Numerical code of the Moravian painted ware : (description problems in archaeology)

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NUMERICAL CODE OF MORAVIAN PAINTED WARE

(Description problems in Archaeology)

The monograph of the numerical code of the Moravian Painted Ware arose during working in the field on an Archaeology excavation of a site with Neolithic painted pottery at Těšetice-Kyjovice, near Znojmo. From 1967, this excavation has been carried out by the Department of Archaeology, Arts Faculty, University J. E. Purkyně of Brno, in cooperation with the South Moravian Muzeum at Znojmo. Hitherto, news and results of this excavation have been published mainly in journals (ref. no. 2). The team of authors of this monograph took as their task, the processing of a large amount of excavated, mainly ceramic material from this excavation with the help of mathematical-statistical analysis, based on the automatic grading principles. With this aim in mind, after some years, a numerical codification of the Moravian Painted Ware was developped and systematically checked. This is how the numerical code for this type of pottery orginated. It is printed in four languages (with relevant illustrations) in Chapter 3 of this monograph and is its core.

This code is the result of several years work by the whole team of authors. It has been processed on the basis of using all the hitherto known knowledge of the ceramic inventories of the Moravian Lengyel culture group, taking into account the Lengyel pottery of Hungary, Slovakia and Lower Austria. It can be said today that after numerous checks on the comprehensiveness of the code, only with difficulty do new prominent features in the pottery appear, which have not been recorded in the code. Adequate reserve has been allowed for newly discovered phenomenon. This presented version of the code draws from the experience of several previous study versions which were continuously improved; but this does not mean that this version is final and supreme. Single descriptive sections can be further modified and altered. But it seems expedient to stabilise published versions for a longer period, so that larger find complexes can accordingly be coded and analytically evaluated. The authors rely, first of all, on the immediate subsequent working, following this version, of the more extensive stages of the excavation site at Těšetice-Kyjovice and accordingly are also preparing an evaluation of the rich collection of the younger Lengyel pottery from the extensive rescue excavation at Hrádek, near Kramolín, Třebíč area. In this sense, it is necessary in interpreting the Numerical Code of the Moravian Painted Ware, to understand how the methodical introduction can be employed to one's own advantage in new field excavations of object cultures and to consider it as a key to the numerical description of pottery from these excavations. Furthermore, the numerical code of Stroke-ornamented pottery and stone polished and chipped industries is in preparation. The form of the codification of the artefacts of substantial cultures is, above all, concevied in asssociation with the preparation of introductory data for modern computer technology, still, however, considering the possibility of manual evaluation provided a smaller group only is being considered. In principle, a uniform classification of information survives as it appears in the Moravian Painted Ware code.

The presented work is the work of a collective; it is not the summary of individual contributions, but arises from team work in which the activity of the individual is mutually combined with another and is dependent on it.

In the introductory Chapter 1, the aim of the work is indicated, its origin is explained and the share of direct participants in the excavation and external co-workers on this book, is valorised.

In Chapter 2, the authors generally ponder over the problem of the numerical description of archaeology sources. They are convinced that even in the field of arts, one cannot leave aside integrated efforts, which, for example, in the field of economics and technology within the framework of socialist communities, are already markedly enforced. The uniform description of archaeology artefacts dependent on unambiguous and precise terminology is the basic prerequisite of modern chronological ordering and evaluation methods in archaeology. It should also be the initial stage of progressive integration in the field of archaeology research. For this reason, the authors also put into this book, suggestions for uniform terminology with the immediate goal of unifying terminology in the framework of the national language. In sub-Chapter 2.4, they suggest uniform terminology concerned with general archaeology entities (2.4.1), description and classification of prehistoric pottery (2.4.2), decoration of prehistoric pottery (2.4.3) and finally mathematical and technical conceptions and their operation in connection with archaeology (2.4.4).

In Chapter 2, other single descriptions in archaeology are discussed. The authors distinguish between the following sorts of description in archaeology:

A. Verbal description (classical word description)

B. Graphical description (pictures, photographs, diagrams, tables)
C. Code description:
   1. numerical (figures)
   2. alphabetical (letters)
   3. alpha-numerical (letters and figures)

D. Combined description (chosen from preceeding possibilities). Priorities have been carefully weighed and insufficient individual description and the reasons for it mean that numerical description is a boon, which in archaeology has many uses and wide prospects. The principles of coding are then discussed. The taxonomic characteristic of the described single item (archaeology artefact) is defined; a taxonomic characteristic creates what is called external chronological order signs and diagnostic signs (plate 1). In the Moravian Painted Ware code the external chronological order signs are situated in columns 1—25, diagnostic signs in columns 26—130. Diagnostic signs are divided into several basic groups (morphological, metric, physical-technological and pottery decoration signs).

In sub-Chapter 2.3 the theoretical principles of taxonomy, the theory of distinguishing figures, the principle of classification and seriation (plate 3) and the progress made during typological analysis of artefacts from substantial cultures (plate 5) are fully discussed.

The theoretical passages in Chapter have not been conceived for use as a textbook, but are only a fuller explanatory introduction to the practical core of the work the Moravian Painted Ware code and the problems connected with the code. The code itself is printed in Chapter 3; multilingual mainly because of the need to stimulate discussion on the requirements of a uniform approach to the description of prehistoric pottery.

For practical reasons Chapter 4 has been added, containing explanatory notes and a commentary to the code itself.

In Chapter 5 is demonstrated the practical form of the numerical description of this not too numerous and therefore not entirely representative chosen pottery group, Moravian Painted Ware, on the so-called chronological order No. lists. These lists should perhaps be understood as an aid for carrying information; they are used principly as a relevant substitute for the classical verbal description of finds and can also serve as an initial tabular basis for "manual" statistical analysis. Data from these lists are then transferred to other information carriers (punch tape, magnetic tape, computer disc memory etc.) and create introductory data for the computer.

Coded ceramic material, shown on 48 tables (A—H, 1—40), gives a fairly realistic idea of the inventory of the Moravian Painted Ware, its distribution and development in Moravia. Much of the material is published here for the first time. In this book, in the form of numerical description and graphical documentation, is gathered the basic development stages of the culture under observation. Hence, at the same time, this work fulfills the function of the publication of certain sections of hitherto unutilised source material; this compensates, at least in part for the chronic deficiency of publications of the numerous finds of the Moravian Painted Ware.

In the 6 and final part of this work, the authors show several examples of where numerical description and calculated codes have been utilised for various types of mathematical-statistic analysis. Analyses are, of course, carried out "mannually" only and that, on the basis of choosing the most suitable group finds and single items from the coded group in Chapter 5. The initial group is, of course, only fragmentary and therefore the results from the analyses are objective, but their value still cannot be generalised. Despite that, from the arranged matrix (table II) arises the obvious basic chronology of the main find sites of the Moravian Painted Ware. From it also arises a clear division between the two basic development stages of the culture using painted ware (defined by oblong lines). Smaller divisions, phases, of the stages I and II are demonstrable only in the later stage whilst in the earlier stage, they are really only hypothetical (because of insufficient representation of the chosen group and it being small in number).

Further, the frequency of the occurence of various types of pottery decoration (painted, incised, grooved decoration) in the individual phases of the mentioned culture is enumerated and graphically described (plate 59). The column diagram (plate 60) shows the relative numerous occurences of painted combinations during the basic development phase of the Moravian Painted Ware. The development of the painted motifs and its variations is shown in graph no. 61. The development of the incised ornamentation technique can be seen in the column diagram no. 62.

As an example of the creation of types and variation in pottery on the basis of a calculated index of vessels (calculated indexes are discussed detail in Chapter 4), tables of calculated indexes (P 1—P 8) of two basic ceramic classes (pots and bowls) — table IV, VI are shown. At the end of each table is shown the range of values of the indexes and the returned partial intervals. Correlation tables on the basis of four returned indexes were produced from tables IV and VI (table V — indexes P 7, P 1, P 4 and P 6; table VII — indexes P 7, P 6, P 1 and P 8). Election and seriation of the indexes were influenced by efforts to confront this achieved morphological classification with a calculated visual typological system. This classification is objective, not weighed down by traditional conceptions, because it is not in opposition to the already tried typology system — it is therefore utilisable.

The authors are certain that in practical demonstrations and examples they have succeeded in showing the advantages of numerical description and its use as a calculated code for basic mathematical-statistical operations. More valuable and general results can of course be acquired only if valuable and representative groups of artefacts from substantial cultures are used. This however, was not the aim of this work. The presented Numerical Code of the Moravian Painted Ware is a key for acquiring quality groups of an observed culture in the framework of single significant sites, groups from a whole region, and then finally the whole Lengyel culture. If the monograph stimulates interest in the modern numerical description of pottery of the Lengyel culture and becomes the stimulus of its uniform description — it has fulfilled its task.

Translated by Irena Brichta