that are nipple-like, rod-like, heart-shaped, pointed, button-like, horn-like, nose-like, tongue-like, cork-shaped and saddle-shaped. They are often described as applications, extrusions, plastic attachments, protrusions, humps or handles. The situation is similar in the definitions of the shapes (pear-shaped, semi-globular, globular, paunchy) and primary parts (brim, recipient, throat) of vessels. This terminology still relies on the traditional archaeology of the 1960s and 1970s. Although the terminology relating to pottery morphology has been generally accepted and used in the majority of professional publications dealing with pottery-material analysis, it would appear that we prefer the *copy-paste* method. Contemporary archaeological science has evolved significantly over the past several decades, especially as regards new technologies and the interdisciplinary approach, which has become an integral part of the interpretative tools used for evaluation and deliberation, and also as regards accepting certain terminology and analytical approaches.

Two main problems can be observed when terminology and interpretation of excavated pottery are discussed. As already pointed out, in the majority of cases pottery material is still seen as a 'useful tool' for reconstruction of typological and chronological sequences, without any additional analytical dimension that would involve a reconstruction of socio-economic issues, technological changes and innovations, resource exploitation etc. The second problem is the meaning of the terminology used to describe pottery shapes, decoration and surface treatment techniques, parts of pottery vessels, etc.

Tracing written evidence of certain terms used to name a decoration technique or a vessel shape in order to get to an explanation in the form of a picture or drawing is a very interesting exercise. Different variants of linguistic structures or words which do not correspond to the rules of today's Croatian have survived the long journey and become the main link in the dissemination of knowledge. Some terms keep emerging in scholarly papers and catalogues like ghosts from the past, and there is hardly anyone who can tell or explain their true meaning (for example, *subcutaneous loops*). As though they belonged to some kind of common law that cannot be tramped down. I do not believe that I am wrong in saying that the archaeologists who introduced those terms never anticipated how much awe they would inspire, and they probably never expected them to remain in use for eternity. Reading scholarly texts – written words through which we absorb and transfer new scientific ideas and understanding, critically deliberate scientific problems and create new theoretical frameworks and methods – should entice us to continue with our deliberations, and not hold us back.