

## **LONG-TERM TRANSFORMATIONS OF THE KARKONOSZE TOWNS - ON THE EXAMPLE OF KARPACZ**

Elżbieta TROCKA-LESZCZYŃSKA<sup>1</sup>, Stanisław BOCHENSKI<sup>2</sup>,  
Jerzy PISKOZUB<sup>3</sup>

Wrocław University of Technology, Faculty of Architecture, Wrocław, Poland

### Abstract

Karkonosze Mountains localities have a long and rich history. Earlier the building development was unique atmosphere and character. We are most interested in contemporary design at the present time. Intensive construction activity is conducted hastily and ill-conceived in the last two decades. The results of this action are visible both in the perception of space and the shaping of technical infrastructure. This article asserts the validity and utility of a return to the application of the principles of the "The Charter of Sudetes" in designing the landscape by decision-makers and designers. In addition, we present guidelines for development planners for the evaluation of the potential areas of investment. The paper ends with a presentation of practical methods to improve the aesthetic reception building existing and newly designed.

Keywords: regional architecture, designing on highlands, "The Charter of Sudetes", Karpacz, Karkonosze

---

<sup>1</sup> Corresponding authors: Wrocław University of Technology, Faculty of Architecture, Bolesława Prusa st 53/55, 50-317 Wrocław, Poland, e-mail: elzbieta.trocka-leszczynska@pwr.edu.pl

<sup>2</sup> Corresponding author: Wrocław University of Technology, Faculty of Architecture, Bolesława Prusa st 53/55, 50-317 Wrocław, Poland, e-mail: stanislaw.bochenski@pwr.edu.pl

<sup>3</sup> Corresponding author: Wrocław University of Technology, Faculty of Architecture, Bolesława Prusa st 53/55, 50-317 Wrocław, Poland, e-mail: jerzy.piskozub@pwr.edu.pl

## **1. INTRODUCTION: KARPACZ AS A SELECTED RESEARCH AREA - WHY?**

An important reason for which the Sudetes Mountains, specifically Karpacz, were selected as the research area, was the fact that its culture is a mixture of various cultures, which resulted in various consequences and the occurrence of interesting architectural phenomena. Changes in the land planning in Poland in the recent years reflect the diverse pace of economic development, ownership changes, consequences of political transformation, as well as various policies of local development. Increasingly, we face an irreversible devastation of most of the values of traditional landscapes which are replaced by banal architectural and urban solutions. There is investors' demand for areas which are valuable in terms of landscapes. The objectives of our research is:

- to determine the current degree of spatial and historical transformations (mainly regional) of native architecture
- to provide proposals for optimization of the above transformations in terms of the future project activities.

## **2. HISTORY AND SOCIO-POLITICAL AND ECONOMIC CONDITIONS**

Historically, the Sudetenland region (Lower Silesian part of the Sudetes) belonged to Poland, the Czech lands and Germany. Karpacz<sup>4</sup> lies at the foot of Śnieżka, in Łomnica valley. Currently, it is a single municipal organism that was created from several earlier settlements, villages, hamlets and clusters of shepherd huts. The main livelihood of the former inhabitants were tree felling, herding and charcoal production<sup>5</sup>, as well as mining activities. After the religious wars, refugees from the Czech lands and Tyrol, among whom were the forerunners of herbalism, found shelter there. Since the nineteenth century until the present day tourism has developed, dominating other areas. The state of architecture in the Lower Silesian region of the Sudetes Mountains is integrally linked to the socio-economic condition of the country. The first half of the 1980s witnessed extensive investment activities.

The situation began to change in the mid 1980s. More and more newly constructed buildings alluded to regional architecture. Apart from the conditions signalled above, spatial transformation was also influenced by the development of the economy.

---

<sup>4</sup> Former, before 1945 r. - Krzywa Góra.

<sup>5</sup> Charcoal production

Intensive development of housing facilities, as well as road and utility infrastructures, has become increasingly chaotic and less controlled. Spatial and architectural planning ceases to keep up, or does not correlate with rationalization and optimization of space development. It mainly refers to the problems of compliance with the natural environment. The Sudetes villages begin to lose their individual architectural expression.

### **3. SELECTION OF FACTORS INFLUENCING THE ARCHITECTURE OF THE REGION**

Researchers who deal with the generally understood theory of decision-making emphasize that the environment and other various factors are dominant in decision-making. According to J. Kozielski the factors can be divided into two groups:

- Static and invariant factors,
- Beyond-the-task factors [7].

Simplifying, factors beyond the task include the work of architecture or urban planning designers, while the multi-threaded, or complex invariant criteria, of a dynamic character, influence the shape of the structure of decision-making tasks in designing. We can distinguish the following groups of factors that significantly shape the architecture of the area of the Karkonosze Mountains. They are:

- Invariant and static factors such as:
  - The shape and dimensions of a plot,
  - Buildings in the immediate vicinity of the plot,
  - infrastructure on the plot (or its vicinity) and the ways it is connected.
- Complex and dynamic factors:
  - Topography of the plot,
  - Geomorphology of the ground,
  - Prevailing surface and ground water relations,
  - Climatic conditions (precipitation, ventilation and sunlight).
- The beyond-the-task factors include:
  - The designer's knowledge in the field of the influence of locational factors on the shape of the proposed architecture,
  - The designer's activity, in particular his/her design ideas or willingness to innovative activities [4].

The climatic conditions during the winter months tend to be very unfavourable for buildings in the Sudetes, and particularly in the Karkonosze Mountains [3].

A set of climatic, or more broadly physiographic factors, caused that the previously built houses were:

- built parallel or perpendicular to the slope,
- equipped with drainage girdling - due to the surface water and water trickling into the rock debris.
- not localized on landslide areas,
- equipped with a gable roof with a slope greater than 45 degrees, tightly covered, without a large number of dormers,
- equipped with the so called buffer spaces (from direction of blowing cold winds), or else had northern gable walls covered with an airtight material, e.g. slates [3].

The result was the formation of a regional architecture featured by its body and silhouette (proportions of the roof to the walls), the shape of forms of architectural detail, and local building and finishing materials. This architecture has often been referred to in the literature as a “Sudetes house” [8]. Just as centuries ago, the basic, natural physiographic factors, seriously affecting the shape of a building and the method it was constructed, is the wind and water<sup>6</sup> (surface and underground water as well as rainwater). The Sudetes climate is characterized by:

- the variability of winds, predominantly western, and cold air masses flowing down from the mountains into the valleys,
- high humidity and frequent, albeit with short breaks, precipitation,
- considerable and frequent (especially diurnal) temperature fluctuations,
- inversion phenomenon [3].

Climatologists distinguish between four types of air movements: a horizontal movement (wind), a vertical movement (convection or turbulent), a wave motion, as well as slide or slide tackle. In the mountain areas, wind and movements of cool or warm air masses, moving one onto another, seem to be most important [5]. Additionally, in areas with significant declines and diverse topography, the frequency and directions of movement of air masses may differ

---

<sup>6</sup> Water is very important in terms of location conditions. Its aesthetic value has been omitted, focusing on the dangers and difficulties for the implementation of construction (flooding risks). Water levels in mountain rivers can change in a very short time after heavy rains. Water destroys, but also subsides very quickly. The situation is different in valleys or lowlands where flood water on the so-called flood plains may persist longer. And they both influence various elements of building structures, even though destructive agents are a bit different. The valley floor, where there are no permanent watercourses, is called a periodic watercourse which changes into a watercourse during heavy rainfall. They are also a natural outflow of melting snow.

significantly from the data provided statistically. Individual analyses, which are time-consuming, will be essential here. A more desirable solution seems to be the analysis of local (regional) construction in the immediate vicinity of the planned location. For example, if the slope of the main valley bottom was lesser than the slope of the valley - buildings were mostly constructed with their ridges parallel to the valley bottom (frequently also to the road). Knowledge of the terrain of the investment location and its ecological and physiographic determinants, as well as purposeful including them at the design stages, is essential in the overcoming of any unfavourable restrictions for a specific location and in exposing its positive traits. The knowledge is also important in the design of the building itself: its body and silhouette, individual elements of the outer casing and architectural detail. Basic elements necessary in the analyses at the designing process seem to be:

- topography and slopes of the area,
- in the case of considerable slopes - also geomorphology, and water relations (for ground and underground water),
- local movements of air masses,
- analysis of the plot of land in terms of sun exposure [2].

In the design of buildings and their components, the following factors are also important: microclimate, daily temperature amplitude, humidity, as well as type, frequency and intensity of precipitation.

#### **4. “SUDETES CARD” AS THE BASIC PRINCIPLE OF CORRECT DESIGN**

Architecture, in the theory of regionalism, is a reflection of its environment with its natural and cultural resources manifesting themselves in architectural form and detail of a building, as well as in the landscape characteristics of entire urban complexes (Kraków Charter 1987 r.<sup>7</sup>). Research on the regional architecture of the Sudetenland began in the late 1970s at the Faculty of Architecture of the Wrocław University of Technology. A number of scientific works and designs were performed under the supervision of doc. Tadeusz Biesiekierski. They dealt with the characteristics of regional architecture and history. Information was collected and categorised. The work resulted in the

---

<sup>7</sup> In the “Kraków Charter for Regional Architecture” were formulated, among others, the main architectural principles and directions continuing regional features. The elaboration, according to the authors' intention, did not aim at supplying “a catalogue of ready projects,” but “a collection of facts and proposals for reflection, creative inspiration and interpretation” [6].

formation of a catalogue of forms, a number of practical guides on house building for investors in this area and a catalogue of typical houses of the regional character. Also a “Sudetes Charter”<sup>8</sup> was formulated.

In the “Sudetes Charter” and later works devoted to the continuation of regional architecture, five directions were presented (the ways of designing new buildings and modernizing the existing ones): *quotation, copying, imitation, inspiration and negation*. Currently, the most common methods of action in the Sudetenland are the first three: *quotation, copying and imitation*. “*Quotation*” is primarily an adaptation of e.g. cottages for summer houses, or incorporating of old parts into a new facility. “*Coping*” involves the design of pubs, inns, hotels, according to regional rules. These methods are positively perceived by users themselves and designers, but are of a inconsiderable progressive character. “*Imitation*” is primarily various “variations on a theme ...” - applied with a varying degree of success, often quite controversial. “*Inspiration*” is the so-called creative reference to the past. This is a method referred to in the literature as the one which is most valuable and most difficult to achieve. “*Negation*” involves the use a complete contrast, returning to modernism or the use of completely different forms [1].

## **5. ELEMENTS OF ARCHITECT'S SKILLS RELEVANT IN FINDING CORRECT DESIGN SOLUTIONS**

In designing new buildings and renovation of the existing ones, the cubature classification and the related project activities seem to be the most important. The Gołębiewski hotel in Karpacz (Fig. 1) may serve as an example. A monstrous cubature had an irreversible mark on the spatial shape of the locality and the surrounding landscape.

Depending on the size of the building, some other factors can have a major impact on the perception of the object:

- In the case of small objects, it is primarily the main body and a silhouette of the facility as a whole, then the solutions of the roof and plinth, and finally, moderate in quantity architectural detail. With large buildings, the situation is reverse - the architectural detail fulfils the key role.

---

<sup>8</sup> The „Sudetes Charter” presented principles of modernization of existing buildings and the development of the newly-designed ones referring to the regional architecture. They were illustrated with examples of built facilities or their projects. The carried out detailed description of the Sudetes architecture by the team “Region” helped extract the main characteristics of this architecture. The feasibility of continuing the particular features in the contemporary architecture was analysed taking into account modern technological and material solutions [1].

- The main body and the silhouette of the facility are important in terms of the possibility of its dismemberment to achieve the apparent effect of lesser cubature than it actually is.



Fig. 1. Monstrous cubature of the Gołębiewski hotel overwhelms views onto the ski slopes and most beautiful Karpacz hiking trails  
(Source: [www.karpacz.fotopolska.eu](http://www.karpacz.fotopolska.eu))

- The use of architectural detail (in a more traditional form - as an inspiration - or in a contemporary form) should be a step of a thoroughly thought strategy. The designer should decide whether he/she focuses on a form or external aesthetics of a particular facility and should consistently use architectural detail, and whether the detail is only an element that accentuates the form achieved with the use of the main body of the building or its silhouette. In the latter case, its use should be well balanced.
- Since the facilities are located generally on slopes of greater or lesser inclinations, and are often seen from more elevated points, it is important to analyse their roofs - as the fifth “side” of the facility, and how to resolve plinths taking into consideration fact that the differences in ground level at the corners of the building may change, frequently by a few meters.
- In large buildings, with considerable transverse spans, it is difficult to find correct solution for roof spaces, since while applying the principles arising from the regional tradition, under the undulating roofs there are spaces use of which is hindered

- A new facility in a close proximity to historical buildings may not cause discord in the contemporary reception of the closest situated “microcomplexes” of buildings or of the natural environment.
- However, it is necessary to carry out the analysis or design studies with respect to the neighbourhood, according to the rules of architectural and urban composition [2, 4].

For many years, one of the largest facility in Karpacz was the Paediatric Pneumology Center (Fig. 2). Designers of this large building tried to apply the previously cited principles for correct shaping of form and architectural detail.



Fig. 2. Paediatric Pneumonology Center in Karpacz (architectural design: Arch. S. Bocheński arch. J. Piskozub, engineering design: Eng. J. Leszczynski; project 1990-1992, realization 1993-1995)

The investment policy focused on medium-sized buildings. Contrary to the facilities realised in 1960-1980, the buildings started to reveal correctly solved shapes, silhouettes and proportions. In a very diverse ways, individual designers transposed architectural details. It was probably associated with their knowledge of regional architecture and personal creative predispositions<sup>9</sup>. It can be frequently noticed that facades or roofs are too intensively saturated with detail of equivalent in nature reception, for example a number of similar size dormers on the roof, or bay windows in facades.

## 6. CONCLUSIONS

Promotion of issues related to the knowledge referring to “the tradition of the place” should take place on several levels and be carried out both by representatives of scientific institutions, designers, local artists and

<sup>9</sup> That is why we see, just as in Austria or Germany, the need for stencils of architectural details for specific areas.



representatives of local authorities. A positive phenomenon that can be observed for some time, is the fact that investors started to protect and shape harmonious landscapes, to design and construct objects of regional character, with measurable economic aspects. Addressing the issues relating the design and the realization of projects on areas of natural and cultural values, we see that the factors influencing these processes are varied. We are dealing with a number of interrelated phenomena: spatial, social and economic. Three issues have or may have a positive effect on social acceptance, which, in turn, can become a trigger for activities shaping a harmonious landscape :

- the promotion of knowledge on “the tradition of the place” and “tradition of the region” among both investors and contractors.
- the principles of urban and architectural composition and detail shaping, as an example of inspiring activities (e.g. “Sudetes Charter”),
- the verification of the factors of reception through the organization of architectural contests and post-contest exhibitions.

It is also important to take into consideration the investment strategy, economic constraints of local governments and private investors. The end result, however, depends on the expertise and the designer's individual skills.

## REFERENCES

1. Biesiekierski T., Bocheński S., Jarosiński A., Suchodolski J., Trocka E., Wiatrzyk S., *Karta Sudecka*, Raport Inst. Arch. i Urb. PWr, nr 73, Wrocław 1987.
2. Bocheński S., *Analiza i wybór podstawowych uwarunkowań dla próby stworzenia reguł współczesnej realizacji architektury na obszarze górskim Sudetów*, Raport serii SPR nr I-1/S-034/2012, Wydział Architektury PWr, 2012.
3. Bocheński S., Czynniki fizjograficzne w projektowaniu zabudowy na obszarze Sudetów. Projektowanie architektury na terenach o szczególnych walorach krajobrazowych i uzdrowiskowych, Wrocław, Oficyna Wydawnicza PWr 2012.
4. Bocheński S., Problemy projektanta tworzącego architekturę w terenie o szczególnych walorach krajobrazowych czy uzdrowiskowych. Projektowanie architektury na terenach o szczególnych walorach krajobrazowych i uzdrowiskowych, Wrocław, Oficyna Wydawnicza PWr 2012.
5. Harvard S., *Design for Mountain Communities*, New York, Van Nostrand Reinhold 1990.

6. Kosiński W., Ochrona i kształtowanie krajobrazu kulturowego w najnowszych pracach Inst. Architektury Krajobrazu, Międzygórze, Mat. konferencji 1994.
7. Koziński J., *Psychologiczna teoria decyzji*, Warszawa, PWN 1975.
8. Trocka-Leszczyńska E., *Projektowanie w krajobrazie górskim, budowanie w pięknym krajobrazie*, Wrocław, Oficyna Wydawnicza PWR 2004.

#### PRZEKSZTAŁCENIA ZABUDOWY MIEJSCOWOŚCI KARKONOSKICH W DŁUGIM PRZEDZIALE CZASOWYM - NA PRZYKŁADZIE KARPACZA

##### Streszczenie

Miejscowości karkonoskie mają długą i bogatą historię. Wcześniejsza ich zabudowa miała swoisty klimat i charakter. Nas interesują najbardziej czasy współczesne. Intensywna działalność budowlana w ostatnim dwudziestolecu prowadzona była sposób mało przemyślany, czy wręcz chaotyczny. Efekty są widoczne zarówno w percepcji przestrzeni, jak i kształtowaniu infrastruktury technicznej. W artykule postulujemy powrót decydentów i projektantów do założeń „Karty Sudeckiej” w formowaniu przestrzeni. Przedstawiono też wytyczne dla projektantów planów miejscowych w/w miejscowości, dla wartościowania i waloryzacji potencjalnych obszarów inwestycyjnych. Omówiono głównie praktyczne metody poprawy odbioru estetycznego zabudowy istniejącej, jak i nowo projektowanej.

Słowa kluczowe: architektura regionalna, projektowanie w obszarach górskich, Karta Sudecka, Karpacz, Karkonosze

*Editor received the manuscript: 20.12.2014*

