

LABOR AND TECHNOLOGY AS INTEGRAL PART OF THE RURAL CULTURAL LANDSCAPE

1. INTRODUCTION

Landscape which has always provided the background for any kinds of human activity is also a reflection of this activity, a record of transformations and the image of the future. People have always been using, shaping and transforming the natural environment according to their needs. In our culture this interference is justified by The Bible's message: 'to multiply and replenish the earth and subdue it'. The industrial revolution of the turn of XVIII/XIX centuries, and then the twentieth century globalization processes have significantly contributed to the disruption in the proportions between the natural environment and the man made one. Nowadays the borders are alarmingly pushed and even crossed which may cause irreversible changes not only in the landscape. Fortunately, people are smart enough to notice the changes and they are beginning to think seriously about the consequences. Thus, numerous social proecological movements are emerging. Recently more and more pro ecological actions and initiatives are being reported. Many towns and countries are involved in ecological actions. Even the Encyclical of Pope Franciszek 'Laudato Si' from 2015 also focuses attention to ecological problems. This study includes an analysis of the Warta river mouth and a development of these areas in the eighteenth century and is based on a ten year long observation of 'Olęder' rural landscape of the Nowy Tomyśl region. The aim of this study is to prove that the cultural landscape of these areas is not only a record of the Industrial Revolution early stage but also to answer the question about the anthropogenic impact and a chance to survive in constantly changing conditions. Many New Tomyśl villages owe their landscape distinctive features to hard working settlers who used quite primitive techniques and devices. The legacy they left behind was strong enough to survive almost unchanged for almost two hundred years. This is the pressure of modern civilization and progressing forestation which irreversibly change the rural spaces. In the 18th century construction of a system of floodbanks, culverts, jases and pumping stations, in order to control the volatile waters of the Warta to gain new farmlands, became a real civilization challenge. Devices using its power, including water mills or small water power plants using the river power, were being added to the river infrastructure. Some of these elements which have witnessed the 19th century fascination with technology are slowly finishing their lives becoming interesting relics of the intensive development epoch and objects of fascination.

dr inż. arch. Gabriela Klause, Department of Urban Planning and Spatial Planning, Faculty of Civil and Environmental Engineering and Architecture, UTP University of Science and Technology in Bydgoszcz

2. „OLĘDER” SETTLEMENT HERITAGE OF NOWY TOMYŚL REGION

The settlement referred to as „Olęderski” applies to development and management of a difficult, swampy land and dates back to the 16th century. Originally, it involved Żuławy Wiślane as well as the valleys of big Polish rivers of those times. The settlement consisted of several stages. Wielkopolska experienced the largest wave of settlers in the 18th century which resulted in development of swamps and floodplains as well as a forest covered land¹. In both

cases development of the land required meliorative works and construction of appropriate technical equipment to harness the nature. However, the areas covered by forest required not only land drying but first of all, reclamation of the original forest ecosystem. Until the 18th century the primary forest area crossed by watercourses, diversified with only straps or arches of sandy dunes, now covered with pine forests², was preserved on the territory of Równina Nowotomyska³ and became a destination of the 18th century 'Olęder' colonization.

In the 16th century, Żuławy was settled by Duchmen of Mennonite Church, whereas, two centuries later, Wielkopolska, the region of Nowy Tomyśl, was settled mainly by Germans from Neumark, Branderburg, Lower Lusatia, Silesia and the Czech of Evangelistic and Lutheran Church persuasion as well as Poles from nearby villages of Catholic persuasion. Settlers/immigrants, like those in Żuławy, were called 'Olędry' which



Fig. 1. The range of Olęder settlements in Wielkopolska in years 1597-1789. The location of Nowotomyska Plain is circled in the figure. Source: own research. W. Rusiński (History of Wielkopolska t.I Until 1793, ed. J. Topolski, Poznań 1969 (podaję za Z. Chodytą [2], study of G. Klause)

could be a reference to their nationality - Holländer (Ger. Holender) or land management of the land recovered from forest reclamations - Hauländer (Ger. hauen - reclaim)⁴. 'Olęders', brought by the Wielkopolska nobility, functioned on the basis of legal norms, the most important of which was land usage rights, initially in the form of a several decade use, later perpetual use, and the status

¹ dr inż. arch. Gabriela Klause, Department of Urban Planning and Spatial Planning Faculty of Civil and Environmental Engineering and Architecture, University of Science and Technology.

² B. Krygowski, 1958. Wielkopolski Landscape and its History. PWN Poznań; A Pelczyk, 2006. Influence of Olęder Settlers on the Architectural Landscape of Western Wielkopolska. [In:] Olędry. Spaces Close to us P. Ed. W. Przewoźny. National Museum in Poznań, p. 74-88.

³ Nowotomyska plain covers the area from Pniewy through Nowy Tomyśl to Wolsztyn (on south-north line) and from Grodzisko to Zbąszyn (on east-west line).

⁴ J. Burszta, 1958. From a Slavic to Contemporary Settlement. PTL Wrocław, p.112.

of a free man fully responsible for his/her life⁵. For almost 250 years this area combined many different cultures, where labor was appreciated and people lived ordinary lives. The second World War changed the situation boosting nationalism with its gloomy consequences (Fig. 1).

'Olęders" were obliged to provide services on behalf of the state and the churches including: Catholic, Evangelistic churches. Thus the most significant features of that settlement were legal issues rather than religious or economic ones⁶. That colonization brought to Poland new types of village planning: the first, popularized in recovered from woods and swampy areas, was characterized by scattered settlements with a block arrangement of fields, which has been preserved in the area of Nowy Tomyśl, whereas the second one was adjusted to a location on the verge of river valleys, eg. The Wisła, the Odra, the Warta and the Noteć rivers. They were linear villages with strap arrangement of fields. There were also, rare in this area, villages with medieval origin of ribbon development, oval villages, often resettled by 'Olęders"⁷ (Fig. 2).



Fig. 2. Fragment of 'Olęder" village Boruja Nowa with a system of scattered farms (source: Messtischblatt z 1891 r.)

A system of a scattered villages where the farms were distant from each other 250-300 meters, was the result of forest reclamation. Research conducted by the Institute of History of PAN in Warszawa allowed to estimate the average area of forest that was possible to reclaim for a single farm by a settler to be 10ha. This was also estimated by means of maps from 1793., (Gillego-Crona) from 1830 (Urmessstichbratner) and on the basis of text sources (eg. privileges granted to settlers)⁸. Thus, the size of the farm at that time was a resultant of forest reclamation. Apart from land cultivation (initially crops was cultivated and over time hops and wicker), there was also animal husbandry and cattle grazing on wet meadows. Due to poor, light post-glacial soils, the settlers also took up non-

⁵ It is worth remembering that a similar status was given to villeins no sooner than after introduction of enfranchisement reform in 1823.

⁶ W. Rusiński, 1947. Settlement of the so called. "Olęders" in former Poznań Voivodship. Polish Academy of Arts Warszawa-Kraków-Łódź-Poznań-Zakopane, pp. 6-7.

⁷ E. Raszeja, G. Klause, 2015. „Hauländische" Landschaft der Umgebung von Nowy Tomyśl in Großpolen – das Problem der Beständigkeit von räumlichen und architektonischen Formen unter den Bedingungen eines sozialen, wirtschaftlichen und kulturellen Wandels. Land Berichte. Sozialwissenschaftliches Journal. Jahrgang XVIII, Heft1, Shaker Verlag, Aachen.

⁸ T. Panecki, T. Zwiqzek, 2016. Materials to be used for reconstruction of forests on the Nowy Tomyśl Plain in XVI century. Institute of History PAN of Tadeusz Manteuffl; <http://atlasfontium.pl/index.php?article=webhauand>, 2016.

agricultural activities which can be reflected by names of villages: Huty (steelworks), Cegielnie (brickyards), Rudy (ores), Hamry (steelwork furnaces), Kuźnie (smithies)⁹. Abundant resources of bog iron occurring on the swampy land was a very important raw material for local steelworks. It was also used for construction of foundations and wall bases. 'Olęders' were also involved in extraction of peat which has been continued until today, not always in compliance with the law. 'Olęder' village was a community where hard work and the need to maintain throughput of drainage canals required to respect the accepted social rules¹⁰.

Many 'Olęder' villages have maintained their XVIII and XIX century structures until today, providing an example of an interesting cultural landscape. Its significant components were farms situated on light hills (equivalent of Żuławy areas). They consisted of log houses, made up of two parts, one for people to live and the other for animals, all under the same roof. This type of architecture, combining features of a German and Polish farm¹¹, was preserved until the beginning of the twentieth century, when the farms started to be modernized by taking out the livestock from houses into new brick-wooden sheds with a characteristic floor. The modernization applied also to houses which were constructed from brick. The largest object of the farm was a separately located log barn with the log structure with a thatched roof, over time replaced with a brick one. The last frontage of the quadrangular yard was a shed with a henhouse and an outside privy. In the yard there was a well with a crane; in front of the house entrance there was usually a linden or a line of lindens, whereas on the west side, there was an orchard which performed also the function of wind protection¹². The farms are integral parts of the flat agricultural landscape with a block formed system of fields crossed by ground roads, natural watercourses and a network of drainage canals with trees on both sides. 'Olęder' landscape - output of the 18th-19th pragmatism - is perceived as a sequence of overlapping interiors separated by tree lanes as well as forest walls. This landscape is completed with numerous windmills and water mills situated on big rivers (Dojca, Szarka) running across the Nowotomyski sandbar. The only windmill structure that has been preserved is the one in Boruja Kościelna, whereas there are no traces of watermills (Fig. 3, 4).

Agricultural landscape undergoes constant transformation determined by civilization related changes and political turmoils including the II World War which brought about a complete exchange of population. Abandoned farms were taken over by former physical workers and migrants from the Polish eastern borderlines, Warsaw area, or nearby villages. It was hard for them to cultivate the poor quality soil and settle down in scattered villages. New farmers were reluctant to modernize old buildings which contributed to maintenance of a relatively big number of old, frequently wooden buildings which along with the charac-

⁹ A. Pelczyk, 1997. *Settlement Landscape and the conditions of its creation*. [In:] *Folk Architecture in Poland* edby J. Czajkowski. Museum of Folk Architecture Sanok, p. 3.

¹⁰ Z. Czarnuch, 2008. *River taming. Human and water in the region of the Vistula, Odra, Warta mouth*. Gorzów Wielkopolski.

¹¹ Z. Chodyta, 2006, *op. cit.* p. 50.

¹² Brief description of a farm in Boruja Nowa 76. Problem of cultural 'Olęder' landscape is presented in earlier studies of E. Raszeja and G. Klause; see the literature.

teristic landscape, is an illustration of multinational heritage of West Wielkopolska. The most significant economic, proprietary and subsequently landscape-related changes were started in the 70s of the 20th century when forestation of fields and introduction of modern agricultural equipment began. It can be said that it was the first, unconscious step to the return to XVIII-century 'forest landscape'. A definite acceleration was reported after the transformation of the political system in 1989¹³. Investment pressure and cultural transformations involved migration of town inhabitants, mainly the 70 kilometer distant city of Poznań. Convenient transport connections and common Internet connection boost the demand for land parcels. This in turn results in creation of non-historical housing outstanding from the former cultural landscape. The new buildings are now penetrating the PRL (the Polish People's Republic) forests of the 70s of XX century. At the same time forestation is being continued in result of EU subsidies.



Fig. 3. 'Olęder' farm probably from the region of Nowy Tomyśl. A branchy oak might have been a witness of an old forest. Image by Ulatowski, interwar period WWKZ in Poznań



Fig. 4. Windmills which do not exist any more Kunstmühle z 1911 r. and a windmill from XX c. - areas near Nowy Tomyśl (phot.Enderich) [20]

¹³ E. Raszeja, 2006. Quo vadis civitas? A rus. Spatial -Landscape Aspects of Sunurbanization Processes of Metropolitan Area of Poznań. Scientific Bullietins of Poznań University of Technology. Architecture and Urban Planning. Bullietin 6, Poznań, pp. 49-56.

3. EARTHWORKS AND INDUSTRIAL ARTEFACTS INVOLVED IN TAMING THE CAPRICIOUS WARTA RIVER

The eighteenth century is regarded as a historical period for the breakthrough in the approach and treatment of the riverside areas and the beginning of the triumph over nature, mainly rivers whose potential was to be utilized in a more rational way¹⁴. This was to be achieved through river regulation, construction of canals, floodbanks, creation of technical infrastructure and 'Olęder' settlement on the riverside territories designed for agriculture and cattle breeding. Harnessing rivers and settlement of the land 'taken away' from nature was included in the economic program developed by Fryderyk II, launched by his father Fryderyk Wilhelm I Pruski who was considered to be the founder of the military and economic power of the country. The Great Flood which took place in 1731 was an important experience for the young Fryderyk which he survived in the Fortress of Kostrzyn, undoubtedly had a large influence on his further decisions concerning, among others, (Błota Warciańskie, Łęgi on Warta)¹⁵. Harnessing nature had become the passion of his life which can be reflected by his statement: "Acquisition of farmlands is more important for me than killing people"¹⁶.

Implementation of great national investments involving rivers required political and financial stabilization of Prussia, which was enhanced by the fact that the Seven Year's War ended. Transformation of backwaters and their drying started in 1767-1775 in the area of the Warta and Odra rivers mouth (Warthebruch), that is, between Gorzów Wielkopolski and Kostrzyn on the Odra. The works were preceded by measurements of Błota Warciańskie, started in 1763, and then by implementation of the concept involving the land drainage carried out by engineer Jakob von Petri. Those works were supposed to start in Kostrzyn and finish in Gorzów. However, the manager of this investment Franz Balthasar Schonberg von Brenkenhoff, changed the plans by consent of the king, and started works from the opposite side: Bork and Wieprzyce, settling it immediately with "Olęders"¹⁷. The major engineering works involved straightening the river, burying river branches and simultaneous creation of levees using sand obtained from the excavation for the new river course¹⁸. The levees were assumed to protect the drained land designed for cultivation. The main physical works were carried out by soldiers and civilians (500, 1000, sometimes 1600 persons) supervised by the army. All the nearby villages and towns were engaged in the investment. They provided laborers, tools and other equipment, eg. boats. The work was exceptionally hard, poorly paid and involving the risk of disease, death and riots. In order to settle the land 'taken away from the river' it was necessary to recruit settlers, mainly German speaking ones, from the territory of Mecklenburg, as well as former German settlers. For many of them the Warta

¹⁴ U. Rada, 2015. Return to the River. [In:] Herito, heritage, culture, odern times. Journal 19. Thinking with Spotlight on Landscape Kraków, p. 42.

¹⁵ Z. Czarnuch, 2008, *op. cit.*, p. 76.

¹⁶ U. Rada, 2015, *op. cit.*, p. 43.

¹⁷ Z. Czarnuch, 2008, *op. cit.*, pp. 86-90.

¹⁸ Z. Czarnuch, 2008, *op. cit.*, p. 27. In the distant past the ramparts and often levees were erected at the same time around gradens, towns though not along rivers, a specific land was protected, river drainpipes were not created.

river banks were supposed to be the promised land, New America easier to reach than the overseas one. It turned to be an unusually beautiful place but also a specific scene of horror involving constant struggle with the water¹⁹. Formation of the land for future buildings, making levees, land reclamation was the responsibility of the Warta "Olęders" - independent, hard working people who understand the need and sense of cooperation and compliance with social norms. They had also to supervise the condition of the levees and improve them in the sections adjacent to their fields and meadows. They did it in their own interest which is well reflected by the following statement: 'It is obvious that the duty to protect the levees ruins us but we have to do it out of concern for our children'.²⁰ Since 1802 there was a post of a levee supervisor whose task was to control the condition of the levees and over time, also river current groynes, which did not however, exempt "Olęders" from their obligation (Fig. 5).

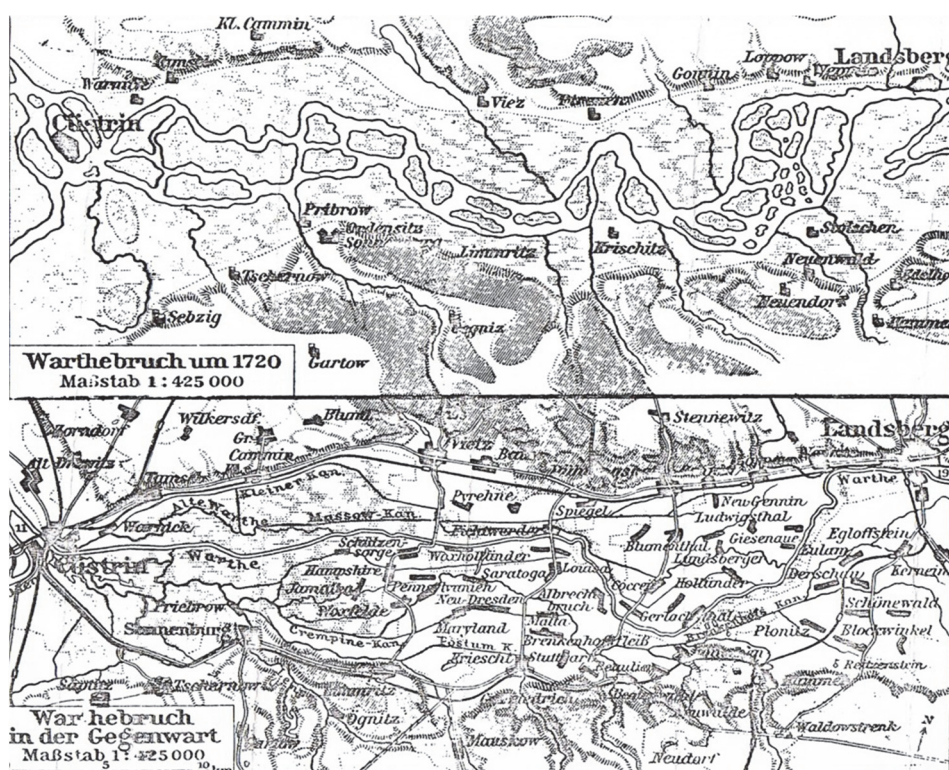


Fig. 5. Warthebruch area (Błota Warciańskie) located between Kostrzyn nad Odra and Gorzów Wielkopolski. Map from 1720 r. before the beginning of riverside regulation works; shows a transformed landscape of the Warta river mouth from 1780 with visible 'Olęder' settlement. Location of Studzionka village was marked with an oval (Albrechtsbruch) [21]

¹⁹ Z. Czarnuch, 2008, *op. cit.*, p. 7.

²⁰ Z. Czarnuch, 2008, *op. cit.*, p. 123.

The villages situated on the Warta river, like those on the Vistula river, are referred to as linear swamp sited villages. The buildings were constructed on land elevations and the farms were separated from the road by canals, hence numerous bridges necessary to enter the farm yard with wooden, half-timbered and brick buildings, depending on the construction time and financial means of the settler. Construction of the levees around the Warta river changed division of the land into inter-embankment zone with the main current of the regulated river and the terrains beyond the levees called land-side -of the levee. It was covered by a geometric network of drainage canals which allowed to cultivate the land. Sometimes the so called summer levees were erected to protect from summer flooding. It introduced a new topography in the form of artificial elevations *quasi hills* into the new, flat land. In order to prevent a levee from breaking under excessive amount of water, protection measures were used in the form of the so called levee sluices for pouring water onto the fields. At the beginning of the 19th century this function was taken over by, initially small, later larger and very interesting in terms of architecture, steam (currently) electric pumping stations (Oksza, Warniki, Słońsk) ²¹.

Water mills and ponds surrounded by dykes, impressive structures of steel bridges, ferries and river harbors for passenger boats were also elements of that landscape. It is worth mentioning that the investments involved in river regulation were accompanied with construction of canals which was a step toward sailing and, hence economic connection between the Vistula river and Warta river through the Bydgoszcz Canal in 1774. Its construction and functioning gave the Warta importance as a water route. Undertaking those investments was possible no sooner than in 1772, that is, after occupation of a part of the Polish Republic by Prussia ²² (Fig. 6).



Fig. 6. 'Oęder' village called Studzionka (Albrechtsbruch) of the linear swampy type from 1721: a map depicting the arrangement of buildings along the levees of the Warta river and a postcard of Studzionka village. Topographische Karte 1:25000, 3356 Koltschen, 1944 [22]

²¹ Z. Czarnuch, 2008, *op. cit.*, pp. 114-115.

²² Z. Czarnuch, 2008, *op. cit.*, p. 34.

After 1945 inhabitants of that area faced a similar fate as that of 'Olęders' from the region of Nowy Tomyśl. There was a catastrophic reshuffling of population. The entire water-infrastructure system created against nature for hundreds of years lost people who had been struggling with difficult natural conditions. Those investments required constant monitoring of their technical state and continuous financial outlays which particularly manifested itself in the 30s of XX century. After inclusion of these territories into the borders of Poland the situation worsened due to post war destruction. It was even hard to maintain throughput of the drainage canals which in PRL was subsidized by the state. One can wonder whether that situation started a long march back to the state from past; the interference with the natural landscape which took place in the eighteenth century. A similar return from cultivated fields to wooded land is reported on the territories of post-Olęder villages in the Nowotomyska Plain. Beavers, foxes, hedgehogs, field mice, wild boars and deer which try to get to the levees and drainage canals and agricultural cultivations are specific elements of the old harmony.

4. CONCLUSIONS

The landscape of the analyzed areas is a topographic palimpsest of cultural memory²³, palimpsest whose particular layers fade away uncovering what has been built before by nature. The analyzed landscape includes the history of transformations whose driving force was the desire to correct functioning of nature and ultimately getting control over it. The nature has been at least partly harnessed due to implementation of political-economic concepts, endeavor to improve the quality of life, human effort and sophisticated technology. Time, however, does affect matter which undergoes constant degradation not only because it is degradable but also because its time has passed and it has become a relict of culture. How to freeze great efforts of many generations who used to cut down woods to manage the poor land or curbed ubiquitous river currents to recover land for plant cultivation, grazing cattle or horses employed in the Prussian army? What should be done with the heritage? What part of it should be preserved? Perhaps it should be given back to nature through renaturation or just left without interference. There is also a question concerning future utilization of the 'Olęder' buildings in the constantly changing environment, under pressure of new buildings which are not consistent with old spatial patterns. The problem also applies to wooden structures and the distinctive features of agricultural landscape developed by the eighteenth century settlers. Maybe it would be advisable to invest in non invasive, ecological tourism? From the contemporary 'ecological' point of view it is good that the large scale projects developed by Fryderyk II were only partly implemented. Due to a lack of funds, natural floodlands have survived untouched in the western part of the Warta mouth. Those areas are 'birds' paradise' and actually a paradise for ornithologists²⁴. Attractiveness of these areas is now being focused on. Conscious visitors can be

²³ E. Rybicka, 2015. Landscape. Brief Introduction. [In:] Herito. Thinking with Spotlight on Landscape, Kraków, p. 17.

²⁴ W 2001 r. These territories were incorporated into Warta Mouth National Park, 8 thousand. ha. large.



Fig. 7. A steam pumping station (currently electric) in Stońsk from 1910 r. [23]

attracted by perfectly preserved wonders of hydro-engineering of that time, for instance, newly discovered, taken over by nature technical remnants which are evidence of both human presence and absence. They embody the power to stir emotions or rise interest like industrialization stepping into the nineteenth century with its technical artefacts. It brings connotations with William Turner's painting 'Rain, Steam, Speed', which depicts anxiety

and at the same time fascination with the 'accelerating world'. A similar effect was achieved in the case of a train line appearing in an exit of a tunnel and crossing Buttes-Chaumont park in Paris. A black, hellish, smoke puffing steam locomotive was supposed to impress the citizens and make them feel a thrill.²⁵ Anxiety can also be caused by plants including weeds which, are systematically taking over areas that used to be inhabited by people ²⁶ (Fig. 7).

Looking at the history, the matter, and people hurt by the last war, through a crazy artistic construct- project invented and developed by Michael Kurzwelley that has been implemented since 2010, under the name New America, may be a way to understand the past, accept the present and envisage the future. This project includes the inhabitants of cross-border areas, along the Nysa łużycka and the Odra river and partly the Warta river, reaching the 'Olęder' lands near Nowy Tomyśl. New America is 'a structure reflecting reality' which refers to the period of these areas settlement in the 18th by Fryderyk II with inhabitants who instead going over the ocean came to the Warta river (the Warta turn), to develop a dried, poor, uninhabited land. The settlers, aware of being pioneers, began to name new places after American towns such as: Yorktown, New York, Charleston, Savannah, Jamajka, Malta, Florida etc. The contemporary project - New America (Nowa Amerika) attracts enthusiasts from both sides of the border, pioneers, free people who created space on the basis of a civil society and conviction that that Polish-German borderland was a promised land ²⁷.

²⁵ M. Szafrńska, 1991. Art, nature and technology – parks of XXI century. [In:] Art versus Technology, Materials from Session of Art Historians Association, Szczecin, November 1987. PWN Warszawa, p. 299.

²⁶ P. Mościcki, 2015. Identification of Weeds (fragment). [In:] Zachęta - September, October, November 2015, Warszawa, pp. 18-19.

²⁷ M. Kurzwelley (red.), 2014. Nwe America (Nowa Amerika). Ein Land dazwischen/a between country, Stufurt e.V., pp. 15-16.

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LABOR AND TECHNOLOGY AS INTEGRAL PART OF THE RURAL CULTURAL LANDSCAPE

SUMMARY. Rural cultural landscape is a space where spheres of traditionally understood nature and activities of 'a technical man' overlap. Nowadays, a landscape, particularly the one which was formed in the distant past, is perceived as harmonious, beautiful and sometimes intriguing. Its significant markers are: architecture of rural farms integrated with nature and farmlands with accompanying infrastructure which reflects different development stages including the times of the XVIII and XIX century Industrial Revolution. This study is an attempt to identify the influence and connection of labor and technological knowledge put by German, Czech and Polish settlers, called „Olędrzy” to the development of difficult riverside areas (the Warta and Vistula rivers) as well as areas which in the XVIII century were still covered by woods (Nowy Tomyśl). Taming capricious rivers, drying swamps and backwoods clearing provided people who lived in the times of Industrial Revolution with new settlement possibilities. Subsequently, a manmade landscape, being a clear reflection of pragmatism of those times, was created. A new spatial quality, defined by postmodernist epoch, as *locus amoenus* was created on the 'ruins of nature'. Agricultural landscape has been evolving throughout ages. It has always reflected current needs of people, their possibilities, economic situation, legislation as well as the local and global policies. The primary issue is to provide the landscape with the possibility to preserve its historical features reflecting economic transformations of the XVIII/XIX century. The pressure of modern times does not have to be destructive to the landscape, on the contrary, it can be its chance to develop, however, though it is not likely to happen without understanding its specificity and developing a new way of thinking with spotlight on the landscape.

Keywords: cultural landscape, technical infrastructure, *locus amoenus*