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UKRAINIAN AND JAPANESE WOODEN ARCHITECTURE: CONVERGENT EVOLUTION (EARLY PERIODS, RURAL HOUSES)

Abstract. The article deals with some special points of Ukrainian and Japanese ancient wooden architecture similarity pointing to the possibility of their convergent evolution. Such akin genesis could be possible because of initial developing circumstances (climate, the type of old agriculture culture, the type of prehistoric animistic beliefs) likeness. The first part of the article is devoted to the early periods of Ukrainian and Japanese wooden architecture existence and also to the both countries rural houses architecture. The second part of the article will be devoted to the Ukrainian and Japanese wooden temples similarity.

Key words: wooden architecture, Ukraine, Japan, convergent evolution, genesis, initial developing circumstances.

An idea to compare old wooden architecture of Ukraine and Japan may seem to be too exotic, but the first blush only. As for me, I was lucky to learn both Ukrainian and Japan architecture. So the more I looked at mossy roofs, rusty time-worn crossings up the pillars, window shutters of strange shape, delicate fencing of galleries and porches that with equal tenderness enfold a hata in Ukraine as well as old temple in Japan... The more I inhaled that bitter-sweet smell of old timber mixed with aromatic sticks puffing in Japan and smoke of wax candles in Ukraine – the better I recognized: they are of the same kin. Sacred scents and old wood. Landscapes! That is to say, it's impossible to distinguish between the images of Carpathian and Japan mountains. Neither Ukrainian nor Japanese can recognize at a glance their homeland scenery on a photo. There's no visual difference between characteristic Carpathian and Japanese landscapes with all their features, including foliage colouring, impressionistically smoky sweating air and spiritual vitality of land. Akin summer rainstorms slash the ground, leaving puddles on the downs and beads in the air. In wintertime mountain villages in Japan and villages interspersed over Carpathian massif are snow-bound similarly overhead. No wonder that their folk architecture is so alike.

Origins of wooden architecture. Masterpieces of Japan wooden architecture received recognition from the world. Yet, few Ukrainians are conscious of unique wooden buildings in their own country, still standing in remote villages, almost unreachable due to foul roads. Nevertheless, there are noticeable folk houses and old wooden temples that rank with any architectural jewels on the globe.

Various speculations go about genesis of Ukrainian wooden architecture. Yet, nobody can give certain reasons for derivation of those wooden churches that are traditional for Ukrainian highlands since time immemorial. One thing is notorious: neither in adjacent nations, nor anywhere else on the globe you can find an architectonic analogue to that buildings. There are identical churches built by Ukrainians on their ethnic lands now belonging to others countries [1]. So genesis of Ukrainian wooden church is still live issue.

What we have to explore now are only few extant buildings, remainder left from the generous amount of churches, chapels and rural houses that were standing before. The better part of Ukrainian wooden architecture vanished into thin air of the times. Fires, wars, imperial get-tough policy of unification and simple people's devil-may-care attitude brought us almost total annihilation of Ukrainian traditional buildings.

Basically wooden buildings of Ukraine and Japan have different structural outlines. Only two principles constructional systems of building from timber exist: block-house, so called "zrub" (horizontal placing of logs) accepted in the areas with colder climate (as Ukraine) and framework (post and beams) popular in warmer countries (as Japan). Yet, sound argument about zrub system was born in the North and framework did in the South doesn't work here [2]. It is very like that on early stage of wooden building evolution many used both systems here, there and everywhere. Subsequently system that locally met the case the best superseded rival one in certain areas. So block-house method won Ukraine, while the framework system prevailed in Japan, which wet, hot climate was unfriendly to block-house buildings: ventilation is tough problem and overall construction is too shaky during earthquake [2]. It doesn't mean that a certain system has expired. Defeated system, as rule, survives on a minor local scale. For example, in Japan they still build barns and temple sanctuaries using block-house construction principles [3]. Otherwise framework belfries are common in the Western Ukraine. The reason is clear – to prevent the tower from destructive vibration, now not because of earthquake as in Japan, but of bells ringing [2]. So we can see cleancut likeness in the ways wooden architecture developed in Japan and Ukraine. Don't take this to the letter, please, yet there's not a fact of direct influence or any interaction between this nations in antiquity when wooden architecture was born. The grounds of this kinship are the fundamental rules that constructive though use. Anyhow, we believe that detail exploration of traditional wooden buildings in Japan would help us to know a thing or two about origins of Ukrainian wooden churches.

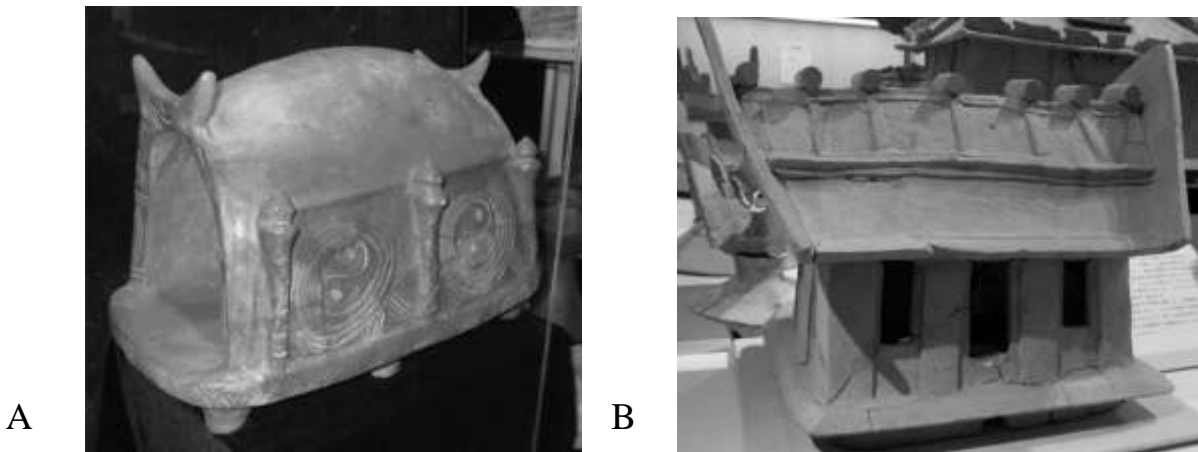
Historical calendar traditionally used in Japan consists of periods named epochs predominatingly derived from the names of temporary changing capitals:

Jomon	1000 – 300 BC
Yayoi	300 BC – 300 CE
Tomb Mound (Kofun)	300 – 719 (overlaps with later periods)

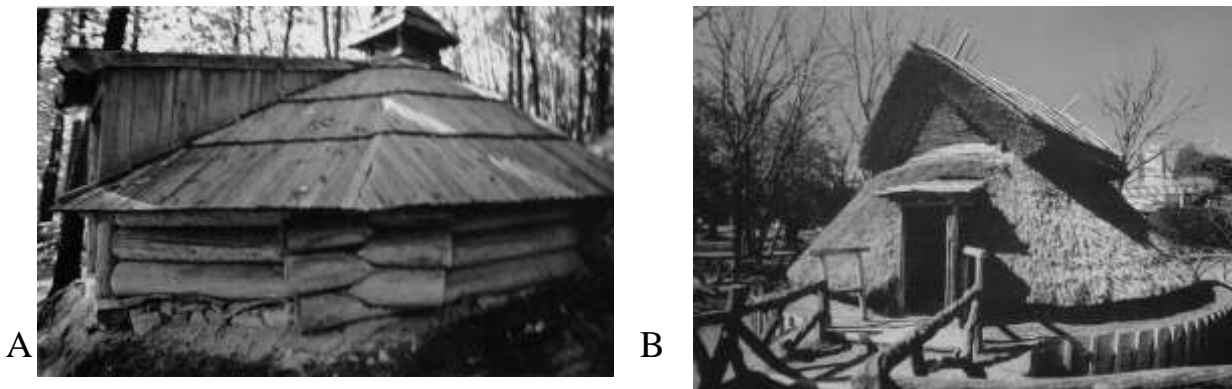
Asuca	538 – 645
Nara	645 – 783
Heian	784 – 1185
Kamakura	1185-1333
Muromachi	1333-1573
Momoyama	1573 – 1614
Edo	1614-1867
Meiji	1868 – 1912

The oldest architectural belong to Jomon and Yayoi epochs. Japanese show great consideration for their historical legacy so they carefully excavate ancient settlements and build architectural parks (skansens) upon that sites. Dozens of ancient villages are disclosed in Japan [4]. Remnants of oldest dwellings usually are pits in the ground left after posts and piles and fragments of wood there, nevertheless, they are enough to define configuration of a building and its principle features [5]. After researches finish their calculation they erect hypothetical building upon genuine lay out. Reestablished buildings have appearance of almost authentic antiquity. Sometimes images of architectural objects found around excavation site compensate the lack of constructional information [6]. Retrieved pictures on ceramics, images on the back side of mirrors and iegata-haniwa – house-shaped clay models found at tomb mounds [7]. Astonishing enough is the fact that Japanese iegata-haniwa are very similar to the earthen models of houses and temples, dozens of which are found during excavations of ancient towns that belong to Trypillya culture flourished in Ukraine in 5400 – 2700 BC [8] (pic.1). There's no evidence of migrations or cultural interconnection between so distant in the past so deep, although nobody can exclude the chance conclusively.

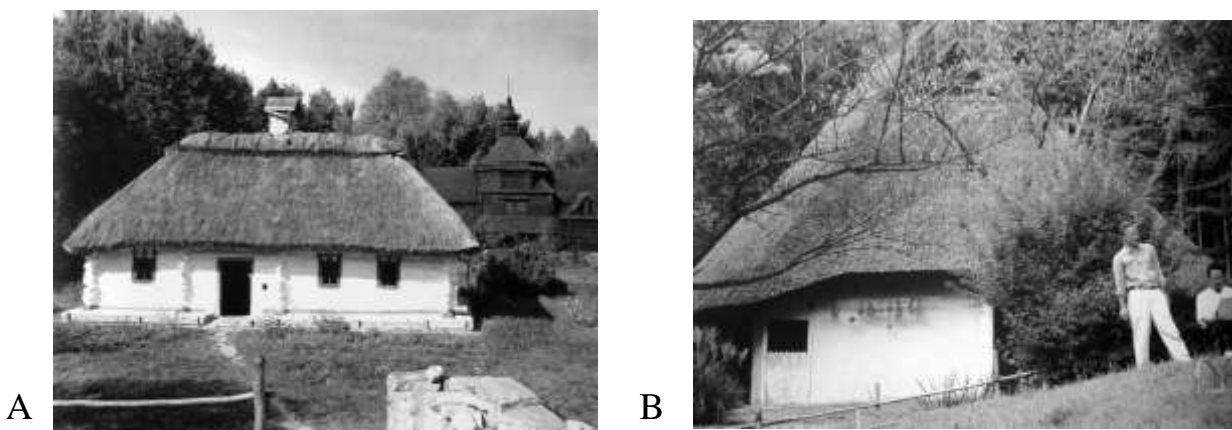
Old-time Japan tateana pit-dwelling is similar to Ukrainian „kolyba” (wood chopper's hut) or “kurin” (a hovel). Tateana is round (rarely rectangular) house built above a meter deep hole. Leaning poles stowed against the inside framework of four beams created sloping sides. Thatch was tied to the reinforced sides, leaving opening at the top smoke to escape [7] (pic. 2). Barn buildings were the matter of concernment because to safe crop meant to survive. There's the answer why old-time dwellings were primitive hovels while alongside barns were like veritable house. Takayuka is the name for the storehouses having raised floor. They look funny due to their tall pile-legs. No wonder that in wet Japanese climate people elevated granary, it was the only way to prevent corn from decay and keep rodents from it.



Pic. 1. Ancient clay excavated architecture models analogies:
A – Trypillya culture, Ukraine; B – Tomb mound period, Japan



Pic. 2. Reconstruction of early type wooden pit-dwellings analogies:
A – Ukrainian wood-choppers hut “kolyba” (Lviv skansen);
B – Japanese “tateana” dwelling (Toro skansen)



Pic. 3. Rural houses analogies:
A – Ukraine (Kiev “Pirogovo” skansen); B – Japan (Osaka Ryokuchi-koen skansen)

Every pile had mice baffler – so called nedzumi-gaeshi – wooden plank attached horizontally right under the barn floor [5]. Even if a rat or a mouse could climb the pile it had no chance overcome flat baffler. Marked transmogrification went in further development of Japanese architecture: early Shinto temples adopted takayuka barn from [9]. Small wonder – ones principal Shinto gods were spirits of fields: patrons of harvest and rice [10]. Naturally, crop barn was the best place for her to dwell. So barn-shaped Shinto temple was canonized [11].

Origins of wooden architecture in Ukraine are analogical. The most credible theory also insist on traditional wooden church genesis from granary building for the same obvious reason [12]. Ancient pagan beliefs surely influenced Christian rituals and sacred architecture. Shinto and Slavic paganism have near akin features. Both old-time Japanese and Slavs were pantheists who lived depending on the spirits of Nature dwelling in the landscape around (they identified a river, a hill, a swirl, an old tree, a rock as a palace of local deities incarnation) [13].

Composition of the most important ancient Shinto shrine Ise-Jingu is good example for a barn converting into the temple [9]. On every 20-th year they pull down all buildings of this temple and erect identical new on the neighboring site. Recycling goes on and on forever: after 20 years pass they disassemble it again and built new (same) temple on the previous site. Ise-jingu temple seems to be one and only temple continuing ancient tradition. Discontinuities happened in the middle Ages, when during long wars it stayed without renovation more than a century [9]. Shinto tradition insists – a deity often wants to move to the new sanctuary [10]. As a result, although what you see on this temple-plot aren't authentic ancient buildings, but due to recycling tradition you see true structural features and overall design that has come to this days in original shape. If the temple rested at the same site for ages routine overhauls would surely distort its features as it usually happens. Today we have original Ise-jingu and we can see – this temple is really close to takayuka barn, just of larger size [14].

Traditional rural architecture. It's readily seen that Japanese and Ukrainian rural houses architectural kins. Just look at them. It's almost impossible to tell in what country are you if to wake up abruptly in the middle of some traditional village. Same little houses with under thatched roofs with drying herbs and onions hanging down. Same mallow and iris flowers clustered round the house, fences built in the same manner... At once bamboo leaves rustle censors envisioned Ukrainian landscape and I'm aware of me standing amidst Japanese country (pic. 3). Japanese framework house, against its external analogy, differs from Ukrainian house constructionally [15]. It has elevated floors matted with tatami. It has irori fireplace down the kitchen's earthen floor – slightly it reminds Ukrainian stove. There is shishi-odoshi rattler driven by steam running in the backyard, it scares off wild boars and other animals from garden. Traditional wooden toilet cabin in

the Japanese country sports not only the hole in the floor, common for Ukraine, but also device to urinate through.

Museums of traditional rural architecture in Japan are as popular as in Ukraine. They bring there old houses and temples from near and distant villages. These houses stand not dull there. They have caretakers who not only heat fireplaces when it's necessary, they're interior-decorators in folk style, landscapers and gardeners. In addition Japanese now tend not to move a certain house from somewhere to centralized museum, they choose preserving the whole old village as it is. Ancient Shirakava-go village in the Gifu prefecture is conservancy area of the world-wide reputation indexed by UNESCO. People still live in that skansen (open air museum) – mostly descendants of those who built that houses a couple of centuries ago. So it's a living museum and many dwellings are accessible to look inside. Surely they put out of sight few modern outlets (cafeteria, souvenir shops and else).

To be continued

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Анотація. В статті досліджено специфічні аспекти аналогій давньої дерев'яної архітектури України і Японії, що дозволяє говорити про їх конвергентну (схожою через однакові умови розвитку) еволюцію, можливу через схожість похідних розвитку: клімату, сільськогосподарського типу культури та відпочаткових вірувань анімїстичного типу. Перша частина статті присвячена найбільш давнім періодам існування дерев'яної архітектури України і Японії та народному житлу. В другій частині буде розглянуто храмову архітектуру.

Ключові слова: дерев'яна архітектура, Україна, Японія, конвергентна еволюція, похідні розвитку.

Аннотация. В статье исследуются специфические аспекты аналогий старинной деревянной архитектуры Украины и Японии, что позволяет говорить об их конвергентной эволюции, возможной из-за идентичности исходных условий развития: климата, сельскохозяйственного типа культуры, верований анимистического типа. Первая часть статьи посвящена наиболее давним периодам существования деревянной архитектуры Украины и Японии и народному жилищу. Во второй части будет рассмотрена храмовая архитектура.

Ключевые слова: деревянная архитектура, Украина, Япония, конвергентная эволюция, исходные условия развития.