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Lived heritage and local cultures: depopulation in Slovakia

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ABSTRACT

Although there has been a steady increase in population growth in the last two centuries, scholarly and public discussions express concerns about the decline of population vitality and the loss of cultural diversity in many areas of the world. These demographic processes are associated with various forms of development stagnation well observed in several areas of Europe. The age structure of the population in certain areas is distorted, the opportunities for revitalisation are limited, existing social, well-being and education infrastructure are weakened. In some peripheral regions of Slovakia, we witness a kind of vicious circle, when the area is trapped in a cycle of cumulative causation. Two case studies (Stará Halič, Ľuboreč) and effects of depopulations are shown on the local processes of declining reproductive behaviour, disintegration of kinship relationships, limitations of cooperation and reciprocity, changes and reduction of the cultural transfer of knowledge, stability and innovation. From the perspective of anthropology and historical demography, depopulation has a considerable impact on the sustainability of local cultural diversity in Central Europe. We focused on the vitality of cultural heritage to transmit rural housing lifestyle and ecosystem services that make landscape and local culture sustainable.

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Introduction

General concerns about the future of human populations have gradually expanded since the eighteenth century to a concern about the general future of the world as we might have known and co-created it in the Anthropocene. The term sustainability has become inextricably linked with the concept of development in the last decades, expressing the hope of preserving the fragile coexistence of organisms. In the anthropological sciences, therefore, a deconstruction, critique and understanding of the anthropological definition of this term is currently underway. This is also because the non/sustainability of development is publicly understood through the results of concrete collaboration, the degree of persuasive contestation and everyday communication. The underlying contexts of success are determined by local and global policies, processes, behaviours and actions whose implications for sustainability anthropologists can recognise globally and locally. In the context of the research topic of this issue, we would like to contribute to the understanding of how widely cultural adaptations are diversified in particular geographical contexts, how robust the ethnographic agenda for successful communication of sustainability must be in particular local communities, and how far back in time the contexts of fragile human-environment interaction go.

Local adaptations can be considered as an experiential complex of generations of local and other actors, whose loss of transmission on tangible and intangible cultural contents indicates changes in

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the stability of the local population and vitality of local culture (Smith 2006, 47; Smith, Morgan, and van der Meer 2003, 75). Our main issue is the sustainability of local communities both in terms of demographic perspective and cultural stability. For human populations, it is not possible to express optimising numbers of actors who stabilize, vary, or innovate cultural contents, given the nature of the great diversity of human cultures. Current human populations have adapted to all natural areas; the possibilities of technical adaptation extend adaptations to previously uninhabitable environments. Paradoxically, however, overpopulated and depopulated areas are emerging where the adaptive capacities of older, long-established strategies have been exhausted (Stoffle, Stoffle and Sjolander-Lindqvist 2013).

Positive strategies for coexistence between humans and their natural environment have become rare heritage phenomena. In our study, we want to find out the context of demographic changes in local communities, the social and kinship structuring of actors of cultural stabilisations, variations and innovations, and the processes influencing the microevolution of living culture in local communities. The ideal type of a sustainable local community is then considered to be one in which we can recognise a cultural configuration of phenomena, strategies and knowledge that is adapted to local conditions from the past into the future in its lived cultural condition. Our interest is then logically focused on the sustainability of local populations within the peripheral regions of Central Europe. By this we mean areas that are geographically or value-wise distant from cultural centres. In the case of some peripheral regions, the demographic behaviour of their local populations may differ from the average behaviour of large population units.

In our study, therefore, we set our questions in the context of the UN challenge 'Transforming our world: the 2030 Agenda for Sustainable Development in Goals and targets – People and Prosperity' to which our study seeks historical, contextual and evolutionary answers in typical local communities in Central Europe. We ask the following questions: *Are changes in the demographic structure and in the dynamics of cultural processes directed towards the sustainability of local societies? Is depopulation an indicator of the decreasing adaptive capacity of local populations*. Our research is aligned with the priorities of the Strategic Research and Innovation Agenda 2020 (SRIA) of European research design in the context of cultural heritage and global change.

Depopulation and local culture

Depopulation can be thought of either (1) in a narrow demographic sense or (2) in a broader socio-cultural anthropological perspective. In relation to a particular territory (or local population, local community), we can thus ideally-typically distinguish (1a) depopulation in the sense of an absolute population reduction from (1b) relative (or structural) depopulation. In the first case (ad 1a), the population decline is either by emigration or by internal demographic developments in the population, e.g. a decline in fertility or a sharp rise in mortality, etc. Relative depopulation (ad 1b) could refer to, for example, in the sense of a decline in local population growth relative to other regions. Depopulation in the socio-cultural sense (ad 2) could be referred to, for example, in the case of a decline in the indigenous population carrying certain cultural complexes (e.g. 'native' or 'traditional epistemology' or 'symbolic systems'), but replaced by immigration or temporary residence (e.g. seasonal tourism) of people with a different cultural background.

Similarly, for the chosen study region, we can distinguish (a) purely demographic impacts of depopulation from (b) socio-cultural impacts and (c) environmental impacts.

For example, the question is (ad a) what impact depopulation has on the demographic stability of local communities. This is, for example, the correlation between depopulation and population ageing, both from the 'bottom' of the age pyramid (i.e. fertility dominated ageing) and from the 'top' of the age structure (mortality dominated ageing). The question is how much the depopulation of a region affects the chances of starting a family in a given area, i.e. how much it affects the number of available and marriageable 'niches'. In socio-cultural terms (ad b), for example, the question relates to the impact of depopulation on the functionality of kinship networks and networks of

otherwise institutionalised relationships (community, churches, schools, sports clubs, etc.). In the same way, the question is connected with the impact of depopulation on cultural transmission (possible disruption of cultural transmission; the departure of the existing practitioners of the praxeological and semiotic relationship to culture, landscape and biosphere). There is then the question of the impact on economic activities (in relation to the respective ecotypes). Finally (ad c), there is the environmental impact on the very form of the biosphere (on species diversity). The question is the relationship between depopulation processes (their different types) and the inertia (or, conversely, the dynamic variability) of systems of population, cultural and environmental relations.

The authors of this study theoretically grounded their empirical findings in an evolutionary cultural anthropology (ECA) perspective (Hewlett 2016). ECA approaches often called units of cultural traits and cultural variants and are focused on indigenous knowledge and cultural learning. Features for cumulative transmission repeat multimodel experiences and interactions with several group members with those traits (Cavalli-Sforza and Feldman 1981). Research is built upon previous local skills, knowledge and processes of depopulation create cultural niche construction in different areas (Laland and O'Brien 2012). Culturally constructed environments lead to their own forces of selection. In depopulation processes, the local population lacks knowledge about the role heritage/heritagisation as a cultural practice (Smith 2006). ECA heritage research identifies accumulated cultural knowledge about heritage traits and culturally constructed environments. Vertical, intrafamiliar horizontal and oblique transmission of culture traits contribute to relatively high conservation of culture, e.g. multigeneration houses, intangible culture practices and community living. Cumulative local culture across generations keeps the skills and knowledge in the local population, e.g. group selection of several forms of houses. Contemporary research on local cultures, however, highlights the importance of bias strategies, the conformist tendencies exercised in a local community.

Depopulation of rural areas in Central Europe

We present the possibilities of studying the correlations between depopulation processes and the sustainability of the culture of local communities in a historical perspective in relation to the Central European region. This area is quite variable both geographically and economically. It also has considerable ethnic and religious diversity. At the same time, different marriage patterns, different family types, and where appropriate, different roles of kinship in family structuring and the formation of local communities have been identified in Central Europe. This makes it possible to model numerous variations in the effects of various factors that could and may slowdown or dynamise both depopulation processes and culture adaptive practices in different ways. As an example, we present a possible research comparison of two types of local communities: (1) rural communities in which agrarian production was accompanied by domestic industry and has been for several centuries (numerous examples of foothill areas in Central Europe), represented in our interpretation by *Case 1*, which significantly hindered depopulation processes and at the same time may have ensured higher cultural variability, and (2) rural communities that depended only on agrarian production and in which depopulation processes and processes of reduced cultural variability may have started to occur in the context of agrarian transformation as in *Case 2*. Taking these examples as ideal types, it can be said that in the first case, the defensive strategy against the risk of adverse economic development could have been to engage in non-agrarian economic activities, while in the second case it was an attempt to preserve the ideal agricultural land area or, if necessary, increasing the land area, reducing fertility of its owners. These two types are only selected examples of the many possible correlations of the phenomena studied. They serve here primarily as empirical model for possible questions and interpretations of the observed phenomena for future heritage research.

The problems of sustainability of local populations we studied in the context of historical processes with different dynamics and temporality. Although the significant decline in fertility

and the tendency towards the loosening of family life of the last half-century (some speak of the so-called 'second transformation') may seem to be the defining change today (Esping-Andersen and Billari 2015), the phenomena we study are also part of processes of population and socio-cultural change that can be thematised over several centuries (Livi-Bacci 2000). In Central and Central-Eastern Europe, fertility control in marriage generally became one of the defining features of the so-called 'Great Transformation' around 1900 and shortly after. An exception is some Slovak and Hungarian regions where this happened earlier (Andorka, Horská, and Head-König 1998), and a significant decline in fertility also took hold here, especially after 1990 (Pavlík 2018).

Heritage and local vitality

The term vitality is generally regarded as the vital state of an individual, his or her ability to be strong and active, as a general capacity to 'go on living'. This interpretation is complemented by psychological synonyms such as spirituality, life force, mental health: in cognitive sciences these are termed cognitive vitality – the ability of the brain to learn and adapt, in biology it is associated with the ability of an organism to survive or its success in meeting its own life needs. In ecology, the term vitality is used to refer to an entire ecosystem or a population of certain organisms. In the ethno-linguistic field, it can be seen as the vitality of local communities/languages, as it examines the ability of a community to survive and thrive in the midst of a distinct community.

Anthropologist Luisa Maffi describes the 'vitality' of different world cultures and their resilience, which are necessary to maintain 'biocultural diversity' (Maffi 2007). Zent and Maffi argue that the diversity of cultures can also be measured through the vitality of 'traditional environmental knowledge' (VITEK – Vitality Index of Traditional Environmental Knowledge), which is passed from generation to generation and can be quantified and examined over time (Zent and Maffi 2019). In addition to being used to monitor social phenomena over time, these systems can also be used to forecast and predict trends in the social conditions of localities, as well as to inform local policies to address problems. In what follows, we focus on the vitality of local communities, sometimes at the level of neighbourhoods, cities, or entire regions. Often the terms sustainability, liveability, and well-being are also used in this context, but despite the similarities they are not the same.

The idea of creating a broader set of vitality indicators can be traced back to the 1960s (Kingsley 1998). Often, researchers have relied exclusively on economic data, the main one, GDP, having been subjected to considerable criticism in recent decades. Researchers are therefore trying to find a more accurate measurement model focusing on alternative data. Experts are looking for indicators of community vitality, resilience, prosperity, well-being and sustainability (Etuk andAcock 2017). These goals are very broad – typically encompassing social, economic and environmental issues. However, there is no consensus on what vitality really means and how to measure it. In the last 20 years, there have been widespread efforts to find the most appropriate indicators and measurement systems, a trend that has not been completed by consensus (Jany-Catrice and Marlier 2013, 20). Most of the systems put forwards have a wider range of inconsistent categories. Herbert Yuill (online, cited 12 February 2024) examines 17 different existing vitality measurement systems, and the size of the study site is also wide. Some indicators are relatively common and have appeared in surveys across multiple measurement systems. These include, for example, poverty rates, job security, and housing affordability. Others, such as safety, access to education, health, civic engagement, and access to the arts, are less common.

In terms of cultural heritage sustainability, some authors (Jackson, Kabwasa-Green and Herranz2006) relate the concept of local community vitality to the state of local culture and residents' participation in it. Maria Rosario Jackson has proposed a three-part framework to measure community vitality based on public participation in culture and recommends monitoring indicators of arts and culture, such as the number of organisations, art schools, art collectives, shows, production, public spending to support cultural activities, and volunteerism (Jackson 2008, 16–19). The concept of 'social capital', seen as the potential that a community can use to increase its vitality, has also come to the fore in research and

interventions in the social and educational spheres. The richness of community associations, the sense of belonging or the ability to mobilise neighbours to engage in collective actions of a social nature are just some of the measurable indicators (Martínez and Úcar 2022).

Several anthropological studies discuss the impact of population ageing on urban vitality. Ann Dale and Lenore Newman (Dale et al. 2014, 6–8) have focused on the notion of 'community vitality', drawing on case studies from thirty-five communities. Dale et al. note that 'it can be particularly difficult to distinguish community vitality from community well-being. Although the terms are often confused. Most societies measure population progress through economic indicators. There is considerable debate in the social sciences about whether economic progress in all cases contributes to well-being. Vitality must also take into account a sense of individual vitality, and opportunities to pursue meaningful, engaging activities. Well-being is also about feelings of relatedness to other people – both in terms of close relationships with friends and family and belonging to a wider community. Many urban centres are increasing densities in their neighbourhoods to provide housing for growing labour markets. Much of this housing is unaffordable for low-wage service workers. (6–8, 31). Economically quantified indicators about housing, work, or health are considered reductive; no less important are the internal relations within the population. We can document from anthropological research that vital communities are characterised by strong, active, and inclusive relationships among an intensely interacting population. For communities to be vital, they must meet a number of conditions, among which are community openness and mutual trust, people's connection to place, continuity and stability, and also readiness for change. The frequency and intensity of change is highly adaptive; too little change leads to stagnation and too much to instability of the local community. The right amount of change is culturally specific, stimulates innovation and creativity, and leads to community activism. The ability to adapt is based on culturally inherited stabilising processes of caring for the contents of cultural heritage and the environment.

Methodology

Heritage objects and heritage actors

Although the objects of local architecture were the subject of field evidence of the impact of depopulation on the local community, our heritage 'discourse' was 'intangibly' constructed (Smith 2006, 54). We wanted to record the changes that depopulation causes and their directly observable impacts on local culture. We will therefore link the results of qualitative/quantitative data with the results of the application of anthropological and ethnographic field methods.

Demographic phenomena significantly characterise individual socio-cultural fields. Thus, they can be considered as criteria for diachronic-historical and synchronic-social comparison. Demography achieves considerable precision in identifying data, creating its series and tracking their correlations. One way to culturally contextualise demographic behaviour is to observe the correlation between local processes of depopulation and possible processes of cultural maladaptation in heritage examples. Evolutionary anthropology often considers the maladaptive influence of culture on human evolution, which is manifest by declines in fertility. In this perspective, the criterion of maladaptation is the reduction of adaptive fitness. The criterion of cultural maladaptation is then such a decline in the creation of adaptive variations of existing cultural strategies, processes and phenomena that lead the community into a vicious circle of stagnation.

In this study, we combine the methods of sociocultural anthropology and demography. As far as demography is concerned, we mainly use the procedures of historical demography, e.g. cohort analysis or the method of the so-called reconstitution of families. When studying rural populations, they can be combined with family history procedures and with agrarian history (methods summarised by Szoltysek 2015a and 2015b).

The heritage indicator that we observed to measure the impact of demographic change on the local community was the change in the form of housing depending on local tradition. Housing is one of the basic human needs; it provides shelter, protects from bad weather, and enables offspring to be raised. Housing reflects the social status of the population, changes in development and local cultural patterns and norms. In this way, dwellings reflect local conditions or cultural patterns, very often representing typical local architecture, making them culturally recognisable. The architecture of dwellings is often a pattern that is inherited, copied and the dissemination of cultural patterns can be recognised. The condition of dwellings is a long-established demographic phenomenon in official statistics. It can therefore be examined in Europe over the same time frame as the record of fearfulness. Houses and land are also part of cartographic and especially cadastral mapping and can therefore be studied in spatial terms. Houses and people have been photographed since the beginnings of visual documentation, and their morphology and functionality can be ethnographically documented in family albums, or on postcards and views of the whole city. By linking these sources, it is possible to (re)construct past (socio)cultural fields for past centuries to some extent from the chosen perspectives.

In doing so, we can obtain a picture:

(i) individual households (linking family size and structure to the agrarian and non-agrarian economic activities of a given household; identifying kinship relations and their role in the formation of a given household)
(ii) specific local populations (villages or estates)
(iii) larger administrative units at the level of districts or entire countries

Using these procedures, it is thus possible to ideally construct or empirically identify factors or mechanisms inhibiting or exacerbating depopulation processes and factors affecting cultural transmission at all three levels. For example, it is possible to observe the extent to which non-agrarian activities may inhibit depopulation processes within some rural local depopulations, and similarly, assess the extent to which the lack of opportunity of non-agrarian economic activities has exacerbated depopulation. In the same way, for example, the monitoring of marriage migration can be linked to analyses of possible mechanisms of cultural transmission.

Local demography development of research area Novohrad (Slovakia)

The consequences of fertility reduction in the long term can be very well demonstrated by comparing two localities in the area of the former historical region of Novohrad, now the district of Lučenec (Banská Bystrica Self-Governing Region, Slovak Republic): the villages of Ľuboreč and Stará Halič. The initial situation of both localities in the middle of the 19th century was very similar, almost identical in several parameters. According to the 1869 census, the population of Stará Halič was 627 and that of Ľuboreč 633. The difference is almost negligible in terms of comparison. Reliable older statistical data are not available for Hungary. Only lexicons, geographic-historical works and various inventories of the characteristics of the settlements of the individual Hungarian counties are available, but their reliability, especially in relation to the number of inhabitants, is problematic and depended on the author of the work and his collaborators and correspondents. In 1880, there were 638 inhabitants in 110 houses in Stará Halič with an average of 5.8 inhabitants per house. In 1880, there were 568 inhabitants in Ľuboreč with an average of 5.25 inhabitants per house.

Cultural history of region

Archaeological findings from the Neolithic, Stone Age, Bronze Age and Iron Age come from the territory of Novohrad, in the basins between two dormant volcanic ranges of Novohrad we therefore assume a continuous settlement, which corresponds to the evidence of contemporary material

culture. The settlement in the last two millennia bears the cultural features of the border area of the Roman Empire with the evidence of the ethnic groups of Celts (3rd century BCE), Slavs (7th century CE) and Hungarians (10th century). The regional character of the culture of Novohrad – the lowland culture of small settlements and local populations of up to 100 inhabitants with a central church enclosed by a defensive wall and a bell tower – can be recognised in the beginnings of the Hungarian state. The Novohrad Comitat with its own territorial administration was established at the turn of the 10th and 11th centuries. In the 13th century we can already record the existence of most of the current settlements, and several waves of colonisation of Upper Hungary – Saxon, Wallachian and Prospectorian-Minings – participated in their settlement to a lesser extent. The relative cultural compactness of the settlements of Novohrad was disturbed by the proximity of the Ottomans, who in the second half of the 16th century managed to conquer almost the whole of Novohrad, including the castle Novohrad settlements - Fiľakovo, Modrý Kameň, Divín, Šomoška and Salgó.

Almost 200 years of belonging to or neighbouring the Ottomans was most evident in the intangible culture (clothing, gastronomy and folklore). The Protestant ideas and churches of the Lutherans and then the Calvinists spread in Novohrad in the 16th century. Their spread also bore an ethnic preference – Lutheran congregations were mainly Slovaks, Calvinist congregations mainly Hungarians. In local culture, in contrast to the majority Catholic Austria-Hungary, less emphasis was placed on ornamentation and ritualisation of everyday life, Greater emphasis was placed on education and rational elements of culture. The 17th century was filled with struggles between rival power groups of the Habsburg Empire and spreading re-catholization. At the beginning of the 18th century, Novohrad was hit by the anti-Habsburg uprising. After its suppression, there was a massive population exodus to the southern parts of the monarchy, large areas were displaced and a new population arrived from the northern regions of Slovakia. After the Austro-Hungarian Compromise (1867), the industrial development of the Novohrad region began, which was disrupted by World War I.

The cultural heritage of Novohrad is linked to the natural environment of its territory. Mining traditions are characterised by the extraction of useful minerals: metal ores from Cinobaňa and Lovinobaňa, coal from Salgótarján and Veľký Krtíš, timber and agricultural production in the whole region. Novohrad was an important grain-producing area: wheat, oats, fruit-growing, viticulture, cattle, sheep and pig breeding prevailed. From the 16th century onwards, there was also the development of guilds and crafts in Modrý Kameň, Fiľakovo, Lučenec, Divín and Halič, where there were also market and trade centres. From the second half of the 19th century, the development of industry began, which was concentrated in Salgótarján for ironworks and coal mining, Lučenec had ore processing and produced agricultural machinery, the textile industry in Halič and Opatová was also important, glass production in Málinec, Katarínska Huta, and ceramics in Lučenec. After the fall of the Austro-Hungarian monarchy (1918), the northern part of the Novohrad region was incorporated into the Czechoslovak Republic (1918–1993). After World War II, the Novohrad region belonged to the Central Slovakia region. According to the last territorial-administrative division, there are districts Lučenec/56 localities/, Veľký Krtíš/71 localities/, Poltár/22 localities/.

Cases Ľuboreč and Stará Halič

The striking similarity of the two sites allows us to observe the impact, short- and long-term consequences and changes of a different factor embedded in this conceptual model. This factor is the different confessional affiliation of the two settlements and, above all, the different pattern of reproductive behaviour that has been associated with it for some time. Evangelicals of the Augsburg Confession, most prominently in the Slovak part of the historical Novohrad and Hont gradually began to lean towards the one-child family model by as early as the first half of the 19th century (Aláč 2017). This transition was not a leap. It lasted for several decades and its extension followed the geographical conditions of the area and the real lines of communication. Rather, it dominated the 'richer' villages in

the southern part of the historical Slovak Novohrad, along the more important lines of communication and with more fertile land of flat fields. Later, it spread to the northern hilly areas, where settlements were in the mountains or in narrow valleys, where life was more difficult and therefore they resisted the new influences for longer. Similarly, other modernising tendencies, not just fertility reduction, reached the area a generation or even half a century later (Demeny 1972). A number of consequences of different reproductive behaviour can be demonstrated by comparing the development of one and the other locality (Šprocha and Tišliar 2022). In the long run, the reduction of population in the case of Ľuboreč compared to Stará Halič is clear, although their initial situation in terms of population was almost identical (Figure 1). By an interesting coincidence, Stará Halič retained the same number of inhabitants – 627, when comparing the 1869 census with the situation at the end of 2021. When comparing the same years in the case of Ľuboreč, this is a decrease to 54% of the 1869 population.

Contemporary materials do not provide us with treatises or descriptions of the demographic behaviour of the inhabitants of Stará Halič and its similar localities. In fact, this behaviour was not unusual in the 19th and the first half of the 20th century. It was different in the case of Ľuboreč, and a number of other evangelical localities in Novohrad and Hont. Members of the evangelical intelligentsia, evangelical priests, teachers, and publicists began to realise with concern, and later with horror, the consequences of the preferred one-child model in families in the environment of which they were a part, and with which they identified themselves. They were also direct witnesses to the extinction of families and entire clans, as well as the tragedy of women dying in abortion procedures. There were also tragedies when one child died and the parents were already of an age where they could no longer have another child. In retrospect, all of this can be identified in contemporary materials, journalism, sermons, public speeches, chronicles. . . Some are just stark statements. Others are rather desperate cries. However, they prove the consequences of the application of the one-child family model over several generations.

For example, a record from the chronicle of the village of Ľuboreč is an illustrative example of the consequences:

The consequence was not only (1) a decline in the number of children, which could be identified on the basis of school records, but also (2) changes in the age structure of the population. The consequences of fertility reduction – the application of the one-child family model – are already pronounced at the lower ages in this period. Some of the contemporary authors also noticed these

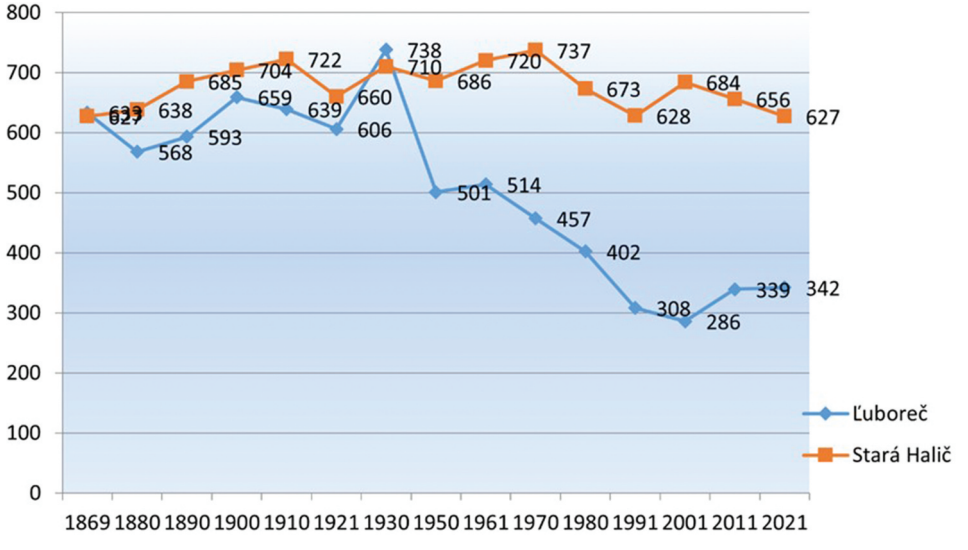

Figure 1. The comparation of the population development in ľuboreč and stará halič in a similar initial situation. Created by authors.

consequences and identified their impact in the form of environmental stagnation, and in later stages even apathy and underdevelopment.

> Even the son of Jan Cibula, still a good man, accompanied us around the old and new cemetery. He has a nice house of his own, is well cared for, but has no children. Ľuboreč has very few children at all, it has been a one-child town for a long time - in my time it wasn't like that yet. There used to be a big flock of us when we were let out of school (female, 1925)[1]

The reduction of the local population and the increased efficiency of individuals (3) improved the property conditions of the local population, which practiced the one-child family model. This was most strikingly reflected in changes to the settlement pattern, architecture and urban design of villages. The first in a series of these changes was the rapid material change in the transition from dwellings built of wood to stone. The subsequent change was the increase in space where smaller two-space brick dwellings were gradually extended to include additional spaces. The last change concerned the rich application of decorative elements. All these innovations were implemented in the context of the construction of multi-generational houses, where the continuity of prosperity of the whole local community was assumed. In addition to prosperity, depopulation brought with it a shortage of human resources. This was first reflected not only in a shortage of basic agricultural contractors but also in a shortage of contractors for specific activities and, in general, of partners for the creation of new families.

Findings

Local strategies for lived heritage

Every local community lives within the norms of optimal reproductive behaviour as a guarantee for maintaining its vitality. If we consider the accumulation of adaptive knowledge, means and strategies as the basis for the formation of local culture, then there are also individual cultural phenomena or traits that indicate the ability to adapt to change. In the case of phenomena spread vertically (from generation to generation), this is the most basic knowledge of creating security-founding dwellings, applying basic skill-ensuring livelihoods and tradition-driven behaviour in the manifestation of symbolic culture. Changes in these cultural modes often refer us to periods of historical events – wars, epidemics, environmental disasters – when population declines occur unpredictably and populations are forced to adapt with a greater degree of experimentation.

Individual adaptations of key cultural phenomena and their means pay off when changes are technological, economic, social, and otherwise more recognisable in the longer term. Novelties are imitated fairly faithfully by actors, dispatched in the community for fear that transfer to a new environment will result in cultural loss of their contents. This concern stems from the recognition of limited local abundance, where the selective forces of the population are numerically limiting, weakened by demographic evolution, and subject to consequent error in the selection of innovations. Such fallibility may reflect not only negations in innovating as well as neutral or benevolent approaches in adapting to change. For example, if in a locality with predominantly wooden dwellings (Figure 2) we have a few carpenters and only a few masons in the reproductive period of the oldest generation, and we repeatedly find this phenomenon with a distance of years in the youngest generation which prefers masonry buildings (Figure 3), we can speak of a maladaptation that has disturbed the equilibrium developmental system of the local community.

We cannot express the overall ability of sustainability of the population of the local community by the mistakes of individuals in novel adaptations. We are prevented from doing so by the nature of the so-called cultural drift – which is plastically and collectively produced by the local configuration of stabilisations, innovations, limitations and variations. Evolutionary scientists point to some of the dangers we often encounter in the ethnographic terrain of depopulating localities (1) drift is often suppressed by the selective forces of exceptional individuals – in the absence of vertical transmission; (2) drift cannot explain hard-to-identify skills, these are the cultural capital of individuals; (3) extinct cultural phenomena may persist in residues outside of collective memory, only to be revitalized after

Figure 2. Abandoned traditional local models of dwellings in depopulated areas. Photo Ján Aláč.

Figure 3. Abandoned innovative local models of dwellings. Photo Ján Aláč.

a long period of time. In recognising sustainability, then, it is necessary to study the loss of local cultural content (Figure 4) in parallel with the demographic development of the local community. Here, the decreasing number of potential actors in the transmission of culture anchors our ability to recognise the processes that take place during adaptations. This phenomenon can be observed on several objects of the Ľuboreč research site. The comparative research locality Stará Halič, with a constant or slightly positive demographic development, has a fairly organic structure of the preserved settlement form, which was formed evenly in all historic periods under study (Figure 4). In condition of heritage preservation, Stara Halič has managed to preserve its sacral heritage, which is thanks to the activities of a relatively sufficient number of involved volunteers (Figure 5). Active volunteering, as an important way of taking care of local sacral cultural heritage, is closely related to the size of the local population.

Figure 4. Preserved and locally characteristic vital rhythm of roadside buildings in Stará Halič. Photo Ján Aláč.

Figure 5. Care for sacral cultural heritage in Stará Halič. Photo Ján Aláč.

The method of protection of local sacral heritage includes a large amount of volunteer work for its preservation. An important factor in the preservation of family houses - *multi-generational dwellings* - is their occupation by a larger number of individuals. Only in such occupation can its owners pool the

Figure 6. Multigenerational houses in Stara Halič. Photo Ján Aláč.

Figure 7. Culture unification and loss of interest of local architecture. Photo Ján Aláč.

costs of their operation and maintenance. Multi-generational houses in the region represent a local type variant, with their preserved functionality reflecting the local development of material culture. In their functional preservation, we see the main role of heritagization local objects and the most important role of the local population in the preservation of cultural heritage (Figure 6).

Results and discussion

Depopulation and creating of 'niches'

An important issue we encountered in all depopulating sites during our research was the function of niche formation. Although the ultimate function of niche construction is survival and reproductive success, cultural niche construction serves more immediate and variable functions (Nagatsu et al. 2023). Sterelny (2010) proposes three relevant dimensions for culture

niche analysis: trust, interchangeability-individuation-entrenchment, and individual-collective. In these contexts, depopulation can be seen as freeing up 'niches' for further opportunity for cultural innovation, or are niches tending towards a decline in local (cultural) vitality. Reflecting on niche theories and based on our field research, we can distinguish the following three types of niches in local communities that are related to the vitality of local culture:

(1) The *socio-economic niche* (hereafter: 'se-niches'), as Duhamelle and Schlumbohm (2003) consider it in relation to demographic behaviour. This niche implies economic autonomy and hence higher social security. In the area of local heritage culture, the more demanding contents of cultural heritage (ornamentation, richness of material, individualisation, i.e.) are stabilised. In the countryside it has long overlapped with the farmstead, or with the economically independent sub-farm in some rural ecotypes or with the workshop in the city. With industrialisation, its character began to change, where the close link to commerce disappeared. If se-nices are formed in few scattered homesteads, the continuity of local culture values is lost in the long run; homesteads are not really inherited in succession, whereas in many more populous areas their number can grow by free division of land in multilayered inheritance.

(2) The second type can be characterised as the population or *demographic niche* (hereafter: 'd-niches'). It is defined by the possibility of successful parenthood. By this I mean both the possibility of reproduction and the chance that the offspring will live to reproductive age. It is therefore determined both (2a) *demographically* (the age and sex structure of the population) and (2b) *environmentally* (especially until the beginning of the 20th century) and finally (2c) *culturally*. Culturally, it is largely determined by what situation is considered 'appropriate' ('dignified', 'legitimate', non-conflicting in terms of 'morality', etc.) for actors to parent and it is also largely determined by how many 'appropriate' offspring it is to have. Ethnic factors (greater among Hungarian women compared to Slovak women) or residential factors (greater in cities) (Šprocha and Tišliar 2022). If d-niches are also determined by the chance that offspring will live to reproductive age, then it can be said that in some local population d-niches have been and may still be stabilised by the participation of grandparents, especially (maternal) grandmothers, in the care of grandchildren (Havlíček, Tureček, and Velková 2021; Sear and Coall 2011). The chance of generational coexistence in a single dwelling creates a precondition for the stabilisation of older cultural phenomena, organic changes aimed at preserving the functional elements of the dwelling. The fact that the dwelling is shared by several generations, intergenerational coincidences in the adaptation of new elements are also sought.

(3) The third type of a niche can be described as *psycho-somatic* – in the sense of a feeling of privacy (hereafter: 'ps-niches'). Crossing its boundary is perceived as psychological or physical discomfort from the actor's point of view. Over the last 100 or 150 years, the ps-niche has, on the one hand, become considerably larger over time, but on the other hand, it has also become more intimate. There has been a growing tendency in society towards the individualisation of life, including the so-called second transformation (shrinking of the 'd-niches'). The more the bearer of such niche is able to differentiate his or her feelings through their symbolic representation, and thus to release them, the more permeable the boundaries of the ps-niches become. The individualisation of housing and the construction of new dwellings are directly related to the independence of new nuclear families – which reside outside the traditional multi-generational dwelling – in the middle of the last century and the independence of the individual in the early years of this century. Multi-family traditional houses, which make up the vast majority of heritage properties in the study sites, are occupied by a minimal number of family members. Their capabilities are only a fraction of the necessary maintenance costs. The most affected are the continuous buildings of the oldest and most valuable architecture in terms of cultural heritage.

Heritage objects and new Adaptations

Niches, as most viewed depopulation phenomenon, still influence the character of some rural regions. In depopulating areas of our research, disturbances in the age and sex structure of the population may lead to a reduction or even the disappearance of the possibility to form d-niches. At the same time, however, these areas may be attractive to those who occupy ps-niches putting them in tension with highly urbanised environments (including ecological mindsets).

The long-established strategies and contexts of multi-generational adaptation to particular local community environments carry important material and spiritual cultural messages. Generational continuity and the ability to adapt and change versus variability of cultural values in changing times forms one of the indicative factors for assessing the sustainability of local communities (Acerbi and Parisi 2006; Rogoff 2003; Stoffle, Toupal, and Zedeno 2003). Declining and depopulating local communities do not have the potential to create their own solutions. The original settlements, adapted for a long time in specific spatial, cultural and social contexts, take on other forms, changing the functions of communities to environments where their actors are exposed to new barriers (Murin 2021). In terms of the reception and selection of innovative stimuli, there is a recognisable cognitive asymmetry in heritage protection between depopulating local communities (Case 1) and communities with continuity of growth (Case 2).

The demographic stability of local communities allows cultural transmission to maintain the functions of, for example, artefacts that have been created and tested in response to the environment. Cultural transmission, however, is a low-precision process by its very stabilising-innovative nature. Within the demographic structure of populations, individuals with different preferences for stabilisation and innovation are represented. It is clear that innovative approaches are characteristic of younger generations and stabilising approaches are characteristic of older generations. The quality of intergenerational transmission over time is an important indicator of community vitality. Cultural transmission not only transmits basic knowledge but also the specialisations of individuals, which play a function to the whole local community (Shennan 2001). They therefore always exist in knowledge-based (local) contexts, the mastery of which is particularly sensitive to demographic changes. This is most true for complex skills and knowledge that are created as a rapid response to global change. They are characterised by low fidelity of content transfer and error in transmission (Figure 7). Thus, then, cumulative adaptation processes may not even occur (Henrich 2004); the local community is essentially adaptively stagnant.

Conclusion

The fact that there is error at the level of transmission, content and participants means that local communities need to have enough receivers, replicants and expeditors of the content necessary for the sustainability of local communities. Sufficient size of the local population allows to preserve the vitality of the whole community. Managed adaptations can be reflected in an increase in the local population, which allows the creation of new strategies that are surprising in relation to immanent developments, such as the establishment of new localities. Here, it is possible to see which strategies are being applied, whether they are based on experience and/or experimentation, and to what extent the local variants being created deviate from each other. Already, after a few generations, we can discern that locally characteristic experiences and natural deductions caused by error have created certain norms in the local community that are transmitted with reduced vigilance to selections – namely by traditions (Hobsbawm and Ranger 1983). In the real-world existence of local communities, both adaptive and maladaptive phenomena are naturally represented (Henrich 2004). The fear of increasing error rates is inherent in reducing the number of members of local populations. This is why the normative tendencies towards the reproductive responsibility of the individual in local communities are so prominently represented in their symbolic world (Murin 2021).

The effect of more members of a local community participating in the production of adaptive innovations is obvious, but increasing numerosity runs up against environmental limits – such as the carrying capacity of the environment (Komárek 2009). In depopulated areas, through individual learning, it is possible to acquire specific knowledge and use techniques and technologies whose effect in small local communities was almost immediate. It leads from specifications to the most complex technologies and practices, which are the most difficult to learn and the least subject to error. In this way, the value of the individual rose relative to the value of the numerical consistency of the local population. However, innovations, unlike stabilisations, have much less tolerance for imperfect transfer – copying which puts high pressure on individuals (Henrich and Boyd 2002). The continuity of innovations in local communities requires a perfect environment to reduce the number of transmission errors. Local conditions do not offer such stability; on the contrary, they push any innovation to adapt (Alvard 2003). Here, cultural contents and strategies that are more successful in the long run are those that adapt from both the contents and imperfect transmission of a larger number of expedients. With such demographic evolution of local populations in demographic transition periods of development, we can recognise changes in adaptations from slow to faster adaptation strategies. Here, there is an accumulation of maladaptive strategies such as demolition of whole areas with heritage objects, which in longer evolution reduces the rate of cumulative adaptive evolution of local communities (Švorcová and Kleisner 2017). This process then becomes unsustainable for ever-shrinking local communities.

The correlation between the size of the local population and its opportunities for generating cultural diversity in the search for sustainable strategies is well expressed in the number of variations generated by particular phenomena and strategies (Trommsdorff 2009). Anthropologically, culturally stable local populations continuously generate adapted variants of observed patterns, where the main function of the generated variation is to withstand threats from change (Lawson et al. 2016). How this variation is generated in local communities with continuous increases in both population and variability is illustrated by an example from Case 2.

Using the example of reductive reproduction Case 1, we can show how the maladaptive strategy of reproductive reduction as a strategy for the sustainability of local communities in the face of agricultural innovations evolved in the 19th and 20th centuries. In the first generations that followed the single child model, there was an increase in cultural innovations, technologies and increasing cultural capital of the local community, in the second generation barriers to the spread of innovations caused by intergenerational cultural transmission were created, in the last generations all forces involved in the vitality of culture – imitative, innovative and selective – are already incredibly weak.

As we argued in the article, vertical transmission of heritage contents from generation to generation alone does not constitute a cumulative adaptation of local communities, because the share of individual cultural competence as coping with demographic change is increasing. Local communities that have produced important heritage selections in culture are weakening in competition with virtual hoax information that do not require the immediate geographic proximity of individuals. Collective and social local learning, however, is finding a new function in heritage objects, as strategies necessary for community survival. We could observe its role during the pandemic threat. Cultural drift proved to be the most effective transmission of cultural patterns. For cultural drift to override local cultural heritage strategies in preservation, it must acquire a state where (1) individual learning is incredibly weak, which would mean that even large populations would be extremely slow to adapt because the strength of individual learning does not increase in larger populations, or (2) extinct. Nevertheless, useful ideas and skills will not erode and disappear in an unequal struggle with virtually carried information without systematic selective pressure of local population.

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