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Cordwood masonry in northeastern Poland (the region of Podlasie)

In northeastern Poland, i.e. the Podlasie region, cordwood walls can be occasionally found in a number of villages and in old towns near Bialystok, including even a dozen of buildings in a few old quarters inside this main city of the Podlasie region. The investigations performed between 2003 and 2010 revealed 270 cordwood buildings in northeastern Poland and most of them still in existence (Szewczyk, 2010). These results have been achieved after the examination of about 300 small villages around Bialystok; more than 1000 other villages are still to be examined, so that a number of cordwood buildings are expected to be found. It can be estimated safely at the moment that about 200 to 300 cordwood buildings were in existence in the past or they still exist in the Podlasie region. Paradoxically and unexpectedly, this rough estimation allows to perceive the region as the largest concentration of old cordwood masonry in the world.

Not only the great number of specimens of cordwood construction in N-E Poland has been a surprise, but also their structural exquisiteness and the diversity of variants. Six main variants of this building technique, have been recognised. In the first variant, small firewood blocks (carefully cut or debarked only) are laid perpendicularly to a wall face to form a massive wall. Such walls are 50 to 65 cm thick, including plastering. Similarly, in the second variant, firewood blocks are interlaid perpendicularly, too. But additionally, long narrow spacers are laid horizontally, parallelly to the inner and the outer faces of a wall, with the space inside being filled with lime or cement mortar, or with clay. The third variant can be identified by the nonperpendicular, horizontal-diagonal arrangements of wooden chunks with no spacers, so walls are thinner, usually 35 to 45 cm thick, including plastering. The fourth version is the same but with insulation gaps inside. The fifth variant uses cordwood as a frame infill. Also, the sixth variant can be suspected; it was very similar to the third variant, but made of well-rammed mortar with reduced amount of filling timber. It was developed and advertised by the Polish engineer, Marian Niewierowicz in the 30's (Niewierowicz, 1932). Among all the above-mentioned types of cordwood construction, minor subsets can be derived according to wall thickness and density, mortar-to-firewood proportions, and type of wood (pine and spruce, sometimes willow and poplar), etc. Mortar composition differed according to local and economic circumstances. Generally, the old specimens of cordwood masonry were built with pure earthen adhesives (clay and sand), whilst the newest utilised clay-sand-and-lime, lime-sand-based mortars, or even cement mixtures. But generally, the tendency to utilise earthen binder reflected local tradition of clay usage in farm building.

It should be also pointed that most of these structural variants and subsets exist only at the Podlasie region, and they are structurally different from the cordwood construction in North America or in other territories.

Cordwood masonry has never be prevailing nor even common. But its value has not risen from its percentage share neither in urban tissue nor in country environment. It rose from its visual impact and expression, from its uniqueness and ingenuity, inventiveness, freedom of material and shape, integration with an environment, resourcefulness while taxing natural resources, mutual penetration with elements of nature, visual coherence in spite of formal heterogeneity, mystical union with the spirit of that time. These are *cordwood added values*. They substantiate the needs for the subsequent investigations into the Polish variants of cordwood masonry.

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