



Archaeology and Quality of Life in Central-European, Pre-Industrial Towns (Fourteenth to Eighteenth Centuries)

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Accepted: 14 January 2022 / Published online: 4 May 2022
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Abstract

Diversification of standards of living in modern societies is one of the main research topics for economists and sociologists. Usually, economic inequalities are considered to be a natural phenomenon which trigger further progress and, in moderate amounts, are socially acceptable. However, deep inequalities are unjust and destructive and lead to conflicts. The research of contemporary inequalities in living standards mainly focuses on defining their source and their social and economic implications. The issue of social inequalities in pre-industrial societies is researched in a similar way, but requires different methods and data sources. The purpose of this paper is to determine the usefulness of archaeology in the research of diversification of living standards in Central-European cities at the end of Middle Ages and in the Early Modern era. As a case study we discuss the consumption strategies of Late Medieval and Early Modern dress accessories from different burgher plots in Prague (modern Czech Republic) and Wrocław (modern Poland) as an introduction for broader research.

Keywords Urban archaeology · Material culture · Economic inequalities · Dress accessories · Quality of life · Early modern Europe

Introduction

Archaeologists studying the late Middle Ages and the modern period, especially in central-eastern Europe, are used to conducting their research without a developed theoretical and methodological base (Mehler 2013). This problem, especially in the

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context of studying material culture, was noted recently by Beaudry and Mehler (2016). The authors point out that the scope of researchers' interest has been changing for some time now and purely "antiquarian" works are published significantly less often, with an increasing number of works on complex topics being issued instead (Jervis 2014, 2017), often based on quite complex theoretical assumptions (Antczak 2019:31–49; Antczak and Beaudry 2019; Jervis 2019).

In this text, we would like to discuss the opportunities which archaeology gives us in researching the differences in the quality of life in pre-industrial European cities and to propose a complex research methodology. We mainly base our research on concepts proposed by economists. We also adjust Michael E. Smith's model for ancient homesteads (Smith 2019) for the purposes of describing modern era cities, broadening it by the analysis of material culture and consumption waste. The recent attempt by Haase and Whatley (2020) to compare consumption strategies in two cities in medieval Denmark also applies to the study of living conditions. The analysis was based there on quite rich collections of finds.

The economic sciences have given us several methods of measuring the wealth level and consumption inequalities and their results. The value of those methods and the selection criteria used in evaluating life conditions are the subject of constant discussion (Lorenz 1905; Rawls 1982; Sen 1993; Sen et al. 2010; Sen and Foster 1997; Sheshinski 1972; Wallman et al. 2015). Usually, two basic categories of methods are assumed. In the first one, the research is focused on the objective scope of the inequalities, measured by the statistical difference in the income, without any direct reference to the general level of wealth. The second one presents normative measures, which show the general level of wealth and losses caused by an uneven distribution. The boundary between these categories is blurred and determining differences is subject to continual debate (Sen and Foster 1997:24–26). The complex character of the research subject, the multitude of methods and their dependence on various historical and regional factors, as well as religious and political views of scholars can turn defining even basic concepts into a problem. We have no single, clear and commonly accepted definition of prosperity. Most often, it is linked by economists to good nutrition, the lack of diseases, the presence of personal freedom and dignity, respect to other group members, safety from aggression, economic security, a stable and just law (Cohen 1993; Deaton 2013; Nussbaum and Sen 1993:4). In the meantime, it is often difficult to determine unequivocal assessment criteria due to the subjective attitude in assessing prosperity. John Rawls (1971) presented the issue with an example, writing that, for one person, a satisfactory meal may consist of some beans, bread, and milk, whereas another person, with a similar economic status, may expect fine wines and exotic dishes. In such a case, prosperity is the "satisfaction of preferences" or a "relative success" (Dworkin 1981:191–94). Prosperity may also be described simply as a state of satisfaction from an achieved level of life. This can refer to individuals or groups, regardless if that level is seen by us as luxurious, average or modest. Such a state is described by researchers as hedonistic prosperity (Cohen 1993:11).

It is clear that measuring the differences in the quality of life goes far beyond a simple economic analysis (Sen and Foster 1997:6), as the inequalities are caused, as well as motivated and justified, by social factors, ideologies, and finally by the

individual skills and abilities of a particular human being or professional group. Social diversity helps one to orderly categorise the living standards into interval categories of “luxury,” “middle standard,” and “poverty.” The economists point out that it has an orderly character and then question it. They tend rather to see a linear diversification with no clear thresholds, at least for contemporary times (Sen and Foster 1997:14–15). Such an interpretation is caused by the ongoing blurring of clear boundaries between social classes in the modern world. Those, however, were well established and governed by numerous laws in the researched period of fifteenth to eighteenth centuries.

The issue of “primary goods” also needs our attention. Primary goods determine the bare existential minimum which extends beyond poverty (Cohen 1993; Rawls 1982). The changeable scope of “primary goods” in a chronological, regional, and social sense is well known and needs no further proof. The reconstruction of that scope for city dwellers in the period between the fifteenth to eighteenth centuries poses a challenge for us.

Finding a research method to analyze the diversification in the quality of life in past historical periods is more difficult than for the purpose of analyzing contemporary societies. The economic literature does not yield any significant hints on this matter. The main difference is the character and the size of the source base. For economists who research the present day, it is easy to access precise statistical data expressed in currencies—from general in character, like the gross domestic product (GDP), to details on the individual income of particular members in a given community. Researching the past usually lacks one crucial common denominator—the currency with the determined purchasing power and statistics on the constant income. With such data, it would be possible to measure any inequalities in the index and interval scales used by the economists (Sen and Foster 1997:4–6).

The contemporary economic discourse takes place in a different political reality, where state interventions and methods of distributing goods have a different scope and character than their late-medieval and Early Modern counterparts. In the past we saw a different scope of subjective factors, a different understanding of social justice and a different degree of responsibility of individuals for their own prosperity. Inequalities in past societies, far more often than today, resulted from ideologically justified, or even sanctioned, relationships and matching legal regulations.

Despite those differences, the outcomes of economists are used to research the past. They are useful for analyses based on written sources, especially tax registers, testaments, court protocols, and accountancy books. Historians who focus on the problem of economic inequalities often talk about the difficulties resulting from insufficient or incomplete data. Wouter Ryckbosch (2016:1–2) mentioned this problem in his analysis of the relationship between the scale of the inequalities and the speed of the economic growth. It did not, however, prevent him from acquiring significant knowledge on the issue and presenting a high level of discourse (Blonde and Hanus 2010; Hanus 2013). The potential for successful research on wealth based on such sources has recently been presented by Guido Alfani (2017, there further literature). He determined a relatively stable growth in the wealth of the elite (top 10% of the inhabitants) of several Italian, Catalanian, and Dutch cities from the thirteenth to the eighteenth centuries. However, unlike the present day, such sources do

not cover the whole issue—they do not inform us about all the sources of income, they do not refer to all social tiers and are often incomplete. Despite that, the results of Alfani's research are indeed significant and valuable. An analysis of the changes in the urban infrastructure which were conditioned by the social inequalities is also promising (Deneweth 2002; Deneweth et al. 2018). We must, however, point out the commonly known truth about the usual lack of representation of the poorest members of the society in the sources, even if the sources themselves seem complete (Wolf 2010). Material gathered during archaeological research is used to fill that gap (Orser 2016:24).

Needs and Possibilities for Archaeological Research of the Life Quality in an Urban Environment

Is it possible to determine the measure of prosperity on the basis of the results of archaeological research? Our source base is not as fine as in the case of written documents. It does, however, highlight the phenomena which are usually omitted in accountancy papers and testaments, encompassing information on the bottom social tiers or illiterate communities. Two questions seem essential for the archaeological research on the life quality, once presented by Amartya Sen (1993:32). Firstly, what constitutes a valuable object (or a valuable service), and secondly, how costly is such an object (service) in comparison to other goods? It should be noted that the analyzed objects may have a very general meaning in archaeological research, including houses, workshops, artifacts, domesticated animals, and food. The analysis of the second question should result in the creation of a dominance ranking. In such a case, the analysis criteria are the usefulness categories proposed by Sen—function, pleasure, happiness, fulfilment. These criteria are selected subjectively by the user of a particular object or the recipient of a service. This creates an additional obstacle in the analysis of the past, as we do not know most of the factors which determined the value. Some of them, different from those accepted nowadays, escape our perception which is determined by our scale of values and understanding of prosperity, fulfilment, and happiness.

The views and conclusions presented recently by Michael E. Smith (Smith 2019) can be used as a starting point for the discussion on the method of assessing the quality of life of past communities on the basis of archaeological research. He mainly took ancient agricultural civilizations as the subject of his analysis, pointing out that it was not his aim to reconstruct any specific phenomena or situations, but to determine a method. Following the example of economists, he differentiates the term of quality of life (QOL, see Sen 1993) in households from the term “prosperity” on a community level. Such a division can be, in our opinion, simply transferred onto the reality of a late-medieval and Early Modern city. A clear division in the urban space into quarters consisting of individual house plots allows for the easy extraction of single households and attempts to compare them to directly adjacent plots and areas located in other quarters and parts of the city. To assess the prosperity of a whole community, it is crucial to compare the whole urban area with another city, parallelly functioning in similar legal conditions.

Smith separates the generally understood quality of life (including its spiritual aspect) from an economically measured standard (see also Sen et al. 2010:62–63). He therefore assumes, similarly to the economists, that the QOL is generated not just by material goods, but also by a number of ideological conditions which are important for a given community and differentiate it from other groups of people. He suggests the following markers of wealth and living conditions as being important in archaeological research: (1) the differentiation of personal goods and (2) external communal networks (Smith 2019, Table 25.1).

An archaeological analysis is able to determine the quality of the living conditions. The house size has already been used as a marker for measuring wealth (Deneweth 2002; Morris 2005; Smith 1987, 1994). This method was used in researching the ancient agrarian communities of ancient Greece and the Aztec civilisation, but we see no reason not to apply it for the purposes of analyzing old European townhouses; however, the specificity of this research is different than that undertaken by Smith (2019). It is not always possible to connect the house size with its furnishing in the case of medieval and modern cities. Sometimes, we are able to connect a layer of waste or a latrine present on the plot with a parallel phase of the house. This was undertaken, in New York (New Amsterdam), where two latrines from the Dutch period of the city's history were discovered and matched to two owners known from written sources (Cantwell and Wall 2003:170–172). Another good example is the research by Craig Cessford (2014, 2017) on a deposit in Oxford, which was successfully matched with an individual whose name and profession was known. The person's belongings were thrown away after their death, but included items dating in a scope of over 100 years. Such research shows us the risks of an analysis based on single finds with uncertain contexts, especially in an urban environment. However, the analysis of compact deposits in mixed up urban layers is not always possible when based just on an archaeological context, as it is visible in the case of a relatively rich hoard of pewter vessels, coming from completely destroyed layers (Cymbalak et al. 2019). We should also remember that both wealthy families (landlords) and poorer tenants renting rooms in annexes may have lived together on the same plot. Their collective waste most probably ended up in one latrine. Despite that, the material culture, also without an unambiguous connection to the living space, should be considered as a measure of the quality of life in a household and, in a broader perspective, constitute a comparative background for further conclusions.

The issues of heating, furnishing, and ornamentation which, together, constituted the quality of the private space was equally as important as the used space. We should not neglect the representative functions of a house also, realized by opening the living space into a public area. Comparing the quality of townhouses may give us some notion of the owners' prestige (in contrast to the conclusions of Smith [2019:490] on houses of agrarian communities). The street-facing facade and the hall located on the ground floor represented the owners' pride, informed the visitors/guests about their status in the commune and value as business partners. We should also bear in mind that houses were often sold and the rooms divided. Such changes are often difficult to trace archaeologically and our knowledge about them usually comes from written historical sources.

Another criterion of wealth, pointed out by Smith (2019:491) and useful in research of urban households, is the diversity of the owned goods. We should treat it as an important factor which indicates the advancement of the material culture, functional diversity of the items and, indirectly, the daily comfort. We should add that, in the case of archaeological research, it is difficult to assess this factor due to the selectivity of the finds. We know that only a fraction of the objects belonging to the material culture were deposited in the cultural layers—either as used and discarded or lost (Cymbalak et al. 2019). We must also assume that the most valuable items, thus, designating a high-quality consumption, were particularly protected by their owners and users. More valuable metal objects were usually recycled, which limits their content in the layers. This particularly refers to easily melted objects made of tin and lead alloys. A large level of randomness is, therefore, a characteristic feature of the archaeological source base, distorting the general picture and limiting the value of the statistical analyses. Only in the case of pottery may we assume that its deposition occurred closely to the owners' habitat and the possibilities for material recycling were basically non-existent. In such cases we may hope for a more complete material. We are, however, well aware of the practice of regular emptying-out of urban latrines which took place in the modern era.

Another important issue in our discussion is determining the details of the cultural process connected with the systematic privatization of life and placing stricter boundaries between the “public” and “private” space. Such boundaries existed in the Middle Ages, but became far more visible in the modern era, resulting in the birth and complication of the notion of “comfort” and other phenomena, which were hardly present or even unheard of in medieval society (Korduba 2006:49–50). Interdisciplinary studies on the crossroads of the history of architecture, archaeology, and history itself allow one to point out such tendencies not only on the basis of the analysis of the still existing or excavated buildings, but also through inventory registers and testaments. Compilations of such sources let us notice not just the general shifts, but also more significant details, such as indicators of material status—items purchased and kept with the clear intention of substantiating one's position and class membership. Matthew Johnson (1993), after studying the architecture in Suffolk, England, pointed out that the concept of internal divisions of houses drastically changed between the fifteenth to seventeenth centuries. The changes in ornamentation and decorations were, according to him, tightly correlated not just to the economic changes, but to the social ones as well (Johnson 1993:136–151). He then took his regional research to a higher level, referring to globally observed tendencies.

When creating a hierarchy of items acquired from archaeological excavations, we may use the quality criteria measured with the value of the used material, technology, ornamentation or place of origin (local or external). All those factors are elements of broader-defined consumption categories. This allows us to compare different categories of the finds, which were, until now, have been analyzed separately in Central-European archaeology. Similar research was recently carried out by Kirsten Haase and Stuart Whatley (2020) who compared the consumption strategies in two different Danish cities. They defined five consumption strategies (Haase and Whatley 2020:125) and matched particular types of items to each of them, which was then followed by a thorough comparative analysis with a particular focus on the historical

context of the finds. Following their example, we propose a division of finds into five categories based on their analysis. The first category consists of “conspicuously luxurious items with no practical functionality” (category 1). The second category contains equally “luxurious items, but with functional features” (category 2). The third – items which are “conspicuous through their functionality,” thus ones which highlight membership to a certain class or social group, not necessarily connected to the material value (category 3). The fourth contains items which designate the standard—a typical consumption baseline with a low value – the “standard setters” (category 4). The fifth group is made up of items with “religious or that are magical in character” (category 5). The biggest difficulty lies in sorting finds into particular groups, as none of the scales are, in any way, objective.

In addition to presenting the method, Haase and Whatley (2020) conducted a comparative study between two chosen archaeological sites from two different Danish cities. Location of those excavations were of a very different nature. *Gammal Strand* in the Danish capital was located near the medieval port, while *Vilhelm Werners Plads* in Odense was a district of wealthy craftsmen. The application of the above-described method showed significant differences in consumption strategies. In both cases, the most luxurious items constituted less than 1% of the entire collection, the percentage of “conspicuous but functional items” varied between 4 and 6%. However, the difference was clearly visible when comparing “conspicuous through functionality” with “standard setters.” In Copenhagen—the harbour district, depending on the chronological phase, the ratio was almost equal (47% of “conspicuous objects through functionality” to 48% of “standard setters” in the thirteenth to fifteenth centuries and 35% to 59% in the fifteenth to sixteenth centuries). In Odense, a bourgeois and artisanal district, 84 to 94% (depending on the chronological phase) were finds related to “standard setters” category while conspicuous through functionality ranged from 0.52 to a maximum of nearly 9% (Haase and Whatley 2020:132). The authors explain these disproportions, among others by the large availability of imported goods in Copenhagen, and the constant presence of German merchants in this city. This also shows that the finds in “rich” quarters in Odense, a city with less intensive trade, consisted mostly of objects belonging to “standard setters” consumption category.

For this paper, we have conducted a similar study, which serves as a pilot project for much broader research on urban economic relations. Due to the availability of the accessible dataset, we limited ourselves only to the dress accessories—buckles, mounts, brooches and so forth. These items, although not very numerous in comparison to pottery finds, reflect well the issues related to consumption strategies. According to Eicher (1995:1): “Dress is a coded sensory system of non-verbal communication that aids human interaction in space and time. The codes of dress include visual as well as other sensory modifications (taste, smell, sound, and feel) and supplements (garments, jewellery, and accessories) to the body which set off either or both cognitive and affective processes that result in recognition or lack of recognition by the viewer. As a system, dressing the body by modifications and supplements often does facilitate or hinder consequent verbal or other communication.” We can assume that the quality of dress accessories reflects, to some extent, the status of their owners.

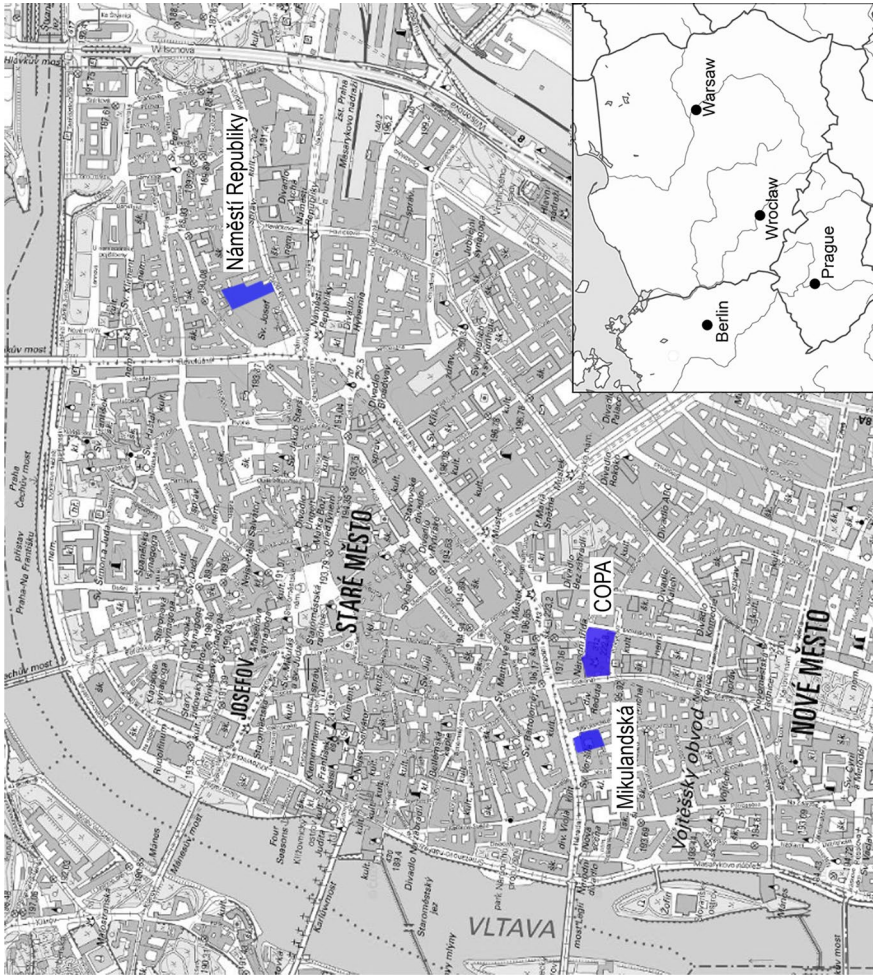


Fig. 1 Location of excavations sites in Prague, Public Domain

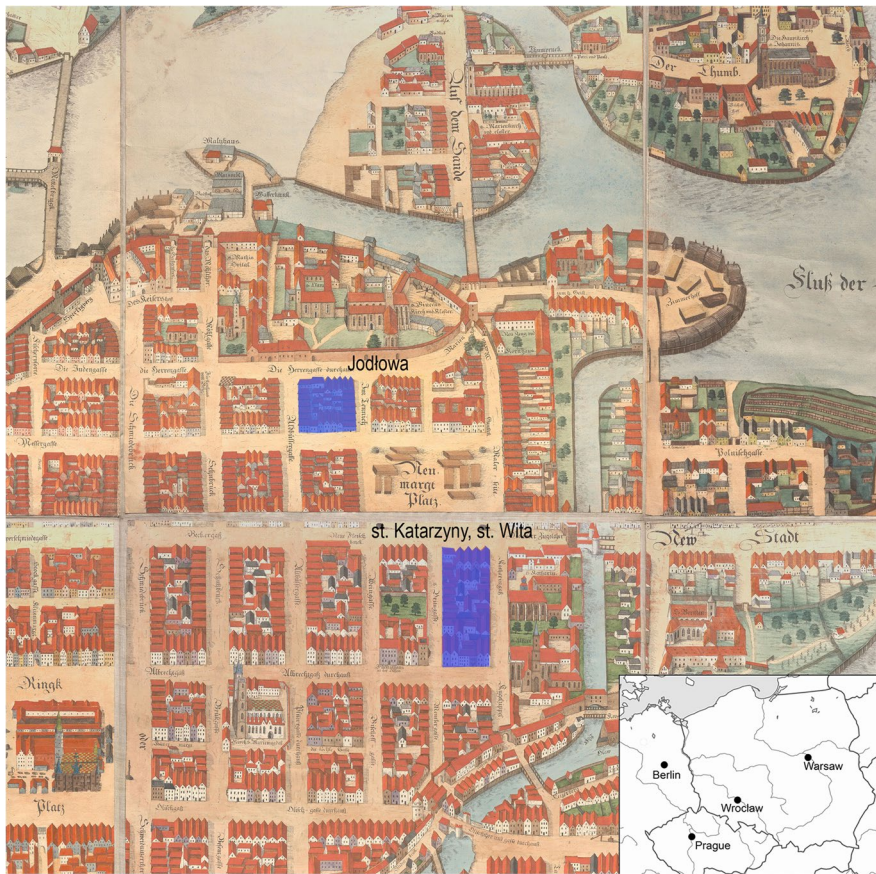


Fig. 2 Map of Wrocław (Breslau) from 1562 by Barthel Wehner with location of excavations sites, Public Domain

For the purposes of this study, a collection of dress accessories from three excavations located in different parts of Prague were compared (Fig. 1) to finds from two sites located in Wrocław (Fig. 2). Those two towns, varying in size and historical importance, are currently situated in different countries, the Czech Republic and Poland. However, since 1335, Wrocław belonged to the Kingdom of Bohemia, while Prague was its capital, and after 1526 both towns went under the reign of the Habsburg dynasty, where Wrocław has remained until 1741. For most of the period concerning this study, both towns shared similar political, cultural, and economic areas of influence, differing mostly in their size and political impact. Prague can be arguably called one of the most important urban centres in Eastern Central Europe, being the capital of the Kingdom of Bohemia and in two periods a residence of two Holy Roman Emperors. Wrocław, on the other hand, is

the historical capital of Silesia, the largest city in the region, through a medieval period a residence of bishops and dukes.

The chosen collection from Prague has been partially published and discussed in detail in a separate monograph (Sawicki 2021), where the method of assigning individual items to given consumption categories was discussed. The data from Wrocław is currently being prepared to be published in detail in a separate text.

Three of the Prague excavation sites were localised at the New Town of Prague. This urban foundation was initiated by Charles IV King of Bohemia (1346–78), and Holy Roman Emperor (1355–78) in 1348. The delimited area comprised the area between Vyšehrad and the Old Town. In the fourteenth century, it was settled largely by poorer craftsmen.

The first of these sites is located between the streets of Spálená, Purkyňova, Vladislavova, and Charvátova (Copa Centrum Národní, today's shopping center Quadrio; hereinafter COPA). Before the founding of the New Town in this place, at least from the mid-twelfth century, there was the settlement of Újezd of St Martin near the river and the road connecting Prague Castle with Vyšehrad, also bordering the Jewish cemetery. Due to the construction of the walls of the Old Town in 1237–53, part of the settlement was incorporated as suburbs, and some remained outside. After the founding of the New Town in the middle of fourteenth century, this area underwent significant changes. Wooden buildings converted into stone ones, the craftsmanship was transferred, creating a new urban layout and division into plots. This was reflected in the sudden increase in the inhabitants of this part of the city as well as the frequent change of property owners and tenants (see Cymbalak 2011, 2021). We have also used the assemblage from the plot localized between Národní—Mikulandská streets (hereinafter referred as Mikulandská). In this place, traces of settlement with a cemetery dating back to the eleventh to twelfth centuries were found, which preceded the proto-urban and later urban foundations of the New Town in 1348 (see Cymbalak 2015, 2021b). The third site was located at Náměstí Republiky (hereinafter referred to as Náměstí Republiky). Archaeological research covered a very large area of approximately 1.5 ha. The material used for this study comes only from the part of this whole site. The oldest horizon covered traces of settlement from the twelfth to the first half of the thirteenth century associated with the suburban settlement between Vyšehrad and the Hradčany. The second horizon is related to the foundation of the New Town and the organization of city plots. Another clear change was observed in the seventeenth century, which relates to the construction of the Capuchin monastery and the church of St. John with an adjoining garden and utility buildings. The last phase of development in this area was associated with the closure of the monastery and the construction of military barracks in the eighteenth century followed by the leveling of the adjacent land (Juřina 2009, Podliska 2021).

For comparison, we selected the dress accessories discovered at two sites in Wrocław, in Old Town. The historic buildings that developed within these quarters were destroyed during the war in 1945 since the town was founded in the thirteenth century. The finds come from the quarter limited by streets of St. Wit (Germ. Zieggengasse) and St. Katarzyna (Germ. Katharinenstrasse), Wit Stwosz (Germ. Albrechtstrasse) and Nowy Targ square (Germ. Neumarkt, hereinafter referred to as St.

Katarzyna and St. Wit) contained 21 separate numbers. The second assemblage of dress accessories comes from excavations carried out on the back parts of at least four or five numbers in the plot located at streets Łaciarska (Tannengasse) and Jodłowa (Altbüßerstrasse, hereinafter Jodłowa).

The first site consists of burgher plots with buildings facing the street and courtyards inside, the finds come from the cesspits localized there, but also from layers and objects related to the use of this space. In the second case, we are dealing with a much smaller area, but with 18 cesspits dating from the fourteenth to the nineteenth centuries.

Contrary to the situation in Prague, at Wrocław historical data on these plots is understudied. Sociotopography of the space in question was only prepared for the late Middle Ages (Goliński 1997), and only a few, not very well-developed sources concerning the end of the eighteenth century are available. Therefore, we are “only” dependent on archaeological finds.

The chosen sites differ among themselves. However, it can be assumed that the dress accessories discovered on them will largely refer to their character, even considering that most of the items in question were most probably accidentally lost or intentionally thrown away. In addition, due to the specificity of the material in question, we analyze materials obtained from entire quarters and not from individual city plots or facilities. A similar microscale study, where the focus was on a single cloaca, was also carried out for Prague (Cymbalak et al. 2020), but for this analysis, we are interested in a more general picture. For the selected items to show actual

Table 1 Number and types of dress accessories at each site

	Jodłowa	Katarzyny	COPA	Mikulandská	Náměstí Republiky
Buckles belt and plates	7	32	24	13	36
Mounts	5	13	6	10	25
Strapends	0	5	1	0	4
Brooches	0	2	2	0	0
Hook and eyes	0	0	21	3	11
Belt segments	3	6	5	5	9
Hook and eye clasps	2	1	0	0	7
Buttons	17	14	4	0	9
Lace points	0	0	6	14	11
Bells	3	2	0	0	0
Rings	19	6	0	0	0
Chains	0	0	4	3	0
Other	2	13	3	20	8
Hair pins	0	1	0	2	11
Purses	0	0	5	5	3
Total	58	95	81	75	134

consumption strategies, we decided not to include objects relating to production, such as semi-finished products or production waste.

An overview of the individual types of finds is shown in Table 1. In total 443 dress accessories were used for this study, of which 153 were discovered at two sites in Wrocław, and 290 comes from excavations in Prague. The majority of finds on both sites, in most cases, consisted of buckles. This seems to be typical, as it is confirmed by catalogues from Prague (Sawicki 2021), Wrocław (2017), or London (Egan and Pritchard 1991). In Wrocław, the second most typical dress accessories seem to be buttons (31) which are quite underrepresented in the assemblage from Prague (13). On the other hand, in Prague, they were found lace chaps (31), hooks and eyes (36) and hairpins (13), which are almost completely missing from Wrocław's assemblage. It is difficult to state if this bias is an effect of local fashions and consumption strategies or if this is an effect of excavation traditions, soil conditions, or the specificity of each excavations site. This last issue is more visible as there are no finds made of lead and tin alloys in the Prague assemblage in contrast to Wrocław (34).

Finds from the standard-setting consumption strategy (category 4 by Haase and Whatley 2020) consist mostly of mass-produced, unfinished items made of basic raw materials such as copper alloys, pewter, and iron. Here we have assigned undecorated, simple buckles (Figs. 3 a-c; 4 a-c), as well as hooks and eyes (Fig. 3 e), lace points (Fig. 3 d) and simple mounts (Fig. 3 e), or quite common bells (Fig. 4 d).

Items related to the “conspicuous through their functionality” strategy (category 3 according to Haase and Whatley 2020): those which emphasize belonging to various social groups, but are not clearly luxurious, were primarily good-quality, decorated and or better-made items, or those known to have cheaper substitutes. Examples are ornate buckles and clasps (Fig. 5 a, b, 6 b), strap ends (Fig. 5 d), hooked clasps (Fig. 6 a), decorated mounts (Fig. 6 d, g) segments metal belts (Fig. 5 e, Fig. 6 e, f), as well as metal alloy buttons (Fig. 5 c, Fig. 6 c). The only item which we decided to count into “luxurious (but still functional),” category 2 by (Haase and Whatley 2020) was a simple silver ring.

The percentage share of each consumption strategy at each site in each phase is shown in charts (Figs. 7, 8, 9, 10 and 11). Due to the differences between the sites and cities the difficulty in dating of individual finds, and to unify the data, the observations of the chronological phase for this study were limited to only two sets.

The finds from Prague comes from three different sites. It was not possible to date precisely all the finds according to stratigraphy. In many cases, the chronology was assigned due to the typological dating of the artefacts, however many items, such as simple buckles, bells, pins, etc. have not changed their form for centuries which implicit the overlapping of datasets.

The first dataset includes items widely dated to the late Middle Ages to the Early Modern period (second half of the fourteenth century to the end of the sixteenth century, lately referred as the first phase). The second is composed of finds generally dated to Early Modern times, but some of them have forms deriving from the late Middle Ages which affect the overall chronology of this dataset (2nd half of the fifteenth century to the end of the eighteenth century, lately referred as the second phase) (see Sawicki 2021).



Fig. 3 Dress accessories the “standard setters” (category 4) from Prague: Mikulandská – **a**, **b**, **f**; COPA – **c**; Náměstí Republiky – **d**; photographs by permission of M. Kalíšek



Fig. 4 Dress accessories the “standard setters” (category 4) from Wrocław: St. Katarzyny and St. Wita – a, b, c, e; Jodłowa – d, photographs by permission of J. Sawicki



Fig. 5 Dress accessories “conspicuous through functionality” (category 3) from Prague: Náměstí Republiky – a, b, d, e; COPA – c, photographs by permission of M. Kalíšek



Fig. 6 Dress accessories “conspicuous through functionality” (category 3) from Wrocław: St. Katarzyny and St. Wita **b – f**; Jodłowa – **a, g**, photographs by permission of J. Sawicki

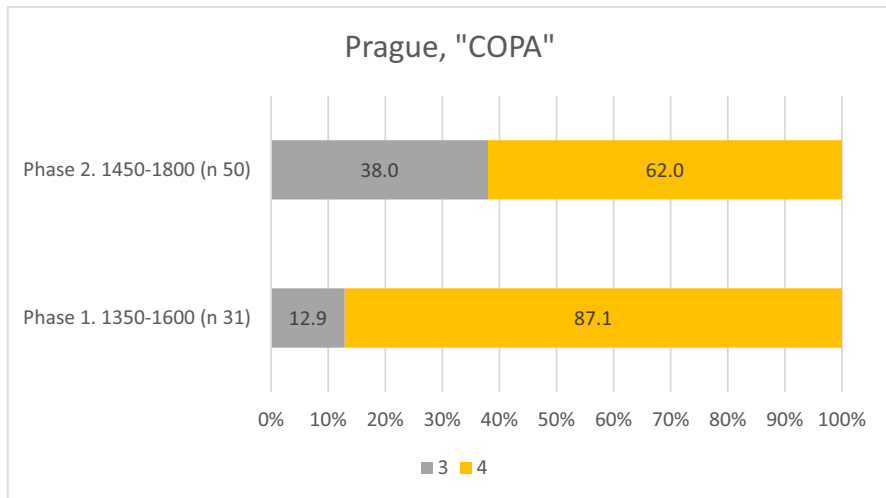


Fig. 7 Percent of finds of each consumption strategy from COPA in both phases, (n)—total number of finds

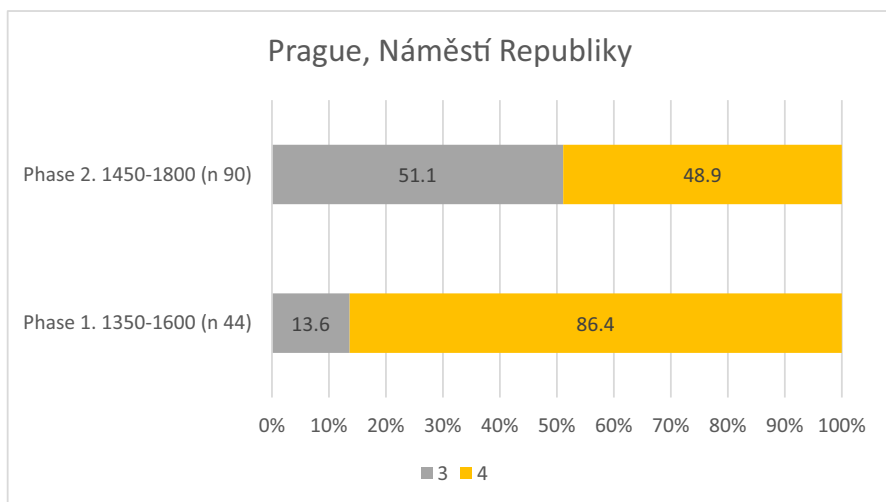


Fig. 8 Percent of finds of each consumption strategy from Náměstí Republiky in both phases, (n)—total number of finds

Finds from Wrocław come from two different sites, and in this case, it was possible to distinguish the layers' stratigraphy more precisely. For this study, and to keep the comparative possibilities between towns and sites as similar as possible, we have decided to divide Wrocław's finds also into two datasets. The first one relates to the Late Medieval to Early Modern period (half of the fourteenth century to the end of the sixteenth century). The second dataset also covers the Early Modern period.

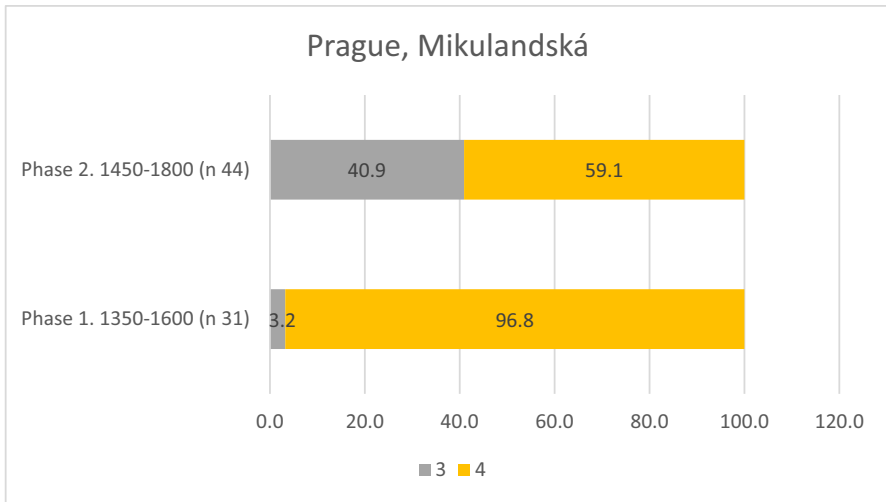


Fig. 9 Percent of finds of each consumption strategy from Mikulandská in both phases, (n)—total number of finds

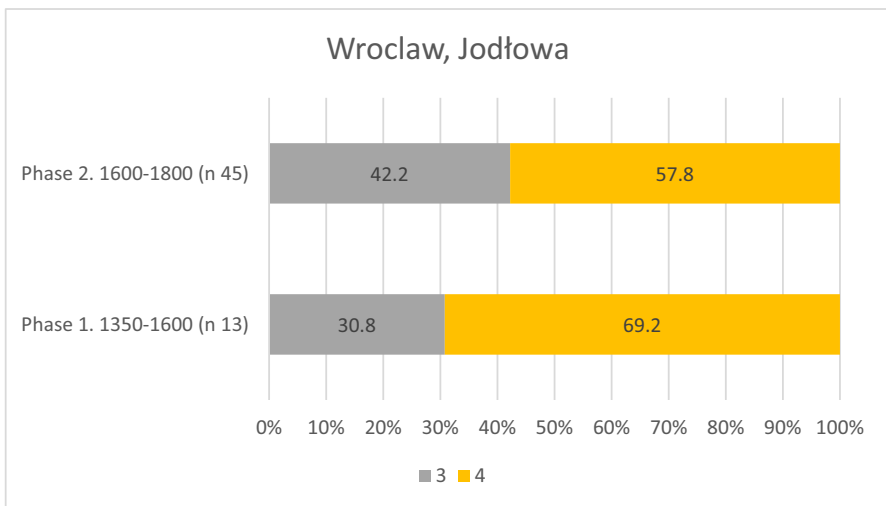


Fig. 10 Percent of finds of each consumption strategy from Jodłowa in both phases, (n)—total number of finds

However, in comparison to Prague, it was possible to narrow it down to the beginning of the seventeenth century to the end of the eighteenth century.

The analysis of this dataset allows observing several regularities between individual sites, towns, and phases (Figs. 7, 8, 9, 10 and 11). In Prague at all sites in the first phase, the "standard setters" (cat. 4) are clearly dominant, consisting of more than 86% at COPA (Fig. 7) and Náměstí Republiky (Fig. 8) of all finds, and

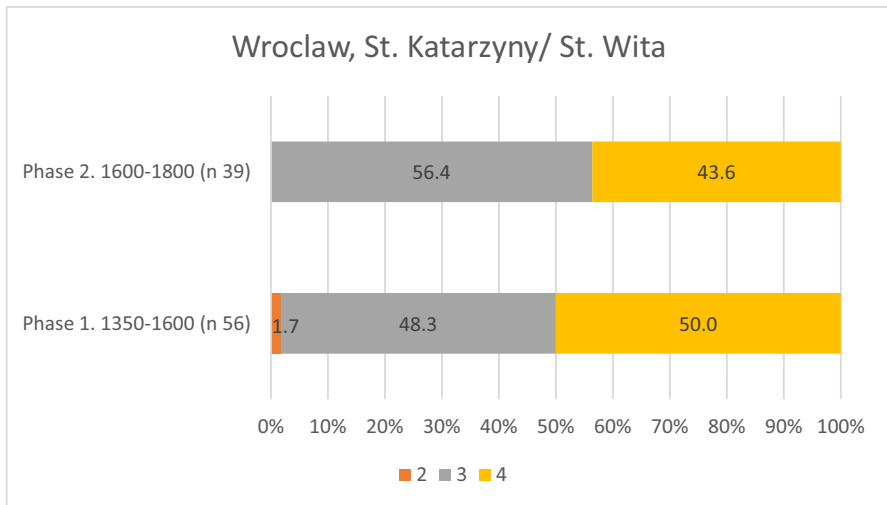


Fig. 11 Percent of finds of each consumption strategy from st. Katarzyny and st Wita in both phases, (n)—total number of finds

at Mikulandská even more than 96% (Fig. 9). Finds from the two most luxurious categories (cat. 1 and 2) are not present, which corresponds well with historical sources indicating that this part of town was inhabited by poorer craftsmen. However, this changes in the second phase. The share of finds from category 3 (conspicuous through consumption) rises significantly, reaching 51% share of all finds at Náměstí Republiky (Fig. 8). However, there are still no finds from the first two consumption strategies. Such change might relate to the increase in the social status of local inhabitants. However, in the case of dress accessories, it might also be related to the fact that in the Modern period there were changes in fashion in general. The belts, richly stuck with mounts, popular in the Middle Ages, and especially the so-called over-long belts popular in fourteenth century (Fingerlin 1971; Wachowski 2001), went completely out of fashion. In the sixteenth century, women started to wear belts with metal segments, which is also reflected in the archaeological assemblage (Fig. 5 e, Fig. 6 e, f). However, the everyday belts in men’s attire that were not used to attach weapons rarely appear in the iconography of the period and usually consist only of a buckle. Brooches are also out of fashion. Items that can be expected as dress accessories (i.e., the most popular buttons) could have been made of organic materials (textile, wood, or metal rings covered with fabric etc.), which means that such forms are not represented in archaeological collections.

In Wroclaw, the situation in the first phase is much different. At Jodłowa the share of “standard setters” (cat. 4) is only 69% and conspicuous objects through functionality consist of almost one-third of all finds (see Fig. 10). At St. Katarzyna and St. Wit streets (see Fig. 11) “the standard setters” consist only 50% of all sites. There are also finds related to the luxurious category 2 (a silver ring) and conspicuous through functionality objects (category 3, over 48%). In the second phase in Wroclaw, there is no significant change, however, the number of finds from category

4 rises both at Jodłowa and at St. Katarzyna and St. Wit. We believe this reflects the general tendency of consumption strategies regarding dress accessories, noticed also in Prague, and does not influence any significant change in social status of the inhabitants of Wrocław's quarters.

In contrast to Prague, in the capital of Silesia, we observe a much bigger, and more constant share between standard setters and conspicuous through functionality objects in Wrocław. Similarly, as in the example from Copenhagen and Odense, the changes are most visible in the difference between categories 3 and 4, and the more luxurious objects reflect only a margin of all finds. However, the numbers quite clearly show the distinction in consumption strategies between those two cities and town regions. We can assume that the status of inhabitants of Wrocław's quarters was visibly higher than the burghers from Prague's New Town which was reflected in the accessibility of more conspicuous dress accessories.

The study presented above is, of course, only an introduction to more extensive analyses with the use of a much larger and varied dataset which are currently being prepared and are aimed to be published as separate monograph. This research is limited to only one group of finds and a small database (in relation to many finds of pottery, for example). Even a small difference in the number of individual specimens can lead to a significant distortion of the percentage result at each site. Further study on this topic must consider ceramics and/or glass, which seem to be more sensitive in terms of distinguishing between consumption strategies. In fact, the possibility to combine finds from different categories into one comparable dataset is one of the strongest assets of the given method. Nevertheless, even an analysis of such a specific assemblage as the dress accessories allows observing certain trends and changes. The division of finds according to consumption strategies allows analyzing an extensive assemblage, which would have been more complicated while using a more traditional, purely typological, or descriptive way.

This short pilot study shows that this is a useful tool to help describe the past and social context with the use of even specific archaeological datasets. However, such analyses should, if possible, be extended by a series of additional, historical, architectural, environmental, and bio-cultural data.

Here especially important seems to be the research on the diet, often listed as one of the main determinants of the QOL (Deaton 2013). However, the image resulting from the condition of the zooarchaeological finds may be distorted due to the changeable economic and political situation in the cities (caused by wars, plagues, etc.) and any potential periods of famine or low accessibility to food. Despite that, studies on the availability of meat can yield vital information (on the consumption of meat, see also Cessford 2017; Lyman 1979), and access to such a type of waste in urban finds gives us significant hope. Of course, the consumption itself (of meat and other types of food) fits into the proposed consumption strategies.

Determining ranking relations will, however, always be distorted by the archaeologist's subjective assessment, as the level of knowledge of the value scale or domination ranking (Sen 1993:32), proper for townfolk in the fifteenth to seventeenth centuries, is severely limited. Testament registers often present the good or bad condition of particular objects, but say nothing about their mutual relations (Bętkowska and Bieniarzówna 1957; Burszta and Łuczak 1962, 1965; Goliński 2006; Kizik

2004; Klonder 2000; Kruppé 1974; Schultz 1871; Sztetyło 1992). In this context it is obvious to say that such registers consequently omitted items which were considered cheap in their respective times, including most of the pottery which, paradoxically, is counted among the most commonly found objects by archaeologists. Such registers also mostly represent the affluent members of the urban society—poor people are featured only sporadically and only in the circumstance of gathering funds for a funeral (e.g., when they had no relatives) and the public auction of their meagre possessions (Kizik 2004). Sometimes, we are also unable to say to what degree the item's value was determined by the economic criteria, and to what by the ideology and identification with one's social tier and its current norms. Those were often tightly regulated by law and opulence was not always perceived well, especially in Protestant communities. City councils issued detailed instructions on the acceptable demonstration and consumption of luxury during family celebrations, and any transgression was fined (Blockmans Janse 1999; Kizik 2001:311–367; Letkiewicz 2007). Such regulations were often reissued, so it is doubtful if they were always respected and properly enforced. The problem exists both in the assessment of the QOL of an individual and the prosperity of a whole city. In the second case, we encounter a scope of not just individual preferences, but also those of a whole community or of the large professional groups within it.

Did citizens of Prague make different consumption choices than those from Paris, Copenhagen, or the closely-located Wrocław? What were the differences in that matter between large and small cities, wealthy and poorer ones? An analysis of the archaeological sources may show qualitative and quantitative differences in such cases, but will not show the consumers' satisfaction levels in understanding hedonistic prosperity (Cohen 1993). It will, on the other hand, present the differences in the scope of the consumption and the preferences or the consumption strategies of the particular inhabitants of the houses and land plots, districts and whole cities. Let us add that it will be easier to compare cities from the same or similar economic zone than settlements which are very distant from each other in geographical and civilizational terms. We must remember that the same categories of products, when manufactured locally and easily accessible, were not always considered luxurious goods, but when they traveled over larger distances, they may have been treated as curiosities and oddities which enhance the owner's prestige. Some examples of such phenomenon are illustrated in a number of works on the history and cultural importance of Siegburg stoneware in the Hanseatic world (Mehler 2009) or stoneware from the so-called Falke group, often found far away from its manufacturing place—in Iceland or in Budapest in Hungary (Stephan 2002). Finally, the status of many items went through a constant change and re-evaluation. For example, richly decorated stoneware tankards, which surely were much desired and luxurious items in the sixteenth to seventeenth centuries, are found broken in latrines from later periods. They did not end up there only due to accidental damage, but also due to their intentional destruction. Their handles were broken in order to reclaim pewter lids and fittings, which were considered a valuable raw material (Krabath and Richthofen 2007:88–89). Many other categories of products met a similar fate, verifying, in many ways, their symbolic meaning, strongly correlated with fashion, individual taste or consumer's origin.

Common investments in constructions undertaken by a given community are symptomatic of prosperity (Smith 2010, 2019). Although it is difficult to consider it a universal truth, especially in the case of systems using a slave workforce or those close to slavery, we may assume that this concept seems to be valid for the reality of European cities in the late Middle Ages and the Early Modern era. Communal investments constituted a significant part in the redistribution of financial means, a tool used in leveling excessive economic inequalities. The construction and maintenance of city walls had a direct impact on the collective security. One of the ways to demonstrate independence and self-governance, as well as the wealth of the whole commune, was the erection of a representative city hall, usually in the center, within the main market area. Permanent investments which directly influenced the townsfolk's quality of their daily life included the construction and maintenance of city plumbing and paving of streets and squares. The second important part of the redistribution was made of the founding donations of the feudal and urban elites, as well as voluntary alms. Those were important for the functioning of hospitals and the daily survival of the poorest inhabitants.

The previously mentioned rate of imports can be used to measure the city's openness to contacts with the outside world. Those are usually realized via long-distance trade and the migration of the craftsmen. The exchange of goods and the participation of journeymen in construction investments is accompanied by the cross-regional exchange of information, responsible for the existence of a number of interregional features in the stylistics of items and buildings created locally. This, in turn, enhances the technological progress, brings new trends in architecture and art, and has its influence on shaping consumption models and the generally understood lifestyle.

Conclusions

The quality of life in Late Medieval and Early Modern cities is a relative category. Its assessment depends on a number of objective factors which existed in the past, and, on the other hand, results from the personal, subjective expectations of the inhabitants of the said cities. It should be added that the second group of factors changes over time and space. This refers to both households and whole cities. Some of those factors are accessible through archaeological research, but only thanks to intense and rigorous interdisciplinary cooperation.

Which of the objective factors should be highlighted? For sure, the geographical conditions with the climate, access to drinking water and waterways are the basic ones to be considered. Protection against floods and humidity are also significant. Other absolutely basic factors to consider are the conditions in which food is sourced – the quality of the arable land and pastures in the nearest vicinity, and, in the case of large cities, the possibility of long-distance trade of livestock and grain and accessibility to construction-quality wood or stone. Furthermore, we should list the adaptability of the terrain for erecting permanent structures that have natural defensive qualities. However, it would be wrong to assume the decisive role of geographic features only. We know cities in which economic or political factors were far

more important than the geographical ones. Some good examples are Bruges (De Witte 2008), Lubeck (Gläser 2004), Bremen (Rech 2004) and Brunswick (Rötting 1997), functioning in highly unfavorable hydrographic conditions, and yet powerful economically and with a high standard of life. This group of factors is relatively easy to assess via analyses collectively carried out by geographers, archaeologists, and historians. Research on this field is advanced and confirmed by the rich literature on riverside cities and their sanitary conditions (Kaniecki 2004; Piekalski 2013; Röber 2016; Sowina 2016; Fejtová et al. 2005; Way 2018).

However, the decisive importance of the quality of life are the factors created by the townsfolk themselves. The social and professional conditions were the basis for the economic diversity, among them, the hereditary inequalities and competition between particular people and professional groups can be included. They were subjectively judged, depending on the level of acceptance of the social structure and the and the ideology, in particular, Christianity, which went through modifications since the sixteenth century due to the Reformation. The level of individual satisfaction of a particular people – the owners and users of the analyzed properties—remains beyond our reach. In each case, however, we are certain that the economic prosperity had its influence on the level of satisfaction of the city dwellers and generally understood quality of life, similar to our attempts of determining the diet. When describing these interactions, we are able to see the large potential in the analysis of the material culture, subjectively divided into various consumption groups, and further in comparing particular urban zones (plots, quarters) and then whole cities (Haase and Whatley 2020). We are aware that this study is imperfect, and the method used does not generate fully tangible results. This problem appears primarily when analyzing small, selected sets of finds, as in the case of the presented dress accessories. The obtained results, however, constitute important data for a more complex analysis using various sources, which we proposed in this paper, and a valuable basis for further observations. We also believe that it is worth enriching this kind of general analysis with more detailed studies of specific items or groups of finds based on biographies of items (Apparduai 1979; Kopytoff 1979), which also complete the picture of urban life.

We expect, in reference to Jervis' (2019:110) and Reckner's (2002) observations, to notice that there is more than a single image of a city, or that such an image has more than one dimension. Items from properties will not meet the historical quality expectations, and poorer districts will feature luxurious items and vice versa. As suggested by DeLanda (2016), a city analyzed in such way is not a static entity, but several aspects of urbanity and the processes which take place in cities. Therefore, the diversity acquired from the sources is not necessarily a faulty result. It is important to support such an approach with the context of the find wherever possible. Was a seventeenth-century item, seemingly exclusive to us, still considered valuable in later periods? If we accept that similar items were kept for a long time, it can be assumed that, in the short period between their loss in value and discarding, they may have become possessions of less wealthy or even poor townsfolk, serving as a substitute of a luxury and/or an oddity worth keeping. Such a “degradation” in value has been observed in the case of the so-called creamware in England (Cessford 2017:15).

The archaeological method may have a significant influence over the progress in researching the quality of life in pre-industrial cities. It is crucial to refer to the discourse and achievements of the economists who analyse our contemporary reality and to correct all previously mentioned topics, which only together may present a certain, naturally imperfect image of the standards and quality of life in pre-industrial cities.

A substantial part of the assumed method is defining the markers for the status, which underwent dynamic changes in the Middle Ages and completely transformed in the Modern era. We are aware of the deep qualitative and quantitative difference just in the material culture which had been progressing since the late Middle Ages and rapidly accelerated in the sixteenth century. It is hard to assume that those changes happened only due to the economic development, and their character is far broader and deeper. Simultaneously, it is pointed out that the acceleration of the changes is correlated, among others, with geographical discoveries made by the Europeans at the end of the fifteenth century and a whole spectrum of positive and negative factors resulting from them, which globally drew, into the whole process, not only the people directly involved in it, but also those remaining on the edges of the changing world.

Acknowledgements The article was written as a part of the Polish National Science Centre project no. 2019/35/B/HS3/00088, and project no. 18-26503S of the Czech Science Foundation.

Declarations

Competing interests The authors have no competing interests to declare that are relevant to the content of this article.

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