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HERITAGE HOMESTEAD TRANSFORMATION INTO RURAL-URBAN HYBRID ENVIRONMENT: CONDITIONS AND CHALLENGES

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Abstract. Hybridization trends between urban and rural environments, where rural environments gain urban characteristics, some rural spatial and lifestyle characteristics remain present in peri-urban and suburbs areas which previously constituted a part of countryside as well as emerging high-tech and low-tech farming trends in the urban environment are commonly observed in developed and developing countries. Lithuania is not an exception from this trend of hybridization of environments. The recent shift of attention of urban dwellers to the countryside during the pandemics with the emergence of new hybrid environments and lifestyles there, justify the aim of this research - to analyse and understand better theoretical and practical premises of creation of hybrid environments in the countryside by transforming historical homesteads and developing sustainability aesthetics. This research includes: quantitative and qualitative literature review and theoretical analysis of hybrid environments and the peculiarities and state of research of such environments in the countryside (rural) context; the analysis of practical aspects of transformation of historical homesteads into hybrid environments in Lithuanian landscape focusing on interaction of tradition, practical aspects, and aesthetics.
Keywords: heritage homestead; hybridization of environments; rural-urban hybrid environments; sustainability

Introduction

In the light of recent global events - the Covid-19 pandemic, the war in Ukraine - the urban residents are thinking more and more about where they could feel safe and secure, where they could find shelter with their families and simultaneously could have a place to live, to work and create. When the first quarantine was declared in Lithuania people were shocked. All the country was looking for a safe place to stay, a way to return home, or maybe to stay at their relatives or parents living quarters in the countryside or even places out of the grid. But the unexpected quarantine stopped numerous people in a position right here right now. After the first wave and when quarantine restrictions were loosened, urban dwellers evaluated the circumstances, actualities and took action. Some moved to their country houses, to collective gardens with a possibility of accommodation, still others looked for workation opportunities in rural tourism homesteads, small log cabins, where one can stay for a reasonable fee and have all the conditions to live and work and possibly avoid the virus (Narkūnienė, 2021). People with substantial regular income or savings have rushed to buy real estate: liveable country houses or farmhouses, abandoned liveable properties in rural areas, farmlands without buildings, properties not suitable for living among others (Alonderytė and Kuzmicka, 2020). After the pandemic, not only did this boom subside, but the market suddenly was filled with farmlands and farmhouses, unfinished projects - homesteads the renovation of which had been started, but not finished, or partially renovated homesteads. Such "country homes" have become forgotten and abandoned. This is the case for many of the renovated and underused farmhouses for sale on the market today, bought during the Covid-19 pandemic. Some new country house owners did not adapt to the rural community, to the lack of comfort, the quality of infrastructure and communication, or the feeling of exclusion. Others naturally longed for small city apartments and flats. However, others stayed in the homestead for the summer, for holidays; while there were some owners, who stayed there to resurrect the heritage of wooden architecture, to create new communities and connections, to adapt the rural spaces to their own, far from rural, needs, thus creating a hybrid rural-urban environment in the countryside.

This recent phenomenon of shift of attention of urban dwellers to the countryside, the emergence of new hybrid environments there, justify the aim of this research - to analyse and understand better theoretical and practical premises of creation of hybrid environments in the countryside by transforming historical homesteads and developing sustainability aesthetics.

Methods of research include qualitative literature review and analysis, observation on sites and recording of hybrid environments in photographs, descriptive qualitative analysis of Lithuanian heritage homestead potential sustainable transformation into hybrid environment based on the theoretical frameworks of sustainability aesthetics (Kagan, 2010, 2011) and ecological aesthetics (Dekay, 2012).

Theory: understanding hybrid environments, peculiarities of hybrid environments in countryside (rural) landscapes

Trends of hybridization of environments. The initiation of active hybridization of environments from spatial and functional points of view can be associated with the start of industrial revolution. Questions of hybridization between urban and rural environments are often observed in literature, where rural environments gain urban characteristics and some rural spatial and lifestyle characteristics remain present in peri-urban and suburbs areas which previously constituted a part of countryside. According to D. Torreggiani et al. (2012), the contact of urban and rural environments results in "patterns with hybrid identities", they note, that such hybridization can be observed at different scales: regional (cities merging into megapolitan conurbations including fragments of rural landscape); urban scale (suburban and peri-urban areas, zones of influence of the city), settlement scale (city quarters, farmsteads, villages, homesteads), and even single buildings in rural and urban settings. The research by D. Torreggiani et al. (2012) and similar studies reveal that such multi-scale hybridization is mainly driven by urbanisation. According to C. Iannucci et al. (2012), this can be identified as a dynamic process of dispersion of the city, which can sometimes determine very fast changes in land use and land cover. Urbanisation as a driver of hybridization is well reflected in the egg analogy of the city development and expansion (Iannucci et al., 2012; Vancutsem, 2011) (Fig. 1). D. Vancutsem (2011) and C. Iannucci et al. (2012) summarise city transformations from Middle Ages to present day using egg analogy: "from the old Medieval city 'compact as an egg' to a post-modern city with intertwined functions (the

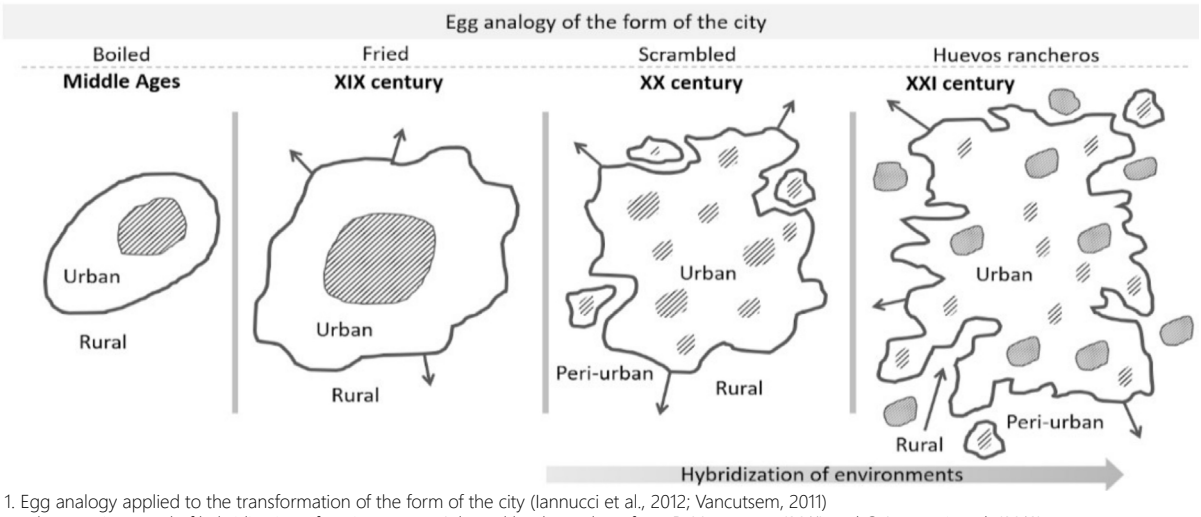

Fig. 1. Egg analogy applied to the transformation of the form of the city (Iannucci et al., 2012; Vancutsem, 2011) reflects the ongoing trend of hybridization of environments. Adapted by the authors from D. Vancutsem (2011) and C. Iannucci et al. (2012)

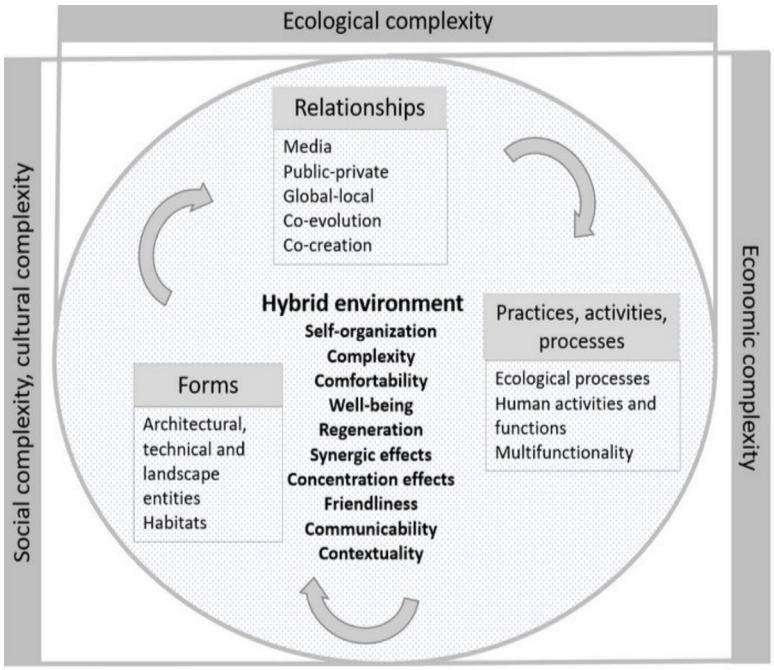

Fig. 2. Summary of features of hybrid environments based on the theoretical model of landscape by J. Stephenson (Hou, 2006; Krasilnikova and Klimov, 2016; Stephenson, 2008)

'scrambled egg') that has finally evolved into a polycentric structure (the 'huevos rancheros') connected by different spatial infrastructures (including the telematics ones)."

Researchers note various processes of hybridization both in urban and rural environments, such as fragmentation in rural spaces (Halfacree, 2006), blurring boundaries between architecture and landscape, between forms and processes, between ecological and cultural realms (Hou, 2006). According to J. Hou (2006), another aspect of hybridity - between ecological and social-cultural realms and functions - occurs in post-industrial cities and must be considered in ecological design. It is possible to summarise, that processes of hybridization encompass urban - rural - natural components, anthropogenic and non-anthropogenic components, human and non-human actors, components, and processes.

Characterization of hybrid environments. Different authors present different aspects of hybridity of environments analysing identity, functions, characteristics, regional differences. For example, J. Hou (2006) mentions dual identity of waterfront transformation projects in post-industrial cities as they result in hybrid spaces with identities both of ecosystem and urban scape. J. Hou (2006) mentions such project examples as habitat barge and salmon spirals, intended both as artificially created habitat for salmon and other fish and simultaneously underwater observatory and playground for children. E. Krasilnikova and D. Klimov (2016) mention the contradictions between global and local identities in hybrid urban spaces. Some researchers (de Souza e Silva, 2023; Leontidou, 2020) distinguish digital space and smart city / smart environment components in hybridization of environments. It is possible to summarise that hybrid environments can have manifold identities including urban, rural, ecosystem, global, local, physical, virtual etc.

Researchers mention functional heterogeneity, multifunctionality and even contradictory functions in hybrid environments (Hou, 2006; Krasilnikova and Klimov, 2016), which are inevitably interconnected with manifold and sometimes competing identities of such environments. For example, J. Hou (2006) mentions combining habitat functions and transportation infrastructure, ecological and public functions, habitats, public access and amenities and the need for negotiations between different and even contradictory functions and processes, such as the necessity to provide access to the waterfront and at the same time to create space for undisturbed development of ecosystems. E. Krasilnikova and D. Klimov (2016) mention integration of

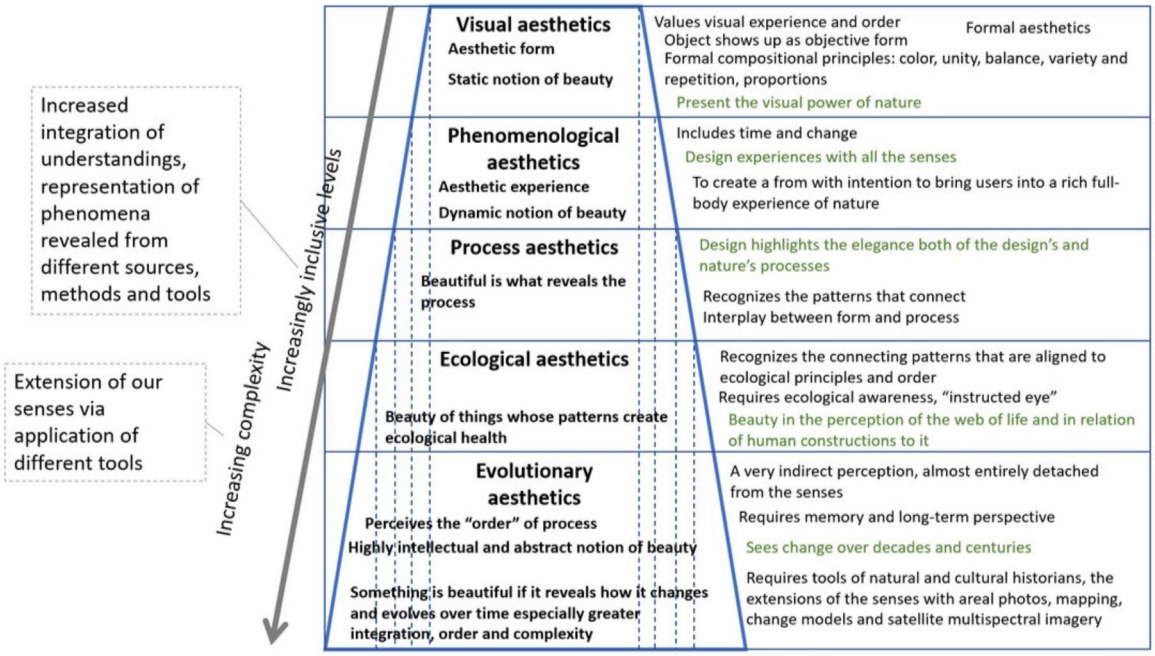

Fig. 3. Stages of perception of ecological aesthetics summarised from M. Dekay (2012)
that can be applied as an analytical framework in order to understand better aesthetic expressions of hybrid environments

residential function, public spaces, and green infrastructure with no clear separation between public and private in hybrid urban spaces.

Various existing and desirable characteristics of hybrid spaces can be identified from literature. For example, D. Torreggiani et al. (2012) mention prevailing ambiguous character of places, where it is difficult to denote clear urban or rural categories. J. Hou (2006) mentions multiple complexities (ecological, social) and expressions and hybrid combinations of activities, identities, and processes. According to the landscape model of J. Stephenson (2008), it is possible to presume that hybrid combinations and multiple expressions of forms, relationships, practices, activities and processes exist in such environments. According to E. Krasilnikova and D. Klimov (2016), hybrid urban spaces contain multi-layer structures, with multilevel public spaces and integrated virtual environments; they also mention such characteristics of hybrid environments as: information capacity, transformation ability, self-organising qualities, synergistic effects. E. Krasilnikova and D. Klimov (2016) additionally distinguish the desirable characteristics of hybrid environment: comfortability, multifunctionality, services for different groups of users, contextuality, friendliness, communicability, historical continuance maintaining genius loci of the place. Fig. 2 presents the scheme summarising components and characteristics of hybrid environments based on analysed literature.

Different characteristics of hybrid environments can be observed in different regions. For example N. Pichler-Milanovic (2007) notes peculiarities of Eastern European suburban areas, which she identifies as ex-urban hybrid landscapes, which are characterised by "commercial developments in traditionally (semi)rural areas, such as new shopping centres, enterprise zones, logistics, warehouses", "coexistence of low- and high-density residential areas", "coexistence of new multi-dwelling housing developments within sparsely settled villages with traditional single family houses on the urban fringe".

General classification of hybrid environments into those existing in urban and rural environments. Based on the research by D. Torreggiani et al. (2012), it is possible to distinguish two general types of hybrid environments for the purposes of this research: hybrid environments existing in urban context and hybrid environments existing in rural context. The examples of first urban type, according D. Torreggiani et al. (2012), are areas and projects that insert into urban settings the elements that are commonly associated with countryside starting from urban agriculture in inner urban or peri-urban areas to farming functions integrated into the envelope of the building. Such hybrid environments in the urban context can be further subdivided into hi-tech farming models (vertical, hydroponic urban farms etc.) and models based on traditional countryside image and direct contact with the ground. Hybrid environments in rural contexts include spaces for business and leisure, shopping malls, entertainment and (agri)tourism centres "ejected" into the countryside (Torreggiani et al., 2012; Pichler-Milanovic, 2007). According to D. Torreggiani et al. (2012), even typical rural activities often aesthetically refer to urban style either due to poor attention to design or deliberately aiming to enhance the image of farming (an intention to show an image of well-being associated with city life). Thus, from one side of view, rural environments - buildings, open spaces, small architecture objects - increasingly acquire urban style and appear as an extension of urban sprawl. They note that recent farm buildings do not differ substantially in their form, materials, colours, and textures from urban buildings. Although another contrary trend was observed by D. Torreggiani et al. (2012) as well, reflected in new insertions into rural environments with exaggerated and mystified countryside identity that often appears out of context and leads to deterritorialization - non-local plants and materials, open spaces are designed without integrating them into landscape. Besides these two negative or ambiguous trends, D. Torreggiani et al. (2012), mention high quality hybrid environments in the countryside with restored traditional buildings and emphasising the relationships between landscape and typical locally produced products. The study by D. Torreggiani et al. (2012) conducted in the Italian context mentions farm wineries as examples of such environments. They conclude that currently hybrid environments in the urban context and the ways of integration of farming functions in the city receive much more attention from researchers compared to countryside hybrid environments; they note that "interdisciplinary work is

needed to analyse how urban functions can be brought into the countryside and improve the quality of rural settlements".

Significance of sustainability aesthetics developing hybrid environments. As it was mentioned by D. Torreggiani et al. (2012), hybrid environments, especially in rural contexts, are struggling with identity, contextuality, and aesthetic expression challenges. Contemporary researchers in the field of sustainability point out the need of distinctive aesthetic expressions of sustainability movement and sustainable environments and even distinguish the need of sustainability aesthetics (Kagan, 2010, 20111).

S. Kagan (2011) notes that sustainability aesthetics originates and is closely linked with ecological aesthetics. S. Kagan (2010, 2011) has based his analysis of sustainability aesthetics and ecological aesthetics on the concept of aesthetics by G. Bateson (1972), who has seen the aesthetic perception as response to the pattern which connects. Accordingly, sustainability aesthetics and its perception are in-depth multi-layered phenomena; thus requiring a stage-wise approach to design and perception (Dekay, 2012) (Fig. 3). According to S. Kagan (2011), sustainability aesthetics should be attentive to complexity, combining and contrasting unity, complementarity, competition, and antagonism at the same time and simultaneously recognizing the meta-pattern uniting the living world.According to S. Kagan (2010, 2011), sustainability aesthetics is both the affective experience of human being's interrelationship with environment and at the same time requires "the ability to perceive connections, commonalities, shared properties between different elements of reality and different levels of reality, at different levels of abstraction". Considering both the complexity of expressions of hybrid environment and the phenomena of sustainability aesthetics and its perception, the framework of perception of ecological aesthetics by M. Dekay (2012) (Fig. 3) was selected as a tool for analysis of aesthetical characteristics of hybrid environments.

Practical aspects: features of heritage homesteads and their transformation and hybridization in Lithuania

Some features of heritage homesteads and their present-day relevance. Lithuanian ethnic culture was professionally studied already at the beginning of the 19th century. After the First World War, the research strongly focused on the spiritual culture and folk art of Lithuanian peasants. Thus, Lithuanian ethnic culture, historic rural landscape development in Lithuania including historic homesteads and villages, is quite well researched topic. Works by Lithuanian researchers K. Čerbulėnas (1958), K. Šešelgis et al. (1965), K. Šešelgis and M. Urbelis (1980), J. Bučas (1988, 2001), J. Minkevičius (2016), D. Puodžiukienė (2014), R. Misius (2011, 2012, 2017), R. Misius and J. Bučas (2009), A. Andriušytė et al. (2013) can be mentioned in this field among others. Diverse aspects of countryside landscape and built structures are analysed: rural landscape history and peculiarities, green structures, landscaping, flower plantings in the homesteads, buildings and architectural features, artistic aspects. It is possible to conclude that Lithuanian rural landscape and ethnic architecture features are well documented and analysed, although sustainable adaptation possibilities of these features and buildings to contemporary needs, their sustainability aesthetics potential are not well researched yet.

Researchers underline complex and peculiar development of Lithuanian countryside landscape. According to R. Misius and J. Bučas (2009), in the historical development of the Lithuanian rural landscape, changes were affected by natural conditions, agricultural technology, economic and socio-political factors including agrarian reforms; changes were influenced by shifts in lifestyles, improvements in construction and material processing technologies as well. According to D. Puodžiukienė (2014), the history of ethnic architecture in Lithuania has spanned many centuries and has no fixed beginning or end. Its chronological development does not coincide with the chronology of professional stylistic architecture. The cradle of ethnic architecture is the wooden countryside buildings. Until the 20th century, around 80 percent of the Lithuanian population lived in villages, farmsteads, manor houses, towns and church villages built with wooden dwellings and other structures. The craftsmen did not pursue innovations, but relied on the tradition handed down from one generation to the next, upheld the notion of harmony that had developed in the region, and gradually improved the usual methods of construction. The structures and shapes of the buildings depended on their functions and the characteristics of the local materials (Puodžiukienė, 2014).

Establishing a homestead. According to ethnic traditions that were followed through centuries, not only in Lithuania, of moving to a new home mainly had two alternatives: a) settling a new homestead on the old existing homestead site, by renovating and fixing the existing buildings, b) building a new homestead by using not only the experience and advice of the elders, the experienced craftsmen, carpenters, stonecutters, but also, often, the expertise of wise men, herbalists or other spiritual authority in the community. Currently emerging nature-based solutions trend in architecture and urban planning encourages analysis and integration of other knowledge systems that go beyond the boundaries of modern science (folk, local community knowledge) in the search for sustainable solutions for our living environment (Eggermont et al., 2015). This research and practice trend is quite new in Lithuania as well. Even if spiritual folk traditions and beliefs are well researched, they are not always connected to the arrangement and management of the living environment. The research by R. Misius (2017) can be noted in this context. He concludes that the interaction between the spiritual culture of the Lithuanian people and their living environment is reflected in Baltic traditions, cosmology, ethno-culture and folk art. According to ethnologist L. Klimka (2011), folk culture and accumulated experience can be interesting and useful today as a subtle method of establishing a harmonious relationship between humans and nature.

Like in our days, centuries ago it was convenient to have a lake or a river near the property. However, people later discovered that through the waterways comes not only water but also invaders, and there is a risk to living in such an open area. The place for a homestead was not chosen occasionally near a hill or a forest for natural shelter from the storms. It was also oriented according to the prevailing winds and the directions of the world (Apanavičius, 2011). Today, these rules are often overlooked when new houses are built in completely new sites. So even though today the energy efficiency of buildings is different, although they may be identical in terms of engineering and materials, due to natural factors, they may operate differently. Thus, if planning to have a house in the rural area, it is advisable to settle in an old homestead and restore it according to present day needs, or at least to obtain a homestead ruin or a place with at least a hundred years of history. Such choice is likely to protect the new owner from the unexpected challenges and help to create a warmer and cosier home.

Arrangement of homestead. Humans cannot survive without water. In most cases, homesteading started with a search for a water source. Thus, every time moving to live in a new place, establish a homestead, or even a village, the first task was to find the underground or the groundwater stream. Consequently, the discovery of the water, digging wells, determined the location of the buildings. For example, ancestral tradition tells us that a wooden house built on an underground water spring is not a good solution and is a sign of bad luck. There is a saying that if you live in such a building, nothing will stay in a house for a long time, neither wealth nor people. Grown-up children will quickly move away, crops will not feed the family until spring, linen cloth will quickly wear out, wool will be eaten by moths, and logs of the house will rot. Some of the claims may be superstition, but the rotting of logs can be truly linked to increased moisture under the house. The cloth will wear and tear faster if kept in a damp room because of humidity and mould. The harvest possibly rots quicker if it is kept in a damp chamber or on a wet floor. Chinese Feng-Shui tradition is well known and widespread today and it is possible to note that it has parallels with Lithuanian ancestors' life practices. It is peculiar that Feng-Shui tradition even today is applied as environmental and design practice together or in parallel with modern scientific approaches (Chen and Nakama, 2004). It was known as well that one should not build a house, or barn too close to a well. This was a custom, but today it is clear that drinking water can quickly become contaminated with slurry if the well is not properly located. Thus even if the arrangement of buildings in the homestead in many cases seems logical, simple, and geometric (Misius, 2012), it was influenced by a number of visible and invisible forces and factors.

As traditional rural life in the homestead was immersed in nature, thus it is not a coincidence that motifs of the natural world were integrated into the decorative features, mainly wood carvings, of homestead buildings and even in the arrangements of decorative flower beds near the house (Misius, 2017). Nowadays such interpretations of nature would be attributed to biophilic design and could also serve as an element or inspiration in sustainability aesthetics.

Plantings in and around the homestead. Today, looking around historical homesteads, it is possible to find old trees - both fruit trees and other seemingly less useful ones. But everything had its purpose in a traditional homestead lifestyle. R. Missius (2012) has identified the historical plantings of the homesteads as the heritage of activity. One of the most characteristic features of the historical homesteads is their extensive tree planting. Trees were planted both for decoration and practicality. According to ethnologist L. Klimka (2011), in the archaic worldview of the Lithuanians, each type of tree had its own mythology, usually associated with the place of manifestation of different deities. From this concept came the tradition of planting diverse trees near the homestead. Large, non-fruiting trees were often planted along the perimeter of the plot (Misius, 2012). Sometimes, avenues or rows of trees were planted to ward off the prevailing wind. These rows were deliberately giving way naturally to grow hawthorn bushes, which protected homestead from the large wild animals, and, in spring and autumn, were the source to fill the house's medicine cabinet with dried blossoms and berries. Lime trees were valued for their blossoms, bark cordage, small nuts, and birch trees for bathing brushwood and brooms, and even spruce trees, whose buds in late spring helped to replenish the vitamin C deficiency in the family diet. R. Misius (2012) notes in his research that in the homesteads in the Sudovia region even after 1930 owners tried to plant protective planting and garden plants in orderly rows, but also adapted the plantings to the existing natural conditions, such as the terrain, the water bodies and the quality of the soil, i.e. did not forget the old traditions of planting in homesteads. Lithuanian artist and Baltic culture proponent V. Kašinskas (2021) writes in his research and texts that the spruce tree is a door to the other world, but at the same time, it is a symbol of the tree of life, of the evergreen - the living - plant in the homestead. Meanwhile ethnologist L. Klimka (2005) argues differently, according to his research, spruce trees were not generally planted close to the homestead for safety reasons, as they tend to topple over in the wind, along with their roots, and can damage buildings. So, they were only planted specifically for shelter throughout the year, or if they sprouted unexpectedly. Alleys lined with lime trees held a strong, natural base out of the roots, between the trees. Horses and carts did not get stuck here, opposite - the wind was less likely to blow snow on the travellers, and in the event of rain, the foliage gave protection from the storm. On a sunny day there was protection from heat. Blossoms, leaves, branches, and even linden bark were used in the household: as medication, as food, and also as shoe and vessel-making material. Even today, such avenues are still there - they are a delight to the eye, but perhaps they no longer meet the needs of modern humans. Although these sustainable and useful properties of green structures can be rediscovered again.

Tall trees away from buildings often acted as lightning rods. To have the oak tree nearby was some kind of honour because oak was a sacred tree, it looked majestic, but our ancestors avoided it in very close proximity to buildings. Oaks were valued for the strength of their wood, for their acorns, which helped to survive people in times of famine, its flour was mixed with ray or wheat flour, to bake bread or boil porridge. But even when setting up a homestead, it was chosen a safe distance from the oak tree. It is known that this tree has much more iron in its body than other trees commonly found in Lithuania, so it performed the function of a lightning rod near the homestead. Nobody was surprised by an oak tree catching lightning and igniting after a thunderstorm. Oak tree was even considered as a tree of thunder by ancient Balts (Klimka, 2011). Nowadays the excessive love for trees makes people build their houses under the huge old trees, especially oak. Centuries-old trees look charming and impressive next to houses, but our ancestors had more experience and knowledge and combined it with the aesthetic solutions, and looked at such cases more practically.

Protection of landscape. Before the Second World War Lithuanian homesteads maintained harmonious interconnection with landscape and constituted its inseparable part; the aesthetic symbiosis was formed by the natural resources (land relief, naturally grown trees, bushes, and forests) of the countryside and the traditions of the past centuries, still cherished by the people whose families were still full of stories about their ancestors, people who cherished nature and were able to live in harmony with it. According to J. Treinytė (n.d.), Lithuanian folk culture is built on the foundations of natural civilization (Baltic culture). The old Lithuanian customs and folk songs show the traditions of a very old culture, in which the worldview of the Tree of Life, of the unity of man and nature prevailed. Hundred or more years ago, it was rare for anyone to cut down forests on their land. Firewood was prepared only by clearing the forest of dead wood or fallen branches. Even after a storm, fallen trees were carefully tidied up and used for timber and construction, and only what was left was used for firewood and fences. Each timber had its purpose, and only beams or serious structures were made from oak, not floors or every window sill.

Fig 4. Historical homestead transformation into an open museum - hotel (architect - Mantas Maziliauskas), Pagulbis village, Molėtai district municipality. Photographs by I. Raudnikytė

Fig. 5. Barn transformed into a party hall with a professional kitchen (architect - Mantas Maziliauskas), Pagulbis village, Molėtai district municipality. Photographs by I. Raudnikytė and L. Garbačauskas

Such practice today could be referred to as sustainable forest management.

Seamless transformation of heritage homestead into sustainable rural-urban hybrid environment. When a person steps on making a decision to obtain a house in the countryside, it is important to clarify the vision of the homestead. The formulation of the vision could start with a purpose. Why does someone need a homestead? Is it needed for developing rural tourism (Fig. 4, 5), as a living property, for recreation - weekends or holidays (instead of a collective garden), farming, for another type of business, etc.? The envisioned concept of a homestead usually reflects previous experience of the owner. For those who have a vision of an ancient, ethnographic homestead - a wooden, log, centuries-old house, built on a foundation of broken stones - will often find an ancient sauna, a barn, a shed, and a cellar besides an old house in such a homestead. Settling in such a homestead there is no necessity to change lifestyle and, for example, to take up farming, giving up modern life amenities. Seamless transformation of historic homestead into hybrid environment adapted to contemporary lifestyles, preserving local character and sense of place, is possible. Those who plan to live in an authentic homestead will soon enough appreciate the advantages of a sauna, and will easily convert a barn or a stable into an outbuilding or even a garage. The barn, as a rather large structure, can become a great space for summer entertainment (Fig. 5), a place for overnight guests, or a family museum. Such an approach is referred to as adaptive re-use.

Adaptive reuse is adopted as a process of modifying, adapting and reusing obsolete buildings with their existing structures to extend their life cycle whilst performing a new function. According to A. A. E. Othman and E. Heba (2018), the adaptive reuse of a historic building should have minimal impact on the heritage significance of the building and its setting. Adaptive re-use requires much less investments and is much more sustainable compared to building a new country house (Hefley, 2010) on the empty spot or even in the site of a vanished village. Moreover, historic, traditional buildings are considered as inherently sustainable. According to A. Hefley (2010), honouring ancient principles and harmonising them with contemporary concepts like sustainability can result in an ideal level of integrated design. Moreover, according to A. I. García and F. Ayuga (2007), reuse of historic countryside buildings and their surrounding features could play a part in landscape protection and restoration, and reduce the total number of new buildings required in rural areas.

Physical condition of the buildings plays an important role in the successful adaptive re-use, thus the best option for such a transformation is a homestead that is both well-maintained, well-preserved, and authentic. The house is the most important structure in the majority of cases; thus, it is always worth checking the condition of the first log crowns and the ones under the windows for signs of rot. Whether the walls are free of vermin. Last but not least, it is important to check that the wall timbers are not badly decayed, or damaged by mould, fungi, and rot. In the case if the house has been covered with polythene sheeting and the surrounding area has not been mowed for many years, it may occur that the outdoor plants may have grown under the coverings and fed on the moisture in the wall timbers for years. Regarding the exterior of the house, primarily roof and the windows, the new owners often think about replacing old tin or slate, and insulating the roof, so the condition of the existing roof will

TABLE 1

Analysis of sustainability aesthetics expression and perception of transformed homesteads in different levels of depth and complexity based on the theory of ecological aesthetics by M. Dekay (2012) based on analysis of literature and own observations(created by the authors)

#	Establishing homestead	Arrangement of homestead	Plantings of homestead
Visual aesthetics (aesthetic form)	Harmonious integration with the natural landscape, using traditional materials that blend with the surroundings. Architectural styles that reflect the local heritage, with modern touches subtly incorporated.	Symmetrical and visually balanced layout, traditional architectural forms with clean, contemporary lines. Consistent use of materials and colours that reflect the local vernacular.	A visually pleasing mix of native and ornamental plants, traditional garden layouts enhanced with modern design elements. Well-maintained old trees and thoughtfully placed flower beds that create a visually appealing composition.
Phenomenological aesthetics (Aesthetic experience)	Sensory experiences such as the sound of wind in the trees, the smell of blooming flowers, and the texture of natural materials. Creating spaces that encourage interaction with the landscape, such as pathways and seating areas with scenic views.	Intimate and comfortable spaces that foster a sense of home. The use of natural light and ventilation to create a pleasant indoor environment. The flow between indoor and outdoor spaces enhances the living experience.	Gardens that engage the senses with seasonal changes, such as blooming flowers, fruit-bearing trees, and changing foliage. Spaces designed for relaxation and contemplation, such as shaded benches and fragrant flower beds.
Process aesthetics (Aesthetic that reveals the process)	Visibility of construction techniques that showcase craftsmanship, use of locally sourced materials. Informational signage or visual cues that tell the story of the homestead's development and its connection to the land.	Design elements that reveal the construction process, such as exposed beams or bricks. Spaces that show adaptive reuse of old structures, maintaining a balance between preservation and modernization.	Gardens that demonstrate sustainable practices, such as composting areas, rainwater collection systems, and seasonal planting. Visible growth stages of plants and trees that illustrate the ongoing process of cultivation and care.
Ecological aesthetics (Aesthetics of patterns that create ecological health)	Natural landscapes that support local biodiversity, integration of ecological corridors. Use of permaculture principles to create a self-sustaining environment that harmonises with the natural ecosystem.	Buildings positioned to maximise energy efficiency, use of renewable energy sources. Water management systems like ponds or wetlands that enhance ecological health.	Diverse plant species that support pollinators and wildlife, use of native plants. Gardens designed to enhance soil health and water retention, contributing to overall ecological balance.
Evolutionary aesthetics (Aesthetics that reveal evolution over time towards greater integration, order and complexity)	Historical layers visible in the landscape, showing the evolution of the homestead over time. Preservation of old pathways and structures that tell the story of the homestead's development.	Buildings that evolve with changing needs, showing a blend of historical and modern architectural elements. Adaptive reuse of old buildings with visible layers of modifications and improvements.	Mature trees and long-established plantings that reflect the passage of time. Succession planting in gardens that demonstrates planning for future growth and sustainability.

reveal whether the structure has been wetted or damaged by roof neglect, and whether rainwater has dripped down the walls, or been drained down gutters or downspouts away from the foundation. Tidy old windows, if they still have extra glass used in winter, will certainly serve well in the first place before installing new, warmer, and more economical wooden framed windows. However, it is recommended to consult with wood restoration specialists to see if existing windows could be restored, repaired and used for many more years. According to A. Hefley (2010), when a historic feature vanishes, so does a quality of craftsmanship that is not dictated by mass production. A foundation is like a live creature's legs, if it is healthy, the house will stand for decades; loose boulders or brick foundations can easily be strengthened and insulated with modern means. If the foundation is not strong and of poor quality and has not been repaired and maintained for years, it can hide the critical condition of the whole building.

It is important to look at the internal walls of the house to see if any 'modern' materials have been used on the inside of the building, such as plastic cladding, improper paint, or homemade impregnants made out of used motor oil, that prevented natural timber from breathing or even polluted it. The condition of the ceiling is also very important, as it is often the slab of the house, whether it is badly warped, whether the beams are strong and whether they will need to be replaced or supported urgently. When inspecting the inside of the house, it is worth looking at the kitchen stove. It is great if the house has been recently inhabitable and the stove has been fired. Probably with minimal repair or a technician's inspection, it will be possible to use and enjoy the appliance. Often homesteaders decide to demolish stoves as unsafe and space-consuming. Although in the event of a serious winter storm it can become a source of heat or even a place to make a cup of tea.

The surroundings of the homestead buildings play an important role in the successful adaptation for contemporary lifestyles. Inspecting the plot of the homestead, it is important to check that there is a functioning, well-maintained well on the plot. If it has been used for its intended purpose until recently and has clean, tasty water, it is an advantage. When a borehole is drilled, no one knows in advance what the water quality will be, and what smell or taste it will have. Sometimes it is very expensive to find a solution to remove the smell of hydrogen sulphide or iron from water. It is not only the buildings that frame the homestead on the map, but also the plants, the trees, and the landscape. A little bit further from the homestead garden will usually be found; maintaining such a traditional garden or applying contemporary sustainable gardening techniques, such as permaculture (Perry, 2013), will help to align with the rhythms of nature and rural life instead of introducing suburban landscaping trends into countryside context. Experience from developing countries demonstrates

that sustainable integration of traditional farming and permaculture is possible (Perry, 2013).

Finally the theme of co-existence with wildlife needs to be taken into account. The newcomers will surely encounter the natural neighbours such as moles, beetles, hares, beavers ect. It is important to understand that living in the homestead differs substantially from city life with a piece of lawn. Moreover, living and growing surrounded by nature has positive educational impact: a number of cross-cultural studies indicate that positive experiences in the outdoors during childhood represent the single most important factor in developing a personal concern for the environment (Snively, 2007).

Sustainability aesthetics of transformed heritage homesteads.Aesthetics is an important factor in historic homestead transformation together with functionality, heritage preservation, and maintenance of traditional landscape character and ecological balance. Currently, various trends of aesthetic formation of countryside homesteads exist, they influence one another, sometimes even forming distinctive contrasting trends. Aesthetic ideals are often very durable, and therefore also form the basis of social acceptance and protection. There is a risk of social rejection if the generally tolerated aesthetic norms change (Malakauskienė and Kučinskienė, 2012). With reference to R. Malakauskienė and J. Kučinskienė (2012), we are currently in the process, where an ecologically motivated ruderal aesthetics tries to win acceptance over traditional countryside landscaping and suburban aesthetics with neatly cut lawns, bright flowers and topiary shrubs. Bearing in mind the threat of dissonant intrusion of urban and suburban aesthetics into valuable countryside settings while adapting the homesteads to the present day needs, it is important to devote special attention to aesthetic expression and perception of the homestead and its environment.

Considering this, the analysis from the sustainability aesthetics (aesthetic experience of sustainability ideas) point of view, and how the sustainability aesthetics of transformed homesteads can be perceived in different levels of aesthetic perception was carried out applying the theory of ecological aesthetics and its in-depth stage-wise perception formulated by M. Dekay (2012). Five levels of aesthetic perception according to complexity and depth (Visual aesthetics (aesthetic form); Phenomenological aesthetics (aesthetic experience); Process aesthetics (aesthetic that reveals the process); Ecological aesthetics (aesthetics of patterns that create ecological health); Evolutionary aesthetics (aesthetics that reveals evolution over time towards greater integration, order and complexity)) (Dekay, 2012) and three aspects of the homestead and its environment (Establishing homestead (location and integration in landscape); Arrangement of homestead (buildings and their location); Plantings of homestead (garden, orchard, flower beds, trees)) were distinguished. Features (expressions) of five above-mentioned levels of aesthetics, how they would present themselves in each of the three distinguished aspects of the homestead are presented in table 1.

Bearing in mind that superficial simplicity of the homestead in the countryside hides invisible aspects, cultural depth, connection with nature civilization (Treinytė, n.d.), its seamless transformation with respect to traditions together integrating contemporary sustainability practices is recommended. It is possible to conclude that adaptive re-use and seamless hybridization and transformation of the homestead extends the life of historical patterns in the countryside landscape and preserves cultural heritage and results in harmonious ecological aesthetics. At the same time, maintenance of traditional gardening and orchards, preserving the existing trees and co-existence with local wildlife helps maintain ecological balance of environment and ecological attitude and tuning into natural cycles of the locality of homestead owners.

Conclusion

The analysis of possible transformation of historical homestead into hybrid environment using the case of Lithuania has revealed the significance of tangible and intangible heritage in such a process. Depth and complexity of hybrid environments in the countryside landscape and their potential multi-level aesthetic expression and perception require specific approaches for better understanding. The theory of ecological aesthetics and its in-depth stage-wise perception formulated by M. Dekay (2012) was applied in this research in order to better understand the possibilities to create meaningful sustainability aesthetics in historical homesteads adapted to the present day needs. Exploring the sustainability aesthetics of transformed Lithuanian homesteads from various levels of aesthetic perception (Visual aesthetics; Phenomenological aesthetics; Process aesthetics; Ecological aesthetics; Evolutionary aesthetics) can provide a comprehensive understanding of how to create a hybrid rural-urban environment while maintaining the authenticity of the homestead and fostering environments that are both aesthetically pleasing and ecologically sound.

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Kopsavilkums
Transformācijas tendences starp pilsētu un lauku vidi, kur lauku vide iegūst pilsētnieciskus raksturlielumus šobrīd piedzīvo pārmaiņas. Dažādas lauku telpiskās un dzīvesveida iezīmes ir saglabājušās piepilsētu teritorijās, kas iepriekš veidoja lauku teritoriju, bet paralēli notiek transformācija ar tehnoloģijām lauksaimniecībā, kas bieži novērojamas attīstītajās un jaunattīstības valstīs. Lietuva nav izņēmums, vadoties pēc vides transformācijas tendencēm un procesiem. Nesenā pilsētnieku uzmanības pārvirze uz laukiem pandēmijas laikā, līdz ar jaunu hibrīdvides un dzīvesveida rašanos noteiktās teritorijās rakstā attaisno pētījuma mērķi – analizēt un izprast labākas teorētiskās un praktiskās telpas hibrīdvides veidošanai laukos, pārveidojot vēsturiskās viensētas un attīstot ilgtspējības estētiskos jautājumus. Pētījums ietver: kvantitatīvu un kvalitatīvu literatūras apskatu un teorētisko analīzi par hibrīdajām vidēm un to īpatnībām un stāvokli lauku kontekstā, vēsturisko viensētu transformācijas procesiem Lietuvas ainavā, pievēršoties tradīciju, praktisko aspektu un estētikas mijiedarbībai.