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Historical spatial structures in small towns and their role in the cultural landscape: a case study of towns in the polish region of Warmia

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Abstract. Historical town centers have a different layout and functions than do contemporary urban districts. The urban layout and architecture of medieval towns constitute tangible cultural heritage that shapes the local landscape. The aim of this study was to analyze and evaluate historical spatial structures in small towns, and to describe their role in the evolution of the regional cultural landscape. The study examined medieval towns in the region of Warmia in north-eastern Poland. An attempt was also made to explore the impact that historical towns exert on the local cultural landscape. The study demonstrated that a medieval urban spatial layout makes a fundamental contribution to the local landscape and regional identity. The study also revealed that well-preserved historical structures can drive local development and effectively promote regions.

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1. Introduction

Historical small towns usually play a significant role in regional development. Small-scale urban design contributes to sustainable development, economic growth, high quality of life, and protection of the cultural heritage and landscape (Mayer & Knox, 2006; Orhan, 2017; Saraiva & Pinho, 2017; Barchino et al., 2018; Mallet, 2018; Zagroba et al., 2021). Unlike large urban agglomerations, small towns are devoid of tall buildings and dense development, and the structures erected in the Middle Ages are still the dominant spatial objects in the modern world (Matthew, 1996). These landmark objects include church towers, historical city hall buildings, and monumental castles. Small towns in the Region of Warmia in north-eastern Poland are unique in this respect because they feature these three main types of public buildings. These settlements were founded by the Teutonic knights in difficult-toaccess locations, and all of them feature fortified structures, which confirms their military origin and the fact that security was a key concern at the time of their establishment. This observation clearly indicates that Warmia is a region with a strong sense of local identity, which distinguishes Warmian towns from small towns in other Polish regions (Churski et al., 2021). The above also applies to the historical architecture of public buildings in Warmia, which is characteristic of the region. The urban layout testifies to the medieval practice of building towns in *cruda radice* (as a greenfield development). Towns were generally erected along or at the crossroads of major transportation routes, and they contributed to a settlement network forming within 100 years (Lewerenz, 1975). In Warmia, this evolutionary process gave rise to twelve towns separated by distances of 25-30 km. The city of Olsztyn is the only urban settlement in Warmia that is not a small town, and it was not analyzed in this study (Bagiński, 1998). Small towns in Warmia had a regular network of streets separating dense and compact urban districts, with a market square in the center (Benevolo, 1995). The three most important types of urban public buildings and architectural landmarks were located in the market square or in its close vicinity. These were the city hall, the church and the castle, which often formed a cohesive architectural system with the accompanying urban fortifications.

This study analyzed eleven towns in the Region of Warmia in north-eastern Poland, where elements of historical spatial structure have been preserved to various degrees. The examined towns were selected for the study due to their similarities in location, urban layout, and history. All of them were established in the Middle Ages, when an urban settlement network was developed by the Teutonic Order in Warmia. The urban layout of the examined towns is characteristic of the medieval period.

In many cases, historical city centers are the only remainders of the towns' heritage and architectural traditions. These hallmarks of local identity have evolved over time to cater to the residents' changing needs (Hoeschele, 2010). In small towns, in contrast to large cities, the quality of life takes priority over the hustle and bustle of modern living in a rapidly globalizing world (Zuzańska-Żyśko, 2007; Miele, 2008; Broadway, 2015). In the near future, small towns are unlikely to evolve into larger cities or be deprived of their municipal status as a result of adverse phenomena (Szymańska & Grzelak-Kostulska, 2005a, 2005b; Biegańska & Szymańska, 2013; Bartosiewicz et al., 2019;).

The main aim of this study was to analyze and evaluate the spatial structure of historical towns in Warmia. The research goals were achieved with the use of analytical methods developed by the author. The role of architectural factors in the evolution of the urban fabric was investigated. The results of the study were used to determine the extent to which medieval structures and urban layout have been preserved and to describe their role in shaping the local panorama and the cultural landscape of the region. Areas where revitalization measures should be initiated to improve spatial order and functions were identified in the studied towns. Revitalization schemes are particularly needed in towns whose historical architecture was extensively destroyed by the Soviet army at the end of World War II.

In view of the above, an attempt was made in this study to determine whether the historical spatial structure of small towns in Warmia significantly influences the region's cultural landscape, and to identify the historical elements that exert the greatest impact on the local landscape.

2. Materials and methods

2.1. Study area

Eleven small towns in the region of Warmia in north-eastern Poland were analyzed: Barczewo, Biskupiec, Bisztynek, Braniewo, Dobre Miasto, Frombork, Jeziorany, Lidzbark Warmiński, Orneta, Pieniężno, and Reszel (Fig. 1). These towns were selected for the study due to the similar time period of their foundation and urban layout. All

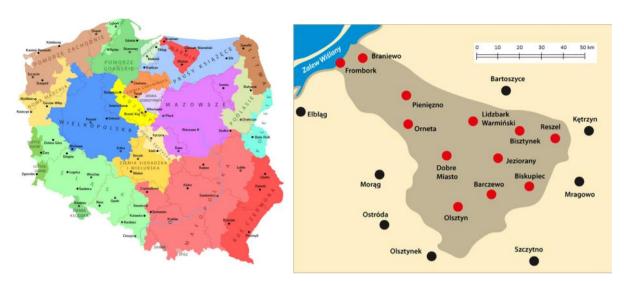


Fig. 1. Polish regions (left) and the location of the analyzed towns in Warmia (right) Source: own elaboration based on www.puzzlefactory.pl/pl/puzzle/graj/krajobrazy/297006-regiony-polski#5x6 (accessed on 15 December 2023); www.encyklopedia.warmia.mazury.pl/index.php?title=Plik:Warmia_mapka.jpg (accessed on 15 December 2023)

of them were established during the same period of approximately 100 years; ten of the analyzed towns were established as fortified settlements by the Teutonic Order, which colonized this part of Eastern Prussia in the 14th century (Srokowski 1945; Krassowski 1990). The only exception is the Hanseatic town of Braniewo that was founded in the 13th century.

Warmia is one of the most attractive Polish regions. The region's popularity can be attributed to its unspoiled nature, high scenic value, rolling landscape, and rich cultural heritage, including historical town centers of high architectural value with landmark buildings such as castles, churches and town hall buildings (Kowalczyk, 2008; *Zielone* ..., 2009; Jaszczak & Denekas, 2014; Alexandrakis

et al., 2019). Historical buildings and structures have been preserved to a varied degree in the studied towns. Some towns suffered considerable damage at the end of World War II (Fig. 2), and they were visibly transformed during the post-war reconstruction effort, and in successive decades of the 20th century to cater to the needs of the region's growing population (Fig. 3).

The analyzed towns were founded in the same historical period, in the course of around 100 years, as evidenced by the dates of the respective town charters in historical records (Czubiel & Domagała, 1969). In successive centuries, Warmian towns developed and expanded their territory, but their original urban layout has been preserved to this day. Differences in the scale and intensity of urban

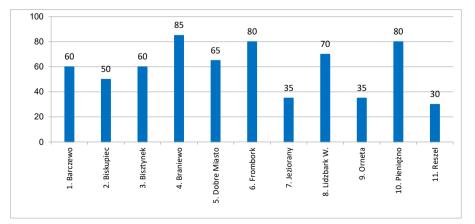


Fig. 2. Percentage of historical buildings and structures that were destroyed during World War II Source: own elaboration based on Czubiel & Domagała (1969)

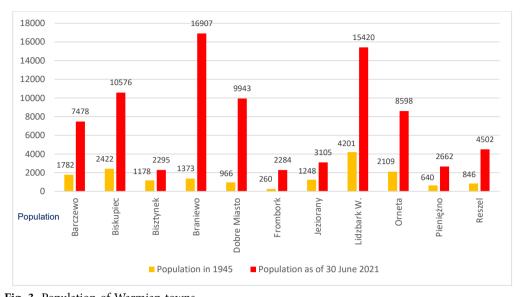


Fig. 3. Population of Warmian towns

Source: own elaboration based on www.demografia.stat.gov.pl (Accessed on 20 June 2022)

development and architectural features testify to the above. Warmian towns sustained varying degrees of damage during World War II, but even these events did not completely eradicate their historical urban layout. In Frombork and Pieniężno, war damage and depopulation were so severe that these towns were temporarily deprived of their municipal status (Frombork in 1945–1959, Pieniężno in 1945–1973).

The Region of Warmia and Mazury (northeastern Poland) features the largest number of Polish towns that belong to the Cittaslow International movement. In the analyzed group of towns, only Frombork and Pieniężno are not Cittaslow members. Cittaslow is an international organization that promotes the slow living philosophy and advocates for harmony between historical times and the present (Alexander, 1965; Zagroba et al., 2021).

2.2. Methods

The preserved historical elements of urban development, their role and ability to cater to the needs of the present and future generations were analyzed and evaluated in the studied towns. The design and architectural features of downtown areas in historical towns satisfy diverse needs, both material and spiritual, which is why they have to be evaluated in multi-criterion analyses. In this respect, the examined towns have many similarities, but also differences. Research methods were carefully selected to validate the hypothesis that historical spatial structures significantly influence a region's cultural landscape. Some of these methods are widely applied in research on urban planning, and they include literature reviews and analyses of the preserved historical structures. A method supporting subjective evaluations of urban planning solutions and architectural features was also developed by the author. The proposed approach can be applied in other Polish and European regions where medieval towns were built as greenfield developments or based on the existing human settlements. The deployed research methods are presented below in three main points with subpoints. The results presented in Section 3 have an analogous structure.

- Multi-criterion analysis of the spatial structure 1. of small towns. Small towns and large cities differ in the scale of urban development and territorial reach in a panoramic landscape approach. A quantitative approach was used to systematize the main spatial elements in the landscape of the eleven Warmian towns. The criteria adopted in the research methodology were selected based on the spatial layout of the analyzed towns, including the period of foundation (urban planning style), local topography, spatial organization of the market square, and the location of the main public buildings and structures. The following factors were analyzed:
 - Period of foundation based on an analysis of the literature and iconographic sources, in particular German-language literature dating back to the 19th century (Boetticher, 1894; Bonk, 1895). All towns were established on

a grid street plan, but with various degrees of regularity (Tołwiński 1939).

- b. Topography and urban design based on iconographic sources (maps, satellite images) and field investigations. The examined towns were classified in view of the local topographic features (Table 1).
- c. Size and shape of market squares based on iconographic sources (maps, satellite images, etc.). The shape, size and layout of market squares in the historical centers of Warmian towns were analyzed (Table 2).
- d. Ratio of town area enclosed by fortified walls to present-day urban area – based on iconographic sources (historical maps, satellite images). This ratio was calculated to determine the increase in developed area since the town's establishment (indicator WWPZ). The original area of the evaluated towns was calculated based on an analysis of satellite maps and the layout of fortified walls that have survived to this day. The present area of the evaluated towns was calculated from satellite images, using AutoCad software. The towns' original and present areas were compared with the use of the following indicator (1):

$$WWPZ = \frac{PO}{PL}$$

where:

WWPZ – increase in developed area, PO – present area, PL – town area at the time of establishment.

- e. Preservation of historical architectural landmark- based on an analysis of the literature and iconographic sources, as well as field investigations. The examined towns were classified based on the extent to which historical town hall buildings, churches and fortified castles have been preserved.
- 2. An evaluation of the spatial structure of the studied towns in the context of the cultural landscape with the use of cartographic methods (analysis of historical and contemporary maps), analyses of satellite images, and field observations. The criteria adopted in the research methodology were selected by evaluating the extent to which the original grid layout and historic buildings in downtown areas have been preserved in the analyzed towns. Such evaluations are subjective because historic architecture dates back to different periods and evokes various sensory experiences. The following parameters were examined:
 - a. Urban layout based on cartographic sources, field observations and local inventories. The medieval layout of the examined towns was analyzed to determine whether and to what extent the original urban planning solutions had been preserved or transformed since the towns' establishment. Despite varied topography, the layout of Warmian towns followed a strictly geometric pattern. This approach to urban planning was not always deployed in other European regions. According to Camillo Sitte, an architect who revolutionized urban planning, historic

Table 1. Relationship between local landform and urban planning solutions.

	Landform		
Urban planning solutions	Hill	River bend	Bank of a river or another water body
Grid street plan	+	+	+
Rib pattern or regular grid pattern	-	-	+
Dense urban network	+	+	+
Uncontrolled urban development in direct vicinity of river	-	+	-
Dense development resulting from space constraints	-	+	-
Spatial structure expansion in opposite direction to river or water body	-	+	+

Source: own elaboration based on Czubiel & Domagała (1969)

No.	Shape of market square	Size of market square
1.		The shape and relative surface area of a market square (ratio of market area to town area) • determine the spatial structure. Square and rectangular markets are perceived as neutral and
2.		harmonious. The relative surface area of market squares in the analyzed towns was classified

Source: own elaboration based on Czubiel & Domagała (1969)

towns in Italy were built in line with artistic principles (Sitte, 1909; Gzell, 2014).

- b. Architectural design of historical building complexes - the quality of urban space was evaluated during local inspections. The ambience of historical sites is perceived subjectively, and it is usually influenced by historical architecture, which affects the senses through its form, scale, detail, texture and color (Zagroba et al., 2020) (Table 3). The terms presented in Table 3 are commonly used in architecture and urban planning. For example, the form of a building is the design or shape of a three-dimensional structure that is perceived in time and space. The scale represents the size of the building itself or the size of a building relative to its surroundings. Architectural composition refers to the arrangement of various elements, such as the geometric shape of buildings, lines, planes, facade design, and architectural details. These elements largely affect sensory and esthetic experiences, and they are evaluated subjectively.
- 3. Preservation of historical spatial structures that shape the region's cultural landscape was examined in the studied towns with the use of a method developed by the author. The proposed method evaluates subjective esthetic experiences in response to urban design solutions in historical town centers. The developed method relies on Wejchert's impression curve (Wejchert, 2008), which qualifies an observer's subjective perceptions (Myga-Piątek, 2012; Zonneveld,

1990). The attributes of the cultural landscape were evaluated on a scale of 0 to 10 points using a model for assessing landscapes based on attributes that are most characteristic of historical towns. The following attributes were incorporated into the model:

- Age historical age of the evaluated landscape. The older the landscape components, the greater the value of the assessed urban space.
- Historicity a landscape is an element of cultural heritage, a source of historical knowledge, historical events and local traditions.
- Authenticity the extent to which the original landscape elements have been preserved (a strongly modified landscape is not authentic).
- Esthetic value esthetic perceptions of historical and reconstructed landscapes strongly influence human beliefs and are highly subjective
- Harmony landscape elements create a pleasing and orderly whole.
- Uniqueness the landscape is distinctive and exceptional, and its spatial attributes are highly specific and rarely encountered.
- Emotional value the landscape is a source of emotions and feelings, and it can contribute to a sense of attachment and local identity.

No.	Criterion	Perceptions of space
	Individual buildings and structures	• form, scale, building materials, facade color
1.		architectural style
1.		positive/negative esthetic experience
		no esthetic experience
2.	Frontage buildings, urban block	diverse architectural forms and styles
		• form, scale, division, rhythm, roof patterns, building materials, facad
		color
		enhanced/reduced esthetic experience
		• genius loci
		architectural identity
	Architectural landmarks	• form, scale, architectural style
		architectural composition
3.		closure of urban axes
5.		enhanced/reduced esthetic experience
		spatiotemporal patterns
		"experiencing" the urban fabric

 Table 3. The role of historical buildings in the evolution of the local space and landscape

Source: own elaboration

3. Results

The historical structure of the studied towns and the cultural landscape shaped by the preserved components of the historical urban layout were analyzed and evaluated based on the adopted criteria with the use of the discussed research methods. The results section has the same structure as subsection 2.2 (Methods) to guarantee the legibility and cohesiveness of the presented results.

3.1. Multi-criterion analysis of the spatial structure of small towns

a. The eleven analyzed towns in the Region of Warmia were established in the same historical period, within a period of ~100 years. Ten towns were founded in the medieval period (14th century). The only exception is the Hanseatic town of Braniewo that was founded in the 13th century (Fig. 4).

- b. Topography and local conditions exerted the greatest influence on the spatial structure of the studied towns. In towns with a grid street plan, urban planning solutions and the location of landmark buildings and structures were affected by local landform (Table 4).
- c. The market square played an important role in urban space. The market square was the main public area in medieval towns, and it continues to be the central point in Warmian towns. Landmark buildings (church, town hall, and castle) were erected in the direct proximity of the market square. Most of the studied towns feature square or rectangular market squares (Fig. 5).
- d. Market squares were the main trading sites in medieval towns, and their size was adapted to a town's area. In the analyzed towns, the proportion of market area relative to town area was 9.4% on average. The values for each town are given in Table 5. The size of medieval towns was influenced by their economic status and technical capabilities, and an average town

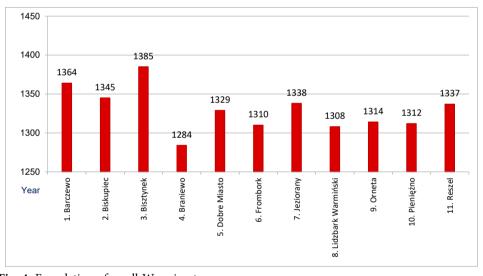


Fig. 4. Foundation of small Warmian towns Source: own elaboration based on Czubiel & Domagała (1969)

Table 4. Location of the studied towns relative to topographic features

River bend	Parallel to a river	River fork	Hill
5 Towns	1 Town	2 Towns	3 Towns
Biskupiec	Bisztynek	Barczewo	Frombork
Braniewo		Dobre Miasto	Jeziorany
Lidzbark W.			Orneta
Pieniężno			
Reszel			
45.4%	9.1%	18.2%	27.3%

Source: own elaboration based on an analysis of cartographic sources

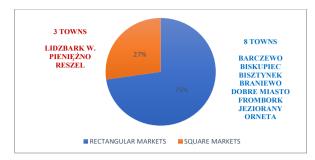


Fig. 5. Shape of historical market squares Source: own elaboration

Table 5. Original and present area of small Warmian towns

not overwhelm downtown areas, and the preserved architectural landmarks (churches, town hall buildings, and castles) are still the dominant features in the local panorama and shape the region's cultural landscape. In contrast to large cities, urban development processes in small towns do not detract from the significance of historical town centers relative to other built-up areas. This also applies to small towns in Warmia.

Historical events, mainly wars and fires, were chiefly responsible for the extent to which landmark buildings (churches, castles, and town halls) have been preserved in the studied towns. The preservation of the historical urban fabric was determined at 100% for churches, 36.4% for town hall buildings, and 27.3% for castles

No	Town	Relative area of the	Developed area enclosed	Present developed area
No.		market square [%]	by fortified walls [ha]	[ha]
1.	Barczewo	8.5	6.0	458
2.	Biskupiec	11.5	6.0	500
3.	Bisztynek	6.3	6.0	216
4.	Braniewo	12.5	9.0	1241
5.	Dobre Miasto	8.5	6.0	486
6.	Frombork	5.5	4.5	759
7.	Jeziorany	10.5	4.5	341
8.	Lidzbark Warmiński	9.0	6.0	1435
9.	Orneta	7.2	8.0	963
10.	Pieniężno	16.0	4.5	383
11.	Reszel	7.5	6.0	382

Key: present developed area – urban area (built-up area with urban green spaces) Source: own elaboration

spanned an area of 6.1 ha. Despite the fact that the analyzed towns had a similar built-up area, the size of their market squares varied considerably from 0.25 ha to 1.12 ha (0.56 ha on average). The present-day developed urban area was measured using orthophotomaps. The applied measurement methods are described in point 1d of subsection 2.2.

Developed urban areas were considerably expanded in successive centuries, in particular during the period of rapid economic growth in the 19th and 20th centuries (Fig. 6). The area of the studied towns increased several dozen times. The area of three towns increased more than one hundred-fold, whereas the area of one town (Lidzbark Warmiński) increased 239-fold. The average fold increase in the built-up area of Warmian towns was determined at 106.1. This observation indicates that, despite a significant increase in the built-up area, historical buildings in market squares have not been deprived of their original character in many towns. Contemporary buildings and structures do (Table 6). Reszel is the only town whose panorama is shaped by all three types of architectural landmarks.

3.2. Evaluation of the spatial structure of the studied towns in the context of the cultural landscape

The urban layout and architectural features of historical buildings were evaluated based on the adopted criteria (point 2, subpoints a and b; Table 3). The analysis demonstrated that towns where the original urban planning solutions have been well preserved hold cultural heritage values and contribute to local identity and the region's cultural landscape (Table 7).

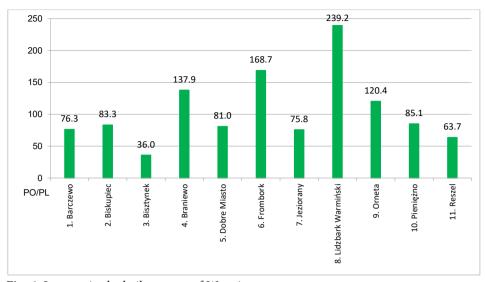


Fig. 6. Increase in the built-up area of Warmian towns Source: own elaboration

Table 6. Preservation of architectural landmarks in the studied towns

		LANDMARK BUILDINGS		
No.	Town	Church	Fortified castle	City hall
1.	Barczewo			
2.	Biskupiec			
3.	Bisztynek			
4.	Braniewo			
5.	Dobre Miasto			
6.	Frombork			
7.	Jeziorany			
8.	Lidzbark Warmiński			
9.	Orneta			
10.	Pieniężno			
11.	Reszel			

Key: green – preserved, red – not preserved. The cathedral in Frombork was a fortified structure, and some elements of defensive architecture have been preserved to this day, which is why this town is marked in both green and red Source: own elaboration

3.3. Role of the historical spatial structure of the studied towns in shaping the region's cultural landscape

The historical urban layout in the studied towns was evaluated using the adopted criteria (point 3), which are based on subjective perceptions of space and esthetic and emotional experiences. These areas, including landmark buildings, significantly influence the local landscape. Its attributes were evaluated in the studied towns on a scale of 0 to 10 points, based on the adopted model (Fig. 7). The evaluated attributes (age, historicity, authenticity, esthetic value, harmony, uniqueness, and emotional value) differed considerably across Warmian towns. Towns where authentic structures have been most effectively preserved received the highest scores (Reszel, Orneta, Jeziorany), whereas towns where central areas have been deprived of their historical identity received the lowest scores (Bisztynek, Dobre Miasto, Pieniężno).

The presented findings support the hypothesis that well-preserved historical structures can contribute to the economic growth of small towns.

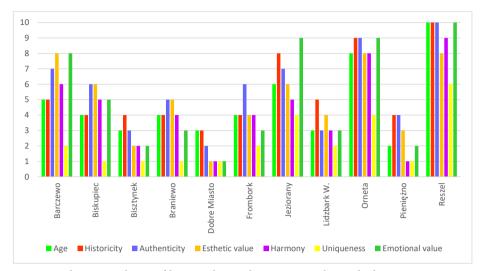


Fig. 7. Landscape attributes of historical spatial structure in the studied towns Source: own elaboration

Well-designed urban spaces may attract investors and foster local entrepreneurship.

4. Discussion

Public spaces in downtown areas integrate members of the local community, strengthen human ties, and contribute to a strong sense of local identity (Durrel, 1969; Kwiatek-Sołtys, Mainet, 2014). These attributes differ considerably among the analyzed towns despite their having been founded in the same time period and experienced similar development patterns.

The extent to which elements of spatial structure have contributed to the evolution of the cultural landscape in Warmian towns and the entire region was explored during local inspections and analyses of iconographic materials. This is of particular importance in small towns where historical structures build a sense of local identity and promote attachment and responsibility for one's place of residence (Canter, 1977). The extent to which historical urban structures influence and preserve the cultural landscape of the analyzed towns, the urban panorama, and the entire region was assessed using the described research methods.

Most of the studied towns were established in the same time period (14th century), which could explain the absence of significant differences in their layout. Warmian towns were generally built in accordance with medieval urban planning principles. The urban layout followed a grid pattern that was adapted to the local landform. The medieval urban layout has been preserved in most Warmian towns, and it has been successfully incorporated into the modern urban fabric and modern urban functions (Figliuolo, 2015).

The Region of Warmia has a rolling landscape, and the urban planning solutions in the studied towns differ due to variations in local topography. The majority of Warmian towns were established in a river bend. Rivers acted as natural defenses that protected the residents against potential enemies on two or three sides of the settlement (Jedwab et al., 2022). Warmian towns were also established along river banks, in forks at the junction of two rivers, and on hills.

The market square was the central point of medieval towns, being where most trading activities took place. The size of the market square was determined by a town's area, and its shape influenced urban development in the surrounding space (Fusch, 1994; Haas, 2009). The studied towns have square and rectangular markets. Rectangular markets are predominant, and they are found in eight out of the eleven analyzed towns (nearly 75%). The size of market squares in medieval towns was adapted to the towns' area. In the analyzed towns, the proportion of market area relative to town area was determined at 9.4% on average. This parameter was highest in Pienieżno (16%) and lowest in Bisztynek (6.3%). Medieval towns were founded in cruda radice (as greenfield developments), and these values could be adapted to local needs.

The original size of medieval towns was dictated by local topography and technical capabilities. The towns were surrounded by fortified walls for security reasons, and this necessitated a compact urban layout (Hardt, 2000). Despite the above, the Warmian towns differed considerably in size, and they occupied an area of 4.5 to 9 ha. The average town area was 6.1 ha.

The elements of historical urban design, including architectural landmarks (towers and turrets, churches, castles and town hall buildings) play a fundamental role in shaping the urban landscape and its public perceptions. Historical buildings have been preserved to a varied degree in the studied towns. These structures are largely responsible for the towns' unique spirit of place (genius loci) and spirit of time (genius saeculi). These subjective qualities confer an indelible character to the town and the entire urban landscape (Bravo, 2010). The degree to which authentic medieval structures and buildings have been preserved in Warmian towns was evaluated based on seven criteria, using the proposed model. The results were used to determine the attributes of the cultural landscape shaped by historical architecture and urban design. Towns whose historical urban fabric and architectural landmarks have been most successfully preserved received the highest scores (Reszel, Orneta, Jeziorany, and Barczewo). Towns that were largely deprived of the historical character and identity of downtowns received the lowest scores (Dobre Miasto, Bisztynek, and Pienieżno).

5. Conclusions

The historical centers of medieval towns are invaluable components of European cultural heritage, urban planning and architecture. In small towns, historical structures contribute to local identity, act as social integration hubs and contribute to a greater sense of attachment to one's place of residence in comparison with large cities. As a result, small town dwellers are more likely to participate in local initiatives to protect the local cultural heritage and, consequently, the local landscape.

The historical value of medieval architecture and the extent to which historical structures shape the local landscape and contribute to its protection were evaluated based on seven criteria (age, historicity, authenticity, esthetic value, harmony, uniqueness, and emotional value). The study revealed a strong correlation between these parameters: the values of the analyzed criteria were higher in towns where the original urban design and architecture have been most successfully preserved.

The results of this study indicate that historical spatial structures play representative roles in Warmian towns. Historical sites constitute functioning central areas that create a friendly living environment for local communities and attract investors, thus contributing to economic growth. The characteristic attributes of historic downtowns, including dense development, distinctive urban design features (narrow streets and small market squares), historical architecture, and the presence of landmark buildings, are the focal points in the local urban panorama. These components shape the local landscape, and they should be effectively protected against careless planning solutions that enable investors to erect tall apartment buildings, silos, chimneys or antenna masts in the proximity of historical buildings.

The study also demonstrated that densely developed historical quarters contribute to a cohesive urban panorama in a broader spatial context. Historical small towns do not feature large open spaces, major transportation routes, or large undeveloped plots where multi-story buildings could be erected; therefore, the risk that their unique character will be disrupted is relatively low. The specific character of historical architecture, provided that it is well preserved, thus protects small towns from modern investment projects that could overwhelm and disturb the local panorama. In both towns and regions, these features significantly contribute to the development of tourism and protection of cultural heritage.

The results of the present study can be used by the local authorities to promote their towns and regions, and exchange experiences with other municipalities on the most effective methods for implementing local development strategies. The proposed research methods could be applied in small towns in other Polish regions. The study also adds to the existing body of knowledge about the role and functions of historical urban structures in contemporary towns and cities.

References

- **Alexander, C.** (1965). A City Is Not Tree. Archit. Forum, 122: 58–66.
- Alexandrakis, G., Manasakis, C. & Kampanis, N.A. (2019). Economic and societal impacts on cultural heritage sites, resulting from natural effects and climate change. *Heritage*, 2(1): 279–305.
- Bagiński, E. (1998). Małe miasta w strukturze osiedleńczej Polski (Small towns in the settlement structure of Poland – in Polish). Oficyna Wydawnicza Politechniki Wrocławskiej: Wrosław.

- Bartosiewicz, B., Kwiatek-Sołtys, A. & Kurek, S. (2019). Does the process of shrinking concern also small towns? Lessons from Poland. *Quaestiones Geographicae*, 38(4): 91–105. DOI: 10.2478/ quageo-2019-0039.
- Benevolo, L. (1995). The History of the City. MIT Press.
- Biegańska, J. & Szymańska, D. (2013). The scale and the dynamics of permanent migration in rural and peri-urban areas in Poland: some problems. *Bulletin* of Geography. Socio-Economic Series, 21: 21–30. DOI: http://dx.doi.org/10.2478/bog-2013-0017.
- **Boetticher, A.** (1894). Bau- und Kunstdenkmäler der Provinz Ostpreussen (Architectural and art monuments of the province of East Prussia – in German). Heft IV, Das Ermland, Königsberg.
- Bonk, H. (1895). Städte und Burgen in Altpreussen (Ordensgründungen) in ihrer Beziehung zur Bodengestaltung (Cities and castles in Old Prussia (founding of orders) in their relationship to land formation – in German). *Königsberg*, 38-141.
- Barchino, A.T., Llopis Verdu, J. & Serra Lluch, J. (2018). Recovering Chromatic Space as a Sign of Identity in the Historic City, In: Putting tradition into practice: heritage, place and design. *Book Series: Lecture Notes in Civil Engineering*, 3: 1321–1328.
- **Bravo, L.** (2010). La città storica contemporanea: genius loci e genius saeculi. IN_BO. Contemporary historic city: genius loci and genius saeculi - in Latin). *Ricerche e progetti per il territorio, la città e l'architettura*, 1(1), 39-52.
- Broadway, M. (2015). Implementing the Slow Life in Southwest Ireland: a Case Study of Clonakilty and Local Food. *Geographical Review*, 105(2): 216–234. DOI: 10.1111/j.1931-0846.2014.12067.x.
- **Canter, D.** (1977). *The Psychology of Place*. The Architectural Press, London.
- Churski, P., Herodowicz, T., Konecka-Szydłowska, B. & Perdał R. (2021). Spatial Differentiation of the Socio-Economic Development of Poland – "Invisible" Historical Heritage. *Land*, 10: 1247. DOI: 10.3390/land10111247.
- Czubiel, L. & Domagała, T. (1969). Zabytkowe ośrodki miejskie Warmii i Mazur (Historic urban centers of Warmia and Mazury - in Polish). Pojezierze, Olsztyn.

- Demografia. (2022). Available at: www.demografia.stat. gov.pl (20.06.2022).
- Durrel, L. (1969). Spirit of Place. London New York.
- Encyklopedia Warmia Mazury. (2023). Available at: www.encyklopedia.warmia.mazury.pl/index. php?title=Plik:Warmia_mapka.jpg (15.12.2023).
- **Figliuolo, B.** (2015). Economic typology of the cities in the lower middle ages. *Nuova Rivista Storica*, 99(3): 823–836.
- Fusch, R. (1994). The piazza in Italian urban morphology. *Geographical Review*, 84(4): 424–438.
- **Gzell, S.** (2014). O Architekturze szkice pisane i rysowane (On architecture written and drawn sketches in Polish). Ed. Blue Bird, Warszawa.
- Haas, T. (2009). Traditional European squares in contemporary urbanism: Dubrovnik's medieval squares. *Open House International*, 34(4): 57–73.
- Hardt, M. (2000). Fortifications of a medieval city. Zeitschrift fur Geschichtswissenschaft, 48(4): 358– 360.
- Hoeschele, W. (2010). Measuring abundance: the case of Cittaslow's attempts to support better quality of life. *International Journal of Green Economics*, 4(1): 63–81. DOI: 10.1504/IJGE.2010.032601.
- Jaszczak, A. & Denekas, J. (2014). Znaczenie cech krajobrazu w kreowaniu przestrzeni kulturowej w układach regionalnych (The importance of landscape features in shaping cultural space in regional systems – in Polish). *Prace Komisji Krajobrazu Kulturowego*, 25: 7–18.
- Jedwab, R., Johnson, N.D. & Koyama, M. (2022). Medieval cities through the lens of urban economics. *Regional Science and Urban Economics*, 94: 103598.
- Kowalczyk, A. (2008). Krajobraz kulturowy (Cultural landscape) In: Eds. Z. Młynarczyk & A. Zajadacz (eds). *Uwarunkowania i plany rozwoju turystyki*, Wydawnictwo Naukowe UAM, Poznań.
- Krassowski, W. (1990). Dzieje budownictwa i architektury na ziemiach Polski (History of civil engineering and architecture in Polish territories – in Polish). Vol. 2. Warszawa, 37.
- Kwiatek-Sołtys, A. & Mainet, H. (2014). Quality of life and attractiveness of small towns: a comparison of France and Poland. *Questiones Geographicae*, 33(2): 103-113. DOI: 10.2478/quageo-2014-0019.

- Lewerenz, T. (1975). Die Größenentwicklung der Kleinstädte in Ost - und Westpreußen bis zum ende des 18. Jahrhunderts (The size development of small towns in East and West Prussia up to the end of the 18th century – in German). Marburg/Lahn.
- Mallet, S. (2018). The cittaslow label and its sreanding in France: The slow to produce sustainable spaces? *Territoire en mouvement Revue de géographie et aménagement*, 37. DOI: 10.4000/tem.4173.
- Matthew, D. (1983). *Atlas of Medieval Europe*. Checkmark Books.
- Mayer, H. & Knox, L.P. (2006). Slow Cities: Sustainable Places in a Fast World. *Journal of Urban Affairs*, 28(4): 321–334.
- Miele, M. (2008). CittàSlow: Producing Slowness against the Fast Life. *Space and Polity*, 12(1): 135–156.
- **Myga-Piątek, U.** (2012). Krajobrazy kulturowe. Aspekty ewolucyjne i typologiczne (Cultural landscapes. Evolutionary and typological aspects – in Polish). Uniwersytet Śląski, Katowice.
- **Orhan, M.** (2017). Different Approach to Forming Sustainable Cities: Cittaslow. *Journal of Environmental Protection and Ecology*, 18(3): 1017– 1026.
- PuzzleFactory. (2023). Available at: www.puzzlefactory. pl/pl/puzzle/graj/krajobrazy/297006-regionypolski#5x6 (15.12.2023).
- Saraiva, M. & Pinho, P. (2017). Spatial modelling of commercial spaces in medium-sized cities. *Geojournal*, 82(3): 433–454.
- Sitte, C. (1909). Der Städtebau nach seinen künstlerischen Grundsätzen (Urban planning according to its artistic principles – in German). Basel-Boston-Berlin.
- Srokowski, S. (1945). Prusy Wschodnie. Studium geograficzne, gospodarcze i społeczne (East Prussia. Geographic, economic and social studies – in Polish). Gdańsk - Bydgoszcz - Toruń.
- Szymańska, D., & Grzelak-Kostulska, E. (2005a). Problematyka małych miast w Polsce w świetle literatury (Problems of small towns in Poland in the light of the scientific literature– in Polish). In: K. Heffner & T. Marszał (eds.), 2005, Problemy rozwoju małych miast w wymiarze lokalnym i regionalnym (Contemporary problems of small

towns' development: local and regional aspects – in Polish). Warszawa, PAN KPZK. Available at: http://repozytorium.umk.pl/handle/item/538.

- Szymańska, D. & Grzelak-Kostulska, E. (2005b). Małe miasta w Polsce - zmiany ludnościowe i funkcjonalne w drugiej połowie XX wieku. In: K. Heffner (ed.), Małe miasta a rozwój lokalny i regionalny. Akademia Ekonomiczna w Katowicach. Available at: http://repozytorium.umk.pl/handle/ item/545.
- Tołwiński, T. (1939). Urbanistyka. Vol. I. Budowa miasta w przeszłości (Urban Planning. Vol. 1. The construction of the city in the past – in Polish). Zakład Urbanistyki Politechniki Warszawskiej, Warszawa.
- Wejchert, K. (2008). Elementy kompozycji urbanistycznej (Elements of urban composition – in Polish). Arkady, Warszawa.
- Włacz Polskę. (2022). Available at: www.właczpolske. pl/index.php?etap=10&i=289&nomenu=1 (20.06.2022).
- Wikipedia. (2022). Available at: https://pl.wikipedia. org/wiki/Warmia (Accessed: 20 June 2022).
- Zagroba, M., Pawlewicz, K. & Senetra, A. (2021). Analysis and Evaluation of the Spatial Structure of Cittaslow Towns on the Example of Selected Regions in Central Italy and North-Eastern Poland. *Land*, 10(8): 1–29. DOI: 10.3390/land10080780.
- Zagroba, M., Szczepańska, A. & Senetra, A. (2020). Analysis and evaluation of historical public spaces in small towns in the Polish region of Warmia. *Sustainability*, 12(20): 8356. DOI: 10.3390/ su12208356.
- Zielone Płuca Polski walory przyrodnicze i kulturowe (Green Lungs of Poland – natural and cultural values) (2009), In: K. Wolfram (Ed.), Białystok: Fundacja Zielone Płuca Polski.
- **Zonneveld, J.I.S.** (1990). *Introduction to cultural aspect of the landscape*. IALE Conference, Wageningen.
- Zuzańska-Żyśko, E. (2007). Small towns in Śląskie voivodeship. *Bulletin of Geography. Socio-economic Series*, (07): 5-14. DOI: doi.org/10.1515/2440, https://apcz.umk.pl/BGSS/article/view/2440.

