

## Summaries

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### **PANDEMIC AS AN IMPULSE FOR THE DEVELOPMENT OF SUSTAINABLE TOURISM ALONG THE DANUBE RIVER**

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*Keywords: sustainability, Danube, genius loci, identity, image, city, COVID-19*

The coronavirus pandemic (COVID-19) is a challenge to the world – primarily from the medical and economic point of view – but also to the search for new forms of tourism and the urban environment. Prior to mass vaccination, the main strategy to manage a pandemic were non-pharmaceutical interventions. Global travel restrictions and "home" regulations have caused the most serious disruption to the global economy since World War II. International travel bans affecting more than 90% of the world's population, widespread restrictions on public gatherings and community mobility have severely curtailed tourism since March 2020. Evidence of impacts on air transport, shipping and accommodation has been devastating. According to available statistics, world tourism fell by 35-90% in 2020 compared to 2019. Yet, there are differences between countries. Tourism is particularly sensitive to measures against pandemics due to limited mobility and social distances. The paper compares the effects of COVID-19 with previous epidemics, pandemics or other types of global crises. Above all, however, it examines how a pandemic can change the society, economy, tourism and its projection into the territory. It discusses why COVID-19 is analogous to the ongoing climate crisis and why the mass growth tourism model needs to be questioned. The method to improve responsible access to our planet and ensure safe recreation for its population is sustainable tourism. It is environmentally friendly through the sustainable use of natural and cultural resources. In addition, it is able to support declining regions, thereby ensuring their economic sustainability.

The Danube Region is one of the regions in Slovakia that has seen a decline in industrial production since 1989. While the decline has been partially replaced with new business activities based on a market mechanism currently reflected in the outflow of population from the region, the Danube Region has natural and cultural heritage, and the abilities of its population, which should be adequately assessed. The Faculty of Architecture and Design STU in Bratislava mapped the unused cultural heritage and resources in small and medium-sized towns on the Danube River. Research in individual regions, including the Danube Region, evaluated the special character of the environment, cultural and natural heritage and pointed out the possibilities of its valorisation in the form of a developed strategy. Based on the principle of sustainability, its goal is to transform regions and cities through sustainable tourism, which can bring economic benefits to declining regions.

Based on common research results of the DANURB, the following subject areas typical of the regions around the Danube with potential for sustainable tourism have been identified:

- Fortifications – fortresses, castles, and bunkers from different periods – Limes Romanus, from the period of Byzantium, the medieval period, the period of Turkish invasions, the 20th century);

- Building culture – church buildings, monasteries, archaeological sites, historic buildings, historic city centres, art galleries, museums ...;
- Technical buildings and monuments – bridges, ports, mills, industrial buildings and areas, water towers ...;
- "Water" tourism – spas, swimming pools – thermal baths, natural swimming pools – beaches, waterways, but also the waterfront and waterfront promenades;
- Green tourism – tied to the natural landscape (nature reserves, floodplain forest ...) and the cultural landscape (vineyards, gardens, orchards, fields ...);
- Traditions – intangible culture, such as theatre, folklore, music and art culture, festivals, gastronomy, viticulture – viticulture.

In the territory of small and medium-sized towns of the Danube Region in Slovakia, historical monuments (historical town centres, fortification system, churches ...), technical and industrial monuments, or interesting architecture of the socialist period are a valuable potential for cognitive tourism. The region is rich in natural conditions connected mainly to the Danube, its tributaries and other water areas, but also to thermal springs and cultural landscape cultivated for many centuries, which creates ideal conditions for relaxing tourism, sports, but also the so-called slow and experiential tourism.

The strategy for the development of sustainable tourism in the Danube Region is based on several pillars:

- The specific conditions of the region support relaxation-sports-residential tourism, such as medical-recreational tourism linked to thermal springs, water areas, agro-tourism, or golf stays ...;
- The thematic or cognitive circles along the Limes Romanus and fortress systems, or wine routes, including their connection to adjacent regions;
- The comprehensive experience within one region linking different subject areas.

In the proposed strategies based on the support of urban and regional identity, it is necessary to monitor both the spatial characteristics of the area (peculiarities of urban and natural structure) and their human activities. Only a balanced relationship between these factors provides the preconditions for the formation of a harmonious and sustainable environment, both for residents and visitors.

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## **ARCHITECTURAL DESIGN QUALITY AND SOCIAL SUSTAINABILITY IN BUILDING CERTIFICATION SYSTEMS**

**Lucia Oberfrancová, Martin Wollensak**

*Keywords: sustainable architecture, building certification, architectural design quality, social sustainability, user satisfaction, quality of life*

The main objective of the study is to examine to what extent the architectural design quality and social sustainability are taken into account in building assessments. As part of the study, criteria of chosen certification systems and profiles relevant to social, aesthetic and design quality have been analysed, evaluated and compared. The following most commonly used building assessments in Europe (focus on Germany, Slovakia and Czech Republic) have been investigated: BREEAM, LEED, CESBA, LEVEL(s), DGNB, BNB, BNK, NaWoh, SBToolCZ and WELL.

After extensive research of selected certification systems and various sources on topics such as conditions of well-being, sociocultural indicators, assessment of social performance of sustainable buildings and design quality assessment, the main social and architectural quality aspects were determined and used for fur-

ther analysis and final evaluation. The features to be considered were chosen according to their relevance to building-related quality of life (categories of user satisfaction and quality of life, sustainable and healthy lifestyle), to the building-related aesthetic and design quality, if it was a goal of the criterion (category: architecture – design quality), and to the social responsibility aspects that are indirectly related to buildings (category: social responsibility). The category of innovation is a little part of some certification systems and was evaluated only if the indicators are relevant to the topic.

The article contains a summary of results with overall evaluation and comparison of certification systems including weighting of studied categories in selected building assessments. Furthermore, indicators introduced in certifications associated with the quality of life and the quality of architectural expression and their weighting are described and presented. Slightly subjective interpretation and little deviations in results in the process of the categorising and weighting of the criteria cannot be avoided in some cases, as the certification systems, schemes and the method of criteria rating within the certification differ very much.

Overall, average weighting of building-related social sustainability is 37.74% – a little bit more than 1/3 of all criteria in certification. Average weighting of the category of user satisfaction and quality of life and the category of sustainable and healthy lifestyle is 25.54% and 11.97%, respectively. Innovation aspects relevant to social sustainability are given 0.23% on average. In total, the highest average weighting of building-related social sustainability aspects can be found in certification profiles: buildings in use and operation and maintenance, the lowest is given to profile interiors. This shows that the influence of a building on the user's lifestyle in building operation stage is deemed to be of high importance. Indicators in the category of user satisfaction and quality of life are divided into four groups: health, comfort and well-being (e.g. physical conditions such as thermal, acoustic, visual comfort, indoor air quality and healthy resources such as avoidance of hazardous materials, VOCs / formaldehyde restrictions); inclusion and equity (e.g. accessibility, universal design); safety and security (e.g. crime prevention, emergency preparedness, resilience and recovery) and user satisfaction (e.g. whether users can control their interior environment, such as temperature, light, ventilation, etc.; occupant surveys). Similarly, the category of sustainable and healthy lifestyle consists of four groups of indicators: physical health and psychological well-being (e.g. access to nature, opportunities for physical activity and relaxation); motivation to sustainable behaviour (e.g. user-friendly facilities for waste separation, energy monitoring display); education / communication with users (e.g. info-events, sustainability guide, technical manual) and mobility (e.g. facilities for active occupants, alternative forms of transport).

The category of architecture – design quality consists of three groups of indicators: design quality (e.g. architecture and urban design competition, independent panel of experts), design strategies (e.g. regional priority, flexible design) and participation (e.g. integral planning, scope of requirements planning). The weighting given to building-related architectural quality in certifications is 5.64% on average. Considering different certification profiles, the highest average weighting of design quality of 10.94% is given to interiors, the lowest of 0.4% to the profiles - buildings in use and operation and maintenance. In addition, DGNB introduced an additional certificate DGNB 'Diamond' to recognize and appreciate well-designed architecture. Besides certification systems, there are tools developed specially to assess design quality of buildings, for instance UK Design Quality Indicator (DQI). There is an interconnectedness between design and social quality criteria which shows that design quality is extremely important for user well-being and satisfaction.

The category of social responsibility consists of three groups of indicators: responsible sourcing (e.g. use of regional and certified materials), influence on the district (e.g. attractiveness, air, noise and light pollution reduction measures) and construction site (e.g. low-noise, low-dust and low-waste construction site) and is weighted on average at 5.24%.

The importance of sociocultural aspects has been recognized in sustainable building certification systems. Still, such topics as user satisfaction, quality of life

and health or design quality are rather subjective in comparison to measurable environmental and energy-saving indicators and require individual assessment.

## **SCALE OF COMMUNITY CENTRE: CLARIFICATION OF THE RELATION BETWEEN SCALE AND MULTIFUNCTIONALITY OF COMMUNITY BUILDINGS**

**Miriama Butková**

*Keywords: community centre, community architecture, scale, multifunctional, design guidelines*

Community architecture is gaining popularity for its potential to encourage community interaction and strengthen community ties. It is becoming a contributing tool for community development. Community architecture represents not only the final product of architectural design but also the design process. It covers many kinds of community interventions and efforts of different extent; from tiny public space interventions and neighbourhood projects to a complex design of community centres or designing comprehensive urbanistic structures focused on community well-being. No matter the scale, the goal is the same: to provide space for leisure activities, networking, and reinforcing a sense of community.

The community centre can be perceived as the most apparent design concept representing community architecture. The design considers design approach, relationship towards users and their involvement in the design, urbanistic relationships, architectural appearance, materials, spatial and functional requirements, interior design, equipment, and furniture solutions. It provides space for meetings and interaction, and its program derives from the needs of a specific community.

The community architecture theory, along with the community centre typology, is an under-explored phenomenon in Slovakia. Thus, there is a lack of methodical design recommendations or guidelines for such a design. The author's previous article titled Community Architecture (ALFA 3/2020, pp. 3–12) covers the theoretical background. With listed examples of executed Slovak designs and basic categorization, the paper provided introductory knowledge of community architecture. In turn, the current article focuses on community centres more in detail.

The detailed analysis of implemented designs allows the identification of prevalent features, patterns, and their interrelationships. The article focuses on 100 selected community facilities executed and introduced online in recent ten years (2010-2020). Research is a part of the author's elaborated dissertation thesis named Community Centres. The presented part of research aims to examine fundamental characteristics of community centres, particularly their multifunctionality related to the character of the space, and the scale related to size in square meters. The article verifies the premise about the direct relationship between scale and multifunctionality. The goal is to endorse this generalized finding while bringing a better understanding of scale categories.

The examination of all characteristics led to two significant findings related to scale, building status, and multifunctionality. Research did not confirm any relationship between the scale and status of the building. However, it verifies the dominance of new community buildings over reconstructions and conversions. According to the results, there is an evident relationship between centres' scale and multifunctionality supporting the research premise. However, ambiguous data available in relation to one of the scale categories will stimulate further research of the issue. The results suggest new size categories, which clearly describe the relationship between the two mentioned characteristics.

There is a vast potential for multidisciplinary research of community architecture to enhance knowledge of this concept. Methods of participation, community psychology, or neuroarchitecture are mentioned to name a few. The study of 100 executed projects brings a better understanding of the community building concepts. The findings of research may serve as design guidelines for further design practice.

## ROLE OF COLOUR IN ECOLOGICAL APPROACH TO PRODUCT AND MATERIAL DESIGN

Soňa Otiepková

*Keywords: colour, design, ecology, circular economy, recycling, sustainability, bio-based materials*

The aim of this research paper is to map, document and classify new, progressive and perspective approaches to colour in product and material design. The purpose is to identify the impact and importance of colour in the creation of new materials and products from an ecological point of view. This approach is also defined in the Declaration of Design (Montreal, 2017), whereby one of the basic pillars is, when designing new products, the challenge to take into account their environmental impact, while recognizing the importance of design in shaping the world.

The majority of current progressive approaches to design creation and research is set in an ecological framework, taking into account their impact on the environment. Before examining the role of colour in the ecological approach to product design, it is necessary to answer a few questions - What is the role of designers today and what are their obligations and responsibilities in design? What position do they have in the process of creating new redundant products? The new generation of designers responds to the change from linear to circular economy; using their creative skills, they seek to positively influence the changes that are currently taking place in the society.

The question is not whether colour is present in this process, but rather where it stands in this process, whether it can help it and how much it affects it. One of the aims of this article is to raise awareness in this area and arouse interest in and discussion on this topic.

In a study conducted by Satyendra Singh of the University of Winnipeg published in 2006, the importance of colours in creating new products is reflected: *"People make up their minds within 90 seconds of their initial interactions with products. About 62-90 percent of the assessment is based on colours alone."* Also according to the study: *"84.7% of consumers state that colour is the main reason that they buy specific products."* This means that colour in design cannot only be an artistic aspect conditioned by the artistic feeling of the creator, but rather is a very important tool influencing the consumer's perception and the success of the product on the market.

The concept of colours in design is often overlooked and relegated to the background. The potential of colour in the context of sustainability is not currently being researched sufficiently and limited research has been devoted to this topic. Another problem that appears, when approaching this topic, is to understand and overcome how manufacturers and corporations have bent our perception of colour in recent years, in order to grow the sales and consumer lifestyle. It is also time to question the persistence of colour, which today is designed to last much longer than the product itself. This approach leads to the use of synthetic and chemically enhanced colours, which on one side have the "right" properties; on the other side, they make these colours non-ecological and hard to recycle.

To understand better the function of colour in the designing and manufacturing process, it is necessary to mention the colouring process itself, which defines how the colour gets on the material or product and where it is present. With the current trend of recycling and creating new materials and products from waste materials, in addition to the traditional methods of colouring products, another one is emerging, whereby the colour aesthetics of the final product is determined by the admixture of coloured pieces of waste materials. This method creates a new visual aesthetic and the heterogeneous surface of the product, in which several colours and materials are mixed, is now becoming a hallmark of recycled products.

In this research paper, we consider the approach of product and material designers and researchers to colour in an ecological context, as a stand-alone group of design and material creation. Within this main group, individual approaches can be classified into four basic principles, which the paper defines and describes.

The main key and criterion to classification of these principles is, apart from the ecological aspect, the presence and importance of colour in the individual strategies, and the nature and composition of the material to which this strategy is applied. Exemplary works of specific designers are given for each group for a better understanding of their essence.

Based on research data, there is an infographic included in the research paper that aims to capture, where the colour enters the circular design process. The position of colour on the circle is closely related with the colouring process of products and materials.

The principles and approaches classified in this article have no fixed boundaries, they are not isolated. They influence or follow each other. The classification of the approach to colour in an ecological context allows us primarily to talk about it more professionally and to attempt to define its importance and role in individual approach. As implied by the research part of the article, colour is an integral part of the manufacturing and designing process and we have to have it on mind to achieve real circularity. Failure to employ the potential of colours in shaping new circular and ecological approach would be a missed opportunity.

## **TEMPORARY USE OF ABANDONED BUILDINGS**

**Marie Joja**

*Keywords: temporary architecture, pop-up, vacancy, abandoned buildings, archi-pop*

Temporary architecture is a way to produce an instant experience. It focuses on a specific location and develops unique tactics to activate it. It adapts to the site, which is often abandoned and backward. Temporary use concentrates on a single purpose and its influence at a given moment. It reflects the current economic state and situation in adjacent neighbourhood and community and aims at becoming a catalyst for a permanent change.

Empty buildings represent a valuable resource for urban development of the area. They belong to the category of areas suitable for reconstruction. There exists functioning urban infrastructure, networks and transport services. Their activation contributes to the recycling of areas within the urban structure, increasing the efficiency of land use and contributing to the sustainable development of the territory.

In temporary architecture the effort is concentrated on a single purpose and its effect over a limited period of time. A plan of temporary use should take into account the requirements for the preservation of historical structures as well as an introduction of a permanent function. An abandoned building will thus be in the centre of attention along with its surrounding. Unused areas are often associated with bad reputation as they attract unwanted or illegal activities. Temporary functional content becomes an impulse for urban renewal.

Research is based on a hypothesis that temporary use is an architectural tool to initiate a long-term activation of abandoned buildings. A method of analysis of individual case studies was employed. Pop-up projects selected for research are located within Europe given the cultural link to the Czech environment. Individual criteria are observed and analysed.

Case studies are listed with emphasis on their diverse distribution within urban structures. The current success of pop-up activities is based primarily on the location in large cities due to concentration of inhabitants, a wide range of functional options and higher successful rate.

Listed projects succeeded in activation of vacant premises and all of the selected were supported from the start by favourable conditions of lease in form of symbolic zero or energy fees. In summary, the financial optimisation is vital for temporary activation of abandoned buildings to be successful.

Archipop is a newly established database created by the author which focuses on the topic of temporariness in architecture. Its aim is to map successful activations of abandoned buildings by means of temporary interventions in Europe. Archipop is a product of a complex search for examples of a temporary activation activity. Individual pop-up projects are difficult to be found. There is an increasing demand for detailed information about the specifics of temporary use. Archipop is launched as a publicly accessible website providing a complex set of information about temporary use of abandoned buildings. It pursues the aim to become a valuable resource of data for the topic of successful revitalisation of unused areas.

Temporariness is a tool for architectural salvage. The life cycle of an abandoned building has not been closed—it has only reached an interim phase and awaits until its new function is defined. A pop-up activity is a suitable way to bring the place back to life and to steer it towards a complete revitalisation. Archipop was created to provide inspiration and positives of temporary use. Its ambition is to promote revitalisation of unused areas with the use of temporary architecture and to save historic heritage from its terminal destruction.