KAUNAS UNIVERSITY OF TECHNOLOGY

STANISLOVAS ČEPINSKAS

ARCHITECTURE OF KAUNAS COUNTY RURAL FARMSTEADS AND SUBURBAN HOUSES IN 1918-1940

Summary of Doctoral Dissertation Humanities, History and Theory of Arts (H 003) This doctoral dissertation was prepared at Kaunas University of Technology, Institute of Architecture and Construction during the period of 2009–2020.

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Editor: Armandas Rumšas (Publishing House"Technologija")

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The summary of this doctoral dissertation was sent out on 17-08-2021.

The doctoral dissertation is available on the internet at http://ktu.edu and at the library of Kaunas University of Technology (Donelaičio 20, LT-44239, Kaunas, Lithuania).

KAUNO TECHNOLOGIJOS UNIVERSITETAS

STANISLOVAS ČEPINSKAS

KAUNO APSKRITIES KAIMO SODYBŲ IR PRIEMIESČIŲ ARCHITEKTŪRA 1918-1940m.

Daktaro disertacijos santrauka Humanitariniai mokslai, menotyra (H 003) Disertacija rengta 2009–2020 metais Kauno technologijos universiteto architektūros ir statybos institute

Mokslinis vadovas:

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Disertacija bus ginama viešame menotyros mokslo krypties disertacijos gynimo tarybos posėdyje 2021 m. rugsėjo 17 d. 10 val. Kauno technologijos universiteto disertacijų gynimo salėje.

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Disertacijos santrauka išsiųsta 2021 m. rugpjūčio 17 d.

Su disertacija galima susipažinti internetinėje svetainėje http://ktu.edu ir Kauno technologijos universiteto bibliotekoje (K. Donelaičio g. 20, 44239 Kaunas)

INTRODUCTION

The traditional architecture of each ethnographic district of Lithuania was denoted by relatively pronounced characteristic features specific to the exact region. Traditional buildings were constructed by the local craftsmen with the skills getting passed down from generation to generation, without virtually any impact of the academic culture. The order of the layout of the buildings depended on the narrow land lots of the Volok type villages with the living house being situated in front of a street. This way of the construction tradition was maintained up to World War I.

The interwar period brought many changes to Lithuanian villages, and the most important of them was the land reform. Over 95% of the street-type villages surviving from the Volok land reform were divided into single farmsteads; this system was adhered to up to World War II. The layout of the property changed dramatically: many small narrow land lots scattered around the village (belonging to one owner) were transformed into one solid land lot with the farmstead being established in the middle. The rural landscape fundamentally changed: the traditional street villages with densely positioned farmsteads in front of the main street were replaced by detached farm villages with single family farmsteads scattered in the surrounding fields.

Given the fact that the rural architecture of the interwar Kaunas County already went beyond the tradition of the local craftsmen, significant influence of professional recommendations and the modern architecture can be observed. Recommendations were given in publications covering rural construction, and exemplary construction projects were being suggested. A number of innovations regarding construction materials, the building outline and the farmstead layout were being proposed. A variety of modern (for the times) materials, never used before in the rural construction, was being offered, although with recommendations to hide them under traditional exterior decoration materials. Decoration solutions were taken from examples collected during ethnographic expeditions from the entire Lithuanian territory.

Due to the still strong tradition of the rural construction, a significant part of new buildings was still being built by the local craftsmen according to the construction tradition with very limited changes. Many old homestead buildings while being replaced by new farmsteads were also left intact. The possibility to initiate construction in villages without technical projects also helped the continuity of tradition to survive. Technical projects were required for constructions in suburban areas as well as in rural areas near the main roads and railroads. Serious impact was felt from Kaunas, the interwar capital of the state: some rural areas located closer to the city were transformed into suburban

districts with their characteristic architecture, although, close to them, survived the typical rural areas with detached village farmsteads being scattered around.

In order to reveal the Kaunas County situation of 1918–1940 and to disclose its developments more extensively, it is important to study the archival documentation of the interwar Kaunas County and *in situ* survived objects.

Research object: farmsteads of detached farm villages established in 1918–1940, their layout structure, composition, connection with the surrounding environment as well as the buildings belonging to these farmsteads and suburban homesteads, their architectural shapes, construction and materials and their survival and current physical status. Detailed research is made on the suburbs of the southern part of Kaunas County so that to determine their survival status.

Geographical boundaries of the research. The area of the administrative unit as of 1918-1940 - Kaunas County. It consisted of 17 small rural districts: Kaunas City and 5 districts having boundaries with it (A. Panemunė, D. Lapės, Garliava, Pažaislis, Raudondvaris) and 11 on the periphery (Babtai, Čekiškė, Jonava, Kruonis, Pakuonis, Rumšiškės, Seredžius, Vandžiogala, Veliuona, Vilkija, Zapyškis). The interwar Kaunas county was situated in central Lithuania, and it had boundaries with the following counties: Alytus, Kėdainiai, Marijampolė, Raseiniai, Šakiai, Trakai, Ukmergė. The county had a unique layout in terms of Lithuanian ethnographical districts – it intersected borders of 4 out of 5 districts (Aukštaitija, Dzūkija, Suvalkija and Žemaitija). The tradition of construction of these regions and the presence of the state capital made an impact on the architecture of Kaunas County. The connection between the tradition and modernity can be found in this architecture. A stronger impact of modernity near Kaunas City gives way to tradition in the further districts. The research contains comprehensive studies of the continuation of tradition as well as innovations manifested through new materials, constructions, volumes, and layouts. The following comprehensively researched and presented origins of these innovations can be listed: legislation, laws, guidance publications, technical projects.

The aim of the research: to analyze and evaluate the peculiarity of the architecture of 1918–1940 Kaunas County rural farmsteads and suburban homesteads in order to disclose the connection between the tradition and modernity and the survival of architectural objects while finding possibilities of preservation.

Tasks of the research:

1. To examine the legal basis regulating the interwar rural construction so that to determine its influence on the planned structure of the homesteads and the architecture of buildings;

- 2. To study the materials and construction methods used in the rural construction while evaluating the innovations proposed by the recommendations and their impact on the architecture of buildings along with the continuity of tradition;
- 3. To distinguish the characteristic features of the architecture and the plan structure of the actually built homestead buildings in the rural areas while taking into account the changes of 1918–1940 which actually took place;
- 4. To explore the suburban architecture formed under the influence of Kaunas City while distinguishing the types of residential houses and the construction structures:
- 5. To assess the survival situation of the homesteads of the interwar period;
- 6. To identify and assess the main threats to the survival of the interwar rural architectural heritage and to present possible ways of its preservation.

Research methodology. The research was implemented in several stages, and the following methods were used:

- 1. The cartographic research method;
- 2. The distance research method:
- 3. The on-site research (inventory) method;
- 4. The interview method;
- 5. The historical descriptive method;
- 6. The analytical method.

The material for the dissertation was collected by studying literature and by researching the planning, iconographic and textual material in Lithuanian archives. Over 180 sources of literature and legislation were examined during the research. A significant part of the material was accumulated while studying Kaunas Regional State Archive (over 500 units of building projects and homesteads situation plans - objects from suburban and rural areas were collected). During the cartographic research – by analyzing interwar and current topographic maps (comparing them), the survival situation of the interwar single farmsteads was assessed, and the areas for further research were selected. Later on, with the help of remote exploring (by using modern technological tools: Google Maps, Google Earth, Google Street View, geoportal.lt and the database of satellite photos of various periods available in them) areas with potentially valuable farmsteads of the interwar detached farm villages were identified for a further on-site inventory. By comparing maps of 1918-1940 and the current satellite photos, the preliminary survival level of interwar suburbs was assessed. Over 500 units of detached farm village farmsteads were selected for field research in the territory of Kaunas County, of which, over 100 were examined in detail on site. The investigation was conducted in 2016-2017. In the suburbs, valuable objects were identified during the on-site research in 2017-2018. Photographic material, plans of homesteads and valuable buildings reflecting the interwar period were collected during the research. The collected material was systemized by preparing descriptions of the research objects consisting of on-site research questionnaires, iconographic material of the homesteads and their buildings (positive and critical photos), plans of situation, location on the topographic maps and satellite photos. The collected data was analyzed to determine the most characteristic features of the architecture and the plan structures. During the field research, the current status of the interwar objects was assessed, and the main threats to their survival were identified. The possible conservation options were identified according to the current situation.

Novelty and originality of the research

So far, very little research has been done about the rural architecture of 1918 1940, and most case studies were fragmental as they touched the interwar period in the context of other periods. During the Soviet times, this period, in most cases, was left intact or only briefly mentioned with the negative approach because of the Soviet ideology (the interwar period was equated with Capitalism, which was radically opposite to the prevailing political ideology). After regaining independence, the interwar period was studied in detail in the description of the land reform of this period, but little attention was paid to rural architecture, and Kaunas suburbs of 1918–1940 still were not explored in detail. The authors of several publications and scientific articles discussed the most characteristic features of the rural architecture of the interwar period in the context of other periods, however, a small amount of studies has been devoted to the interwar architecture as the focal point of research. The topic chosen for this thesis is relevant because there still no comprehensive publication dedicated to interwar rural architecture. The research examines the rapid multifaceted changes in the architecture of the villages and the capital's suburbs which have not received more detailed research and evaluation yet.

The work is relevant because:

- It complements the limited architectural research of the discussed period;
- It is required for a consistent and systematic assessment of the interwar Kaunas County architecture;
- It helps to reveal the influence of the construction tradition of Lithuania's ethnographic regions on the rural and suburban architecture of Kaunas County in the interwar period;
- It helps to detect the impact of the recommendations for rural construction on the *de facto* built buildings;
- It reveals the influence of the architectural and construction innovations on the traditions of ethnographic construction;

- It reveals the characteristic features of the architecture and the planned structure of rural areas of the interwar Kaunas County;
- The research gives possibility to identify and evaluate the surviving interwar architectural heritage, to identify the current physical status and the changes that have taken place in the current objects ant their surroundings;
- The study reveals the main reasons for the disappearance of the interwar architectural heritage;
- In the light of the studies carried out on the current situation, the research provides opportunities for the preservation of this heritage.

Review of literature and sources

The recommendations for rural construction present construction methods and materials, building designs and decoration, the selection of the homestead site, the layout of buildings, and landscaping. The recommendations were of various volumes - ranging from small articles dealing with individual topics of construction up to comprehensive publications introducing all stages of rural construction and containing numerous illustrations and examples of technical projects, Proposals of recommendation publications and projects are discussed in Chapter 1.3 of the dissertation. Individual separate guidance publications discussed many issues related to rural construction from site selection and building materials to homestead landscaping. These were: the work by Prof. P. Januševičius¹, R. Vanagaitis "Kaimo statyba"², K. Reisonas "Žemės ūkio statyba"³, L. Gimbutas "Žemės ūkio statyba"⁴, V. Švipas "Kaimo statyba"⁵ and another publication of this author having impact on suburban architecture "Miesto gyvenamieji namai".6. In the *Ūkininko knygynėlis* book series for farmers, several guidance books were also dedicated to rural construction: "Kaip kurti ir tvarkyti sodybą⁷", "Molio statyba"⁸, "Ūkininko pirtis"⁹, "Trobesiu dažymas"¹⁰. Part of the articles in the periodical Statybos menas ir technika¹ were also devoted to rural construction.

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¹ Januševičius P. Namai. Jųjų svarba, vieta, padėjimas, stilius medega, statymas, papuošimas, išvaizdos ir planai. Dovanėlė kaimiečiams. Kaunas: Žemaičių vyskupijos 500 m. sukaktuvių atminimui, 1917;

² Vanagaitis R. Kaimo statyba. Šiauliai: Kultūra, 1922;

³ Reisonas K. Žemės ūkio statyba. Kaunas: Žemės ūkio departamentas, 1926;

⁴ Gimbutas L. Žemės ūkio statyba. Kaunas: Aukštesnioji Technikos mokykla, 1929;

⁵ Švipas V. Kaimo statyba. Kaunas: Žemės ūkio rūmų leidykla, 1936;

⁶ Švipas V. Miesto Gyvenamieji namai. Kaunas: Žemės ūkio rūmų leidykla, 1933;

⁷ Kaip kurti ir tvarkyti sodybą. Serija "Ūkininko knygynėlis", T. 53. Kaunas: Žemės ūkio rūmai, 1933;

⁸ Reisonas K. Molio statyba. Kaunas: Žemės ūkio rūmai, 1928;

⁹ Švipas V. Ūkininko pirtis "Ūkininko knygynėlis", T. 71. Kaunas: Žemės ūkio rūmai, 1934;

Švipas V. Trobesių dažymas. "Ūkininko knyginėlis", T. 62. Kaunas: Žemės ūkio rūnmai, 1934;

¹¹ Statybos menas ir technika Nr. 1-5. 1922-1923;

Articles in periodicals 1918-1945. The topics of the tradition of architecture and new construction were extensively discussed in the press and periodicals. The weekly newspaper Naujoji Romuva (1931-1940, Kaunas), edited by J. Keliuotis, examined the problems of the distinctive Lithuanian architectural style and discussed the continuation of the national traditions in architecture. Folk architecture was examined and new constructions were discussed in the ethnographic journal Gimtasai Kraštas (edited by P. Bugailiškis, 1934-1943 Kaunas – Šiauliai). The two-weekly publication of the Chamber of Agriculture Ūkininko patarėjas discussed new construction in villages and gave recommendations in its attachments, the most solid of which was Kaimo statyba¹² edited by V. Švipas. Rural construction management was discussed by P. Žumbakis¹³ and J. Šimoliūnas¹⁴. Pulgis Andriušis described the individuality of the wooden architecture of the suburbs and the active attempt to break away from rural construction (Lietuvos Aidas 1940)¹⁵. The issues of the workers' accommodation in the colonies of small suburban houses were discussed in the works by V. Kalakauskas¹⁶. and K. Korsa¹⁷ (1930). The land reform was discussed by A. Požėla (1931)¹⁸.

Interwar rural architecture research after 1945. Geographer S. Tarvydas in his dissertation touches on the interwar land reform¹⁹. Early postwar rural architecture exploration was introduced by Izidorius Butkevičius²⁰. Large scale rural research data was presented by J. Baršauskas, F. Bielinskis, M. Kleinas in the Baltic states ethnographic conference in (1954)²¹. The existing types of the traditional homesteads (in terms of the plan structure) were distinguished by J. Baršauskas²². The dissertation research of Bielinskis touched on the interwar architecture in the context of pre-war construction analysis²³. The types of interwar detached farm villages were presented in the first volume of the monograph Lietuvių liaudies architektūros paminklai while also noting the changes that took place in the architecture²⁴. A large scale research was made by I. Butkevičius: although there was very little material about the interwar period in this work, but the data was objective: in the prepared monograph, detached

 $^{^{12}}$ Švipas V. Kaimo statyba. Kaunas: Žemės ūkio rūmų leidykla, 1936;

¹³ Žumbakis, P. Kaimo statybos tvarkymas. Iš: Savivaldybė, Nr. 2 (37), 1938, p. 30

¹⁴ Šimoliūnas, J. Statyba. T. I-IV. Kaunas . (1937-1941);

¹⁵ Pulgis A. Kauno medinė architektūra. Priemiestis kariauja su kaimu // Lietuvos Aidas 1940-01-22

¹⁶ Kalakauskas. V. Trūksta darbininkams butų // Darbininkas. 1938-08-12, p. 1;

¹⁷ Korsa, K. Darbininkų butų kolonijų reikalas Lietuvoje // Darbas. 1936-02-13, p.2

¹⁸ Požėla A. Žemės reformos vykdymo apžvalga // Savivaldybė. 1931. Nr. 4 (95), p. 25; ¹⁹ Tarvydas S. Lietuvos TSR kaimų sodybų tipai ir jų pasiskirstymas. Kand. disertacija. 1948

²⁰ Butkevičius I. Lietuvos valstiečių gyvenvietės ir sodybos. Vilnius: Mintis, 1971. P. 22-28.

²¹ Kleinas M. Kaimų ir sodybų išplanavimas ir užstatymas. 1954.

²² Baršauskas J. Lietuviškos kolūkiečio sodybos architektūra. Vilnius, 1956.

²³ Ф. К. Белинскис, Литовское народное зодчество. Москва, 1960

²⁴ Lietuvių liaudies architektūra / Red. K. Šešelgis, J. Baršauskas, K. Čerbulėnas, M. Kleinas. T. 1. Vilnius: Mintis

farm villages, interwar house types, and the annual data of villages transformed by the land reform were presented²⁵. Comprehensive research data was presented in the five-volume monograph Lietuvių liaudies architektūros paminklai. Volume III²⁶ discussed the process of the land reform, whereas Volume V was dedicated to the interwar detached farm villages²⁷. Comprehensive data about the land reform was given by V. Kniūraitė²⁸ and V. Daugailienė (in the context of other reforms)²⁹, G. Vaskela (by comparing with Latvia and Estonia)³⁰. Rural homesteads were analyzed from the socio-economic aspect by B. Povilaitis³¹ and J. Pričiniauskas³². The 6-volume monograph of the Council for the Protection of Ethnic Culture discusses traditional buildings in detail, and the interwar period is highlighted by R. Bertašiūtė in the volumes dedicated to the East³³ and West³⁴ Aukštaitija region. In 2012-2013, the five-volume monograph Rural Construction prepared by R. Bertašiūtė presented the proposals for new constructions according to the regional tradition (interwar examples were presented)³⁵. The architecture of interwar villages and towns in more detail was reviewed by R. Bertašiūtė in 2014³⁶. Comprehensive studies about the sacral wooden architecture were made by A. Jankevičienė³⁷ and K. Čerbulėnas³⁸, and wooden chapels were researched by I. Burinskaitė³⁹. The order of interwar

²⁵ Butkevičius I. Lietuvos valstiečių gyvenvietės ir sodybos. Vilnius: Mintis, 1971.

²⁶ Šešelgis K. Lietuvių liaudies architektūros paminklai : Savaimingai susiklostę kaimai. T.3. Vilnius : Mokslas, 1988

²⁷ Šešelgis K. Lietuvių liaudies architektūros paminklai: Gatviniai ir vienkieminiai Aukštaitijos kaimai. T.5. Vilnius: Savastis, 1998

²⁸ Kniūraitė V. Agrarinė Lietuvos buržuazijos politika 1919-1940 m. Vilnius: Vilniaus valstybinis universitetas, 1983.

²⁹ Žemėtvarka Lietuvoje / Red. V. Daugalienė, A. Bagdonas, S. Staliūnas, P. Aleknavičius, V. Gurskienė, V. Skuodžiūnas, R. Survila. Vilnius: Valstybinis Žemėtvarkos institutas, 2004.

³⁰ Vaskela G. Žemės reforma Lietuvoje 1919-1940. Vilnius: Lietuvos istorijos institutas, 1998.

³¹ Povilaitis B. Lietuvos Žemės ūkis 1918 – 1940 m.: Jo raida ir pažanga. Toronto, 1988

³² Pričinauskas J. Ekonominė darbo valstiečių padėtis Lietuvoje buržuazijos valdymo metais// Mada 1955 T. 1 P. 7-42

³³ Rytų Aukštaitijos tradicinė kaimo architektūra / Red. R. Bertašiūtė, V. Vasiliauskaitė, G. Žumbakienė, R. Bortkūnas, . N. Norvaišienė. Vilnius: Etninės kultūros globos taryba.2009

³⁴ Vakarų Aukštaitijos tradicinė kaimo architektūra / Red. R. Bertašiūtė, V. Baltrušaitis, I. Burinskaitė, G. Žumbakienė. Vilnius: Etninės kultūros globos taryba. 2008.

³⁵ Kaimo Statyba. V.1 Dzūkija; V2. Mažoji Lietuva; V3 Suvalkija; V4. Vakarų Aukštaitija; V5. Žemaitija. / Sud. Rasa Bertašiūtė. Vilnius: Petro Ofsetas, 2012-2013.

³⁶ Lietuvos tarpukario architektūros palikimas: materialumo ir nematerialumo dermė: mokslo monografija / Red. R. Bertašiūtė, V. K. Balbierienė, A. Pakštalis, V. Petrulis, K. Rudokas. Kaunas: Technologija, 2015;

³⁷ Jankevičienė A. Lietuvos medinė sakralinė architektūra. Vilnius : Vilniaus dailės akademijos leidykla, 1998.

³⁸ Čerbulėnas K. Liaudiškų memorialinių paminklų kilmė ir jų architektūrinė – meninė charakteristika // LTSR architektūros klausimai. T. 3. 1966, p. 98-121.

³⁹ Burinskaitė I. Lietuvos medinės koplytėlės : architektūra ir tradicija : humanit. m. dr. disertacija. VDU. Kaunas, 2004.

construction was presented by M. Baužienė⁴⁰; in this work, also, the plan of brick masonry development in Lithuania was reviewed. The construction regulating institutions were discussed in the dissertation of Paulius Tautvydas Laurinaitis⁴¹. The urban heritage of historical Kaunas suburbs was researched by Dalia Dijokienė⁴² (yet, the interwar formed suburbs were not included in the study).

Archival data. In the collections of state archives, museums, institutes and libraries, various types of materials are stored: cartographic sources (maps, village plans, plans for the division of villages into single farms with land management), descriptions, drawings (projects, sketches and measurements of expeditions), drawings and photographic fixation material. Rural subdivision projects are stored in the Central State Archive of Lithuania (LCVA), Fund No. 1250 (Land Management Department of the Ministry of Agriculture). Abundant photographic fixation material of the ethnographic expeditions carried out during the Soviet era is stored in the Lithuanian Folk Museum (LLBM), Negatives Fund F1. The folk art archive of the National Museum of Art of M.K. Čiurlionis preserves the 20th century inventories and photo-fixation material (glass and film negatives (Ng.), photographs (AVa), drawings (Lta), plans, homestead inventory files (Lta.) that were collected during the expeditions of the 1920s and 1930s. Abundant materials and descriptions illustrating the layout of villages and homesteads are stored in the main fund of the archives of the Lithuanian Institute of History (LII). Most of the research material (over 500 different rural building projects and situation plans) for the dissertation were collected in Kaunas Regional State Archive (KRVA) Fund F17 Kaunas County Construction Committee.

1. Construction regulation and recommendations in 1918-1940.

The interwar land reform was the decisive factor that influenced the landscape and rural constructions, thus radically reducing the number of one street villages and setting up granges in the old estates and on the lands of the estates. The first chapter reviews the interwar land reform, discusses its course, assesses the impact on changes in the rural planning structure, and analyzes the applicable laws and regulations. The legal framework regulating the construction in rural areas is analyzed, its influence on the planned structure of villages and homesteads and the architecture of buildings is reviewed, and the changes influenced by law in the construction tradition are assessed. The necessary legislation was created along with the accompanying programmes and

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 ⁴⁰ BAUŽIENĖ, M. Statybų tvarka nepriklausomos Lietuvos metais. Iš: Žemaičių žemė, 2007, Nr. 3,
p. 6. Prieiga per internetą: http://www.samogit.lt/Zurnalas/2007_03/ZZ_2007_3_6_7.pdf.
⁴¹ Laurinaitis P. Nacionalinės moderniosios urbanistikos mokyklos formavimasis pirmojoje Lietuvos

⁴¹ Laurinaitis P. Nacionalinės moderniosios urbanistikos mokyklos formavimasis pirmojoje Lietuvos respublikoje (1918-1940). Daktaro disertacija, Kauno technologijos universitetas. Humanitariniai mokslai. 2020.

⁴² Dijokienė, D. Urbanistinis istorinių priemiesčių paveldas. Vilnius: Technika, 2009.

institutions regulating the new rural constructions. The main recommended publications for rural construction are presented, their proposals related to homestead planning, building architecture and building materials are reviewed. Considerable attention is paid to the approach to the construction tradition set out in these publications. Recommendations for landscaping homesteads are reviewed.

The issue of refining and nurturing the Lithuanian construction style raised by the authors of the first recommendations remained relevant until World War II. The Lithuanian construction style served as the main topic of some recommendation publications (Januševičius⁴³, Statybos menas ir technika⁴⁴). Designs that aimed at preserving the Lithuanian character of the buildings whilst using new technologies were developed. Regional particularities were not taken into account, and house designs typical of the entirety of Lithuania prevailed. A topic theme touched by all the authors was the construction of buildings that are health-friendly, hygienic and comfortable to live. Correct planning of buildings was noted, as well as a higher room height for more volume of fresh air, larger windows for better lighting, etc. The recommendations pay close attention to the rational selection and use of construction materials and the quality installation of building elements. The importance of the properly installed foundations was emphasized by all the authors while discussing the main mistakes in their installation as the most common problem to be mentioned was the insufficient depth of foundation. Foundations suitable for rural construction with the description of installation were presented by engineer R. Vanagaitis⁴⁵ (concrete and stone with lime mortar). Architect K. Reisonas in 1926 in one of the most comprehensive publications on rural construction Žemės ūkio statyba⁴⁶ covered the topic most broadly: various solutions for durable, inexpensive but efficient building foundations were presented. Orders of the correct installation of various foundations were presented by engineer L. Gimbutas⁴⁷ and architect V. Švipas⁴⁸. A number of alternative materials were proposed for the construction of walls (concrete monolith, home-made concrete bricks and blocks of various shapes, clay monolith, brickwork, etc.).

Emphasis was placed on the most important properties of walls (strength, impermeability to heat and moisture, natural ventilation, non-combustibility, the optimal price and aesthetic attractiveness. Recommended materials for roofs,

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⁴³ Januševičius P. Namai. Jujų svarba, vieta, padėjimas, stilius medega, statymas, papuošimas, išvaizdos ir planai. Dovanėlė kaimiečiams. Kaunas: Žemaičių vyskupijos 500 m. sukaktuvių atminimui, 1917;

⁴⁴ Statybos menas ir technika Nr. 1-5. 1922-1923;

⁴⁵ Vanagaitis R. Kaimo statyba. Šiauliai: Kultūra, 1922.

⁴⁶ Reisonas K. Žemės ūkio statyba. Kaunas: Žemės ūkio departamentas, 1926.

⁴⁷ Gimbutas L. Žemės ūkio statyba. Kaunas: Aukštesnioji Technikos mokykla, 1929.

⁴⁸ Švipas V. Kaimo statyba. Kaunas: Žemės ūkio rūmų leidykla, 1936.

while taking into account non-combustibility, the optimal price, durability, with a variety of options were provided, starting with inexpensive, widespread options (straw impregnated with clay, chips, shingles, boards), and indication of durable, but more expensive options – tiles, tin, as well as the already available asbestos cement roofing – was also presented. Priority was given to roof tiles (with the discussion of their production technology) and clay-soaked reeds (which was a durable and inexpensive material).

Publications also presented exemplary project designs based on the area of owned land by the farm: for the general construction of the homestead and for individual buildings. R. Vanagaitis gave proposals for 1-3; 4-8 and 8-15 ha. land-owning farmsteads, *Statybos menas ir technika* magazine suggested a single option (for a farm under 5 ha.). Four pilot projects according to the farmowned land area (5 ha., 10 ha., and two examples of 20 ha.) were proposed in $\bar{U}kininko~knygynėlis~No.~53^{51}$. V. Švipas offered five building layout examples for homesteads of different sizes, and multifunctional farm buildings were offered for small farms Lanuševičius gave samples of only dwelling houses, but as many as 18 variants ystems (stoves), water supply systems, and baths 18 variants of landscaping were discussed in detail by V. Švipas, and concise information about the selection and planting of trees was provided in the book series $\bar{U}kininko~knygynėlis~kaip~kurti~ir~tvarkyti~sodybq$. A number of individual sample projects were prepared by the Construction department of the Chamber of Agriculture.

2. Continuity and changes in the tradition of homestead architecture in 1918-1940

This chapter analyzes the interwar Kaunas County rural and suburban architecture, along with the features specific to particular parts of the county. Attention is paid to the plan structure of homesteads, the ratios of building volumes, the yard size, the building orientation and layout, as well as the functional relationships. The interaction of the tradition and innovation in the application and the architectural expression of materials and structures was

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⁴⁹ Vanagaitis R. Kaimo statyba. Šiauliai: Kultūra, 1922. p. 80-99.

⁵⁰ Statybos menas ir technika Nr. 1. 1922. P. 15. Pavyzdingas trobesių projektas ūkiui iki 5 gekt. žemės.

⁵¹ Kaip kurti ir tvarkyti sodybą. Serija "Ūkininko knygynėlis", T. 53. Kaunas: Žemės ūkio rūmai, 1933.

⁵² Švipas V. Kaimo statyba. Kaunas: Žemės ūkio rūmų leidykla, 1936.p. 237.

Januševičius P. Namai. Jujų svarba, vieta, padėjimas, stilius medega, statymas, papuošimas, išvaizdos ir planai. Dovanėlė kaimiečiams. Kaunas: Žemaičių vyskupijos 500 m. sukaktuvių atminimui. 1917.

⁵⁴ Švipas V. Kaimo statyba. Kaunas: Žemės ūkio rūmų leidykla, 1936.

assessed. The types of residential houses which were common in the rural and suburban areas were distinguished by reviewing their characteristic features, construction materials and prevalence – specifically, technical building designs (archival material) and on-site research data were used.

There were two types of homesteads based on the main income source of the inhabitants – agricultural activities and other activities. Although suburbs de jure were rural territories, but the main source of the income of inhabitants of Kaunas suburbs was not related to farming, thus making the plan structure of their homesteads very different from the farmer's homesteads. Suburban homesteads, with a few exceptions, consisted of two buildings – a residential house, usually formed next to the street, and a small auxiliary building built further in the vard. Examination of the archival material and on-site research data reveals the most characteristic types of house planning structural variants which are reflected in the tables that are presented in the second chapter. It deals with the design features suggested by most distinguished rural architects of Kaunas County. Having studied the interwar Kaunas county archives and the surviving on-site examples, six rural residential types were identified: the traditional homestead (grouped into two cell, four cell, free layout, and the traditional building) small rental houses (up to 3 apartments), apartment rental buildings, private villas, onestory cottages, and two-story cottages. The surviving examples of each type were presented and analyzed. In the residential architecture of the suburbs, we can observe the influence of a number of innovative and stylish architectural types; however, a significant part of suburban houses still reflect the ideas of the traditional rural architecture. In the residential architecture built near Kaunas, we can spot the influence of a number of innovative and stylish architectural types, whereas, farther away from the capital, such examples can be seen less frequently. The sizes of residential houses are reviewed in the presented tables; here, we can see the most prevalent housing length and width ratios.

3. Survival situation and value of interwar Kaunas County rural and suburban architecture

In Chapter 3, we present the survival situation of the rural and suburban architecture (studies were performed during 2016-2017 on-site research by examining the rural territory of Kaunas County and the suburbs of interwar Kaunas). The following reviewed factors are related to the disappearance of most architectural objects: World War II, Soviet-era land reform, land reclamation, demographic processes: all of these led to the changes that took place: the loss of architectural identity happened due to improper reconstructions, deterioration of the environment (the Soviet era and new constructions), destruction of rural greenery, and reckless forest felling around villages. Reconstruction is divided in three levels according to its impact on the authenticity of the building: insignificant, partial and full, and examples of each level are presented. The

survival situation of Kaunas County rural area is divided into three levels: nearly intact areas (survival over 90%) fragmentary survival (up to 35%), and areas with surviving random objects (less than 5%). Kaunas suburbs in the southern part of the City – Birutė I, Linksmadvaris, Garliava, Julijanava, Yliškės are presented in terms of the survival situation by preparing plans of each suburb, the surviving interwar buildings and their current condition. The surviving buildings of 1918-1940 in terms of schemes are divided into three categories – 1: fully authentic; 2: with minor modifications; 3: reconstructed.

The interwar rural architecture is also studied as an important component of Kaunas County landscape. The interface between architecture and landscape is explored from various perspectives: the position of the researched objects is presented in terms of various aspects of the landscape in the prepared schemes. According to the current threats to the survival of architecture, possible ways of its preservation are suggested.

CONCLUSIONS

- 1. The interwar land reform was the most influential factor in the rural construction as in the short period from 1918 until the end of 1939 most Lithuanian villages were divided into single farmsteads (6993 villages were divided thus forming 159,118 single farmsteads), and only a small part was left undivided because of time shortage. Due to this reason, the planned structure of Lithuanian villages changed and became a single farm with sparse villages.
- 2. In the interwar period, eight legal acts were in force in one or another way regulating or affecting the rural construction and suburbs with the rural status. A large part of the legislation was inherited from the Tzarist Russia, then improved, and reached a relatively high level before World War II. A law specifically governing rural construction was promulgated in 1939.
- 3. There were not many reference publications on the rural construction in the interwar period, while the main ones containing valuable recommendations for rural constructions were *Statybos menas ir technika* (1922-1923), R. Vanagaitis *Kaimo statyba* (1922), K. Reisonas Žemės ūkio statyba (1924), L. Gimbutas Žemės ūkio statyba (1929) and *Molio statyba* (1928), Ūkininko knygynėlis No. 53. Kaip kurti ir tvarkyti sodybą (1933) and No. 84. V. Švipas Kaimo statyba (1936). Separate typical rural homestead construction projects were been prepared for farmsteads with land holdings of a specific size.
- 4. The preservation of the construction tradition was promoted by enriching the solutions of the recommendation projects with the

decorative and exterior elements of the ethnic regions of Lithuania collected during the expeditions from the entire territory of Lithuania. This leveled the style of separate ethnic regions of Lithuania into one 'Lithuanian' style. In many cases, the recommended building materials for the main structures (foundations, walls, ceilings) of buildings were innovative and uncharacteristic of the rural construction tradition – concrete small blocks, cast concrete structures, reinforced concrete, but covered with the traditional finishes and decorative elements typical to Lithuanian regions – these did not have negative impact from the visual point of view.

- 5. The plan structure of homesteads of the owners engaged in agricultural activities and having another main source of income differed significantly. Homesteads of the owners receiving their main income from agriculture usually consisted of 3-4 buildings arranged on the perimeter of a rectangular yard. The homesteads of owners performing other activities usually consisted of two buildings a dwelling house built closer to the road, usually with a side façade to the road, and an auxiliary building behind the dwelling house in the back yard. Suburban areas, with a few exceptions, were dominated by homesteads of non-agricultural residents consisting of a dwelling house and an auxiliary building.
- 6. The building area of residential houses varied from 20 to 225 m². Variants of 59 different residential house proportions (length to width ratios) were elucidated, and approximately half of all analyzed houses consisted of houses of a rectangular plan with a length to width ratio of 1: 1.2 and 1: 1.3, and the area ranged from 35 to 80 m². There was a tendency that the architecture of houses built according to technical projects was rich in innovations, influences of stylistic architecture and moves away from the tradition of the rural construction. In the villages further from the county center, the plan, volume and architecture of the houses built according to the situation plans in many cases remained close to the established construction tradition.
- 7. After analyzing residential houses according to their functional purpose, the following house types were clarified: traditional homesteads, small-sized houses for rent (1-3 apartments), apartment houses for rent, individual villas and one- and two-story cottages. Small-sized houses for rent, rented apartment houses and one / two-story cottages with rare exceptions were found in suburban areas, while traditional homesteads were built in the entire county. Traditional homesteads had the following structures: two-cage, four-cage, compact plan and traditional planning houses. Most of them were found in free-planning (compact plan) homes that were built throughout the whole county. In the rural

- areas, houses of traditional planning with minor interwar period influence were common.
- 8. In the suburbs, houses were built for very different architectural purposes from small simple utilitarian houses to large ornate villas it reflected the multi-layered cohesion of society, the diversity of the tastes of the population and the general trends in the development of the interwar architecture. In some projects, there was a pursuit of novelty, modernity, whereas in others a very pronounced inertia of material and form was still observed, as there was still a strong tradition of wooden construction. In the more remote rural areas, with a few exceptions, traditional homesteads still predominated, and some houses maintained the architectural style from the pre-war period, but a significant part of them could be characterized by 1918-1940 period details (bedrooms in the attic, glazed verandas, often on both sides, paired windows at the ends of the attic, etc.).
- 9. The actual building materials in use differed significantly from those suggested in the recommendations: as the cheapest and best-known material, wood was still the most widely used material (over 95% of cases) for both traditional homesteads and apartment buildings and even some suburban cottages. Instead of the suggestions made in the recommendations for masking modern building materials with the traditional finishing, reverse variants may be found when wooden buildings are plastered by imitating more luxurious masonry. There are very few examples of masonry construction; they are concentrated in the suburbs. Clay construction, while actively promoted in the recommendations, was detected in only a few cases in farm buildings. The foundation used stone masonry and cast concrete, which was also used for farm buildings.
- 10. In the 8 decades from the discussed period to the present day, most (over 90%) of the interwar architectural heritage of the rural and suburban areas has been lost and continues to disappear rapidly. Much of what remains has lost its original appearance. The limited survival of the interwar heritage was determined by a number of factors (World War II, Soviet-era land reform and reclamation, demographic processes, the development of Kaunas City territory, introduction of standardized construction) and the consequent changes: after the nationalization of land, inadequate reconstructions, demographic processes and the loss of inhabitants of entire villages led to the destruction and loss of the abandoned buildings.
- 11. The surviving rural and suburban architectural heritage identified during in-site inventory is divided into a) authentic unique, b) authentic typical, c) authentic with minor changes, d) reconstructed. Well-preserved

- authentic unique and typical examples that best represent the 1918-1940-year period are singled out as hereditary. Larger survival of interwar architectural objects has been identified in the suburbs, but here a higher proportion of buildings have been affected by reconstructions, and there has been intensification of demolition and reconstruction of authentic dwellings in the recent years (which is less common in rural areas).
- 12. The 1918-1940-year architecture is an important element both in the rural landscape and in the suburban environment, which, on condition of the good state of the buildings, increases the quality and the aesthetic potential (the contextual value) of the place where it is located. Well-proportionated and high quality environment also positively influences the aesthetic potential of the architectural object or a complex within it. It therefore makes sense to look at the environment and the architecture within it as a single, closely intertwined derivative where changes in the quality of each element necessarily respond to all other elements. Examples include the non-contextual volumes of the Soviet era buildings and new constructions which negatively affect the architectural environment and the uniqueness of the territory, improper reconstructions, destruction of green areas, and reckless deforestation in rural areas.
- 13. Kaunas County is dominated by a low and especially low resolution landscape (open and forested plains). The particularly high-resolution landscape occupies less than 10% of the territory, but it concentrates most of the well-preserved homesteads studied in this work. The river valleys and hills were not affected by land reclamation, and the high aesthetic potential of the area gave them a higher recreational value: this influenced a higher concentration of the survival of the homesteads. In the areas of high aesthetic potential with accumulations of wellpreserved homesteads (the Dubysa Valley, parts of the Nevėžis and the Nemunas valleys, Kalviai Uplands), it is important to preserve the contextual value by maintaining homestead construction and materiality and the architecture of the surviving homesteads, while regulating the traditional cultural character of any newly designed objects. In the suburb of Linksmadvaris, where the most valuable objects have survived, it is necessary to preserve the architecture and materiality of the buildings surviving from 1918-1940. Any new buildings must be designed while maintaining the traditional volumes and color solutions as well as materiality.
- 14. The preservation of vibrant architectural objects managed according to the local traditions is important for the preservation of the rural and suburban architecture. The formation of ecological activities that

increase the potential of the area complex is important for the quality of life of the local population: foreign examples are the medicinal forest complex in Heringsdorf established by the international organization ISFT and the Selvans project in Catalonia which significantly increased the need for the accommodation of traditional architecture objects and rural homesteads throughout the year.

UDK 728.6(474.5)(043.3) SL344. 2021- - , leidyb. Apsk. 1. Tiražas 50 egz. Išleido Kauno technologijos universitetas, K. Donelaičio g. 73, 44249 Kaunas Spausdino leidyklos "Technologija" spaustuvė, Studentų g. 54, 51424 **Kaunas**