



## Razmišljanja o lesu | Thoughts on Wood

prof. dr. Stanislav Pejovnik  
Rektor Univerze v Ljubljani



Ko mi je dr. Manja Kitek Kuzman u.d.a. prinesla na ogled rokopis monografije Les v sodobni slovenski arhitekturi »2000-2010«, se mi je oko ustavilo že kar na prvem stavku: »Slovenija je srečna gozdna in lesna dežela« (N. Torelli). Res osvežujoč stavek in kakšna ljubezen do lesa in Slovenije, ki je značilna za slovenske »gozdarje in lesarje«. Monografija je v prvem hipu pokazala, da je raba lesa interdisciplinarna tema, ki zahteva sodelovanje strokovnjakov več profilov: gozdarjev, lesarjev, biologov, kemikov, gradbenikov, oblikovalcev, pa tudi strojnikov in ekonomistov. Skratka, več kot dovolj razlogov, da knjiga »zapelje« ljudi različnih poklicev in izobrazbe.

Zgodba o lesu se začne v gozdu. In spomin mi nehote zaide v čase rane mladosti, ko sem na počitnicah skupaj s starim atom »kmetoval« po njegovem posestvu. Ure in ure smo preživel na poljih Savinjske doline in v gozdovih na obrabju polj – stari ata, njegov konj Liska, nemški ovčar Reks in jaz. Stari ata je imel dve veliki ljubezni: hmelj in gozd. Z veliko ljubeznijo mi je razlagal, kako se obdeluje polje, posajeno s hmeljem, a nikoli se ni ob tem tako raznežil kot ob pohajanjih po gozdu. Skoraj vsako drevo je poznal in za leta vnaprej je vedel, kdaj bo katerega »dal gozdarju počajhnat«, da ga bo v pravem času posekal in nekeje uporabil. Les pri njem nikoli ni bil za prodajo, vsak posek je bil nekemu namenjen. Vsako posekano drevo je imelo naslednika (ali dva), da bo vedno dovolj lesa za vso družino. Takrat vsega, kar mi je povedal, nisem v celoti razumel, čutil pa sem, da je gozd na kmetiji nekaj posebnega. Danes pa bi njegove besede z lahkoto prevedel v strokovni jezik. Prav zanimivo je, kako so brez velikih javnih razprav in opozarjanj o klimatskih spremembah naši dedje znali prisluhniti naravi in sonaravno živeti. Le kje se je izgubila ta zdrava kmečka pamet?

Slovenija je izjemno bogata z gozdom in lesom. Zaradi svoje rastne obnovljivosti, CO<sub>2</sub> nevtralnosti, neprekosljivo čistega življenjskega cikla, široke dosegljivosti – še posebej v Sloveniji – in kot material z več uporabnostnimi cikli postaja les vse pomembnejše gradivo. Žal je v Sloveniji še vedno prevladujoča proizvodna funkcija gozdov in (pre)velik del lesa izvozimo kot hlodovino. Ker les med rastjo drevesa porablja CO<sub>2</sub> in ga zadržuje še več let, bi morala prevladati izdelava lesnih izdelkov, gradnja z uporabo lesa in izkoriščanje lesa pri pridobivanju energije. Monografija na dovršen način prikazuje prav uporabo lesa v lesenih zgradbah.

Monografija nazorno prikazuje prednosti in omejitve gradnje z lesom. Masiven les lahko dandanes s sodobnimi tehnologijami in z uporabo osnovnih inženirskih principov predelamo v številne lesne kompozite, ki jim prilagodimo strukturo, presek in obliko glede na predvideno funkcijo oziroma namen uporabe. Z izločevanjem in distribucijo napak lesa ter z usmerjanjem in zgoščevanjem osnovnih lesnih gradnikov ter lepljenjem v poljubne proizvode lahko izboljšamo njihovo trdnost in zmanjšamo variabilnost. Uporabimo lahko tudi drobnejšo hlodovino, kvalitativni in kvantitativni izkoristek surovine pa bistveno povečamo. Za konstrukcije se predvsem uporablja kompozitni les, ki lahko zaradi nekaterih odličnih lastnosti uspešno konkurira klasičnim gradbenim materialom kot so jeklo, beton in opeka. Prednost konstrukcijskega kompozitnega lesa je visoka nosilnost glede na težo, dobra dimenzijska stabilnost in fleksibilnost v konstruiranju raznovrstnih oblik in večjih dimenzij.

Monografija me je presenečala od strani do strani. Izjemne fotografije, izvrsten opis, sobivanje lesa in drugih konstrukcijskih elementov v zelo različnih objektih, energetska učinkovitost stavb, arhitekturna dovršenost in še veliko detajlov, nad katerimi se je arhitekturno nevzgojeno oko kemika bolj navduševalo, kot jih v celoti dojemalo. Zato sem prepričan, da bo vsak, ki jo bo prebral, našel nekaj za oko, razum in srce.

When Manja Kitek Kuzman, PhD, presented me with the manuscript for the monograph Wood in Contemporary Slovenian Architecture »2000-2010«, the very first sentence captivated me: "Slovenia is a country abounding in lush forests and plentiful wood" (Niko Torelli). It is a refreshing idea, reflecting the love for wood and Slovenia, typical of Slovenian foresters and carpenters. Instantly, the monograph exposed the fact that the use of wood is an interdisciplinary subject that requires cooperation of different experts: foresters, carpenters, biologists, chemists, engineers, designers as well as mechanical engineers and economists. In short, this volume is going to "seduce" people of different professions and education.

The story of wood begins in the forest. When I reminisce about my childhood I remember the holidays when my grandpa and I farmed his land. We spent long hours on the fields of the Savinja Valley and in the forests on their brinks – my grandpa, his horse Lisko, Reks the German shepherd and I. My grandpa had two great passions: hop and forests. He would affectionately illustrate how to till a field planted with hop; however, what he loved even more was to stroll about the forests. He knew almost every tree; he knew which tree to mark for the forester to fall; he knew exactly when and where to use it. In his mind, wood was never for sale, each fallen tree had a successor (or two), guaranteeing enough wood for the entire family. At that time I did not understand everything he told me, but I felt that the forest was a special place. Today, I could easily translate his words into expert terminology. Interestingly enough, our forefathers knew how to listen to nature and live sustainably without pompous public discourses and climate change threats. Where has this common sense disappeared?

Slovenia is extremely rich in forests and wood. This renewable, CO<sub>2</sub> neutral material has a perfectly clean life cycle and is widely accessible, especially in Slovenia; it has several cycles of use and is becoming an increasingly important construction material. Sadly in Slovenia, the predominant function of forests is production. As a result, an important share of wood is exported in the form of logs. During the growth of a tree, wood uses CO<sub>2</sub> and sequesters it for several years; what should therefore predominate is the production of wooden products, wood construction, and the use of wood for energy purposes. This volume beautifully presents the use of wood in construction.

The work sheds light on the advantages and the limitations of wood construction. Modern technology and the use of basic engineering principles enable us to process solid wood into numerous wood composites; their structure, cross section, and shape can be adapted to fit the particular function or the purpose of use. By eliminating wood defects, directing and condensing basic wood elements, and by gluing them into various products, we can improve their strength and reduce variability. Smaller logs may be used as well, thus increasing the qualitative and quantitative use of the material. Engineered wood is used for construction – some of its outstanding characteristics make it an excellent alternative to steel, concrete, and bricks. The advantage of engineered wood used for construction is its outstanding load capacity-to-weight ratio, good dimensional stability and flexibility in the construction of various shapes and large dimensions.

I was astounded by this monograph from one page to the next, astonished by its outstanding photography, excellent descriptions, the coexistence of wood and other construction elements in very different structures, energy-efficient buildings, architectural mastery and numerous details that excited the eye of an architecturally uneducated chemist, unable to grasp it entirely. This makes me certain that anyone who reads it will find something for the eye, mind, and the heart.