The Teatro Regio in Turin. A forest perspective

THE TEATRO REGIO IN TURIN. A FOREST PERSPECTIVE

MARTINA MOTTA

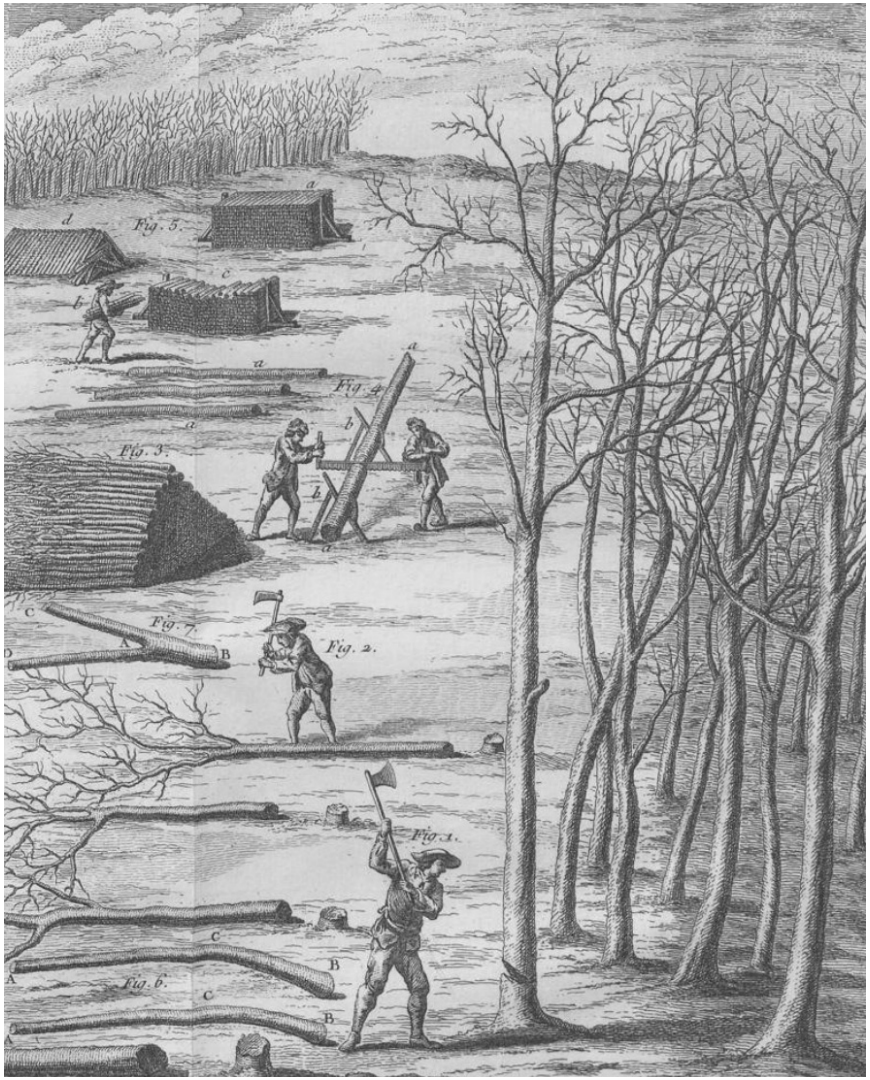
After the sudden fire in 1936, the new Teatro Regio was spectacularly designed by the modern architect Carlo Mollino in the '70s. Yet the 18th-century theatre is still little known by the public at large. Designed by the First Royal Architect Benedetto Alfieri, the theatre boasted a comparable avant-garde project. Indeed, the theater's main hall was built with an extraordinary capacity for the time, responding to innovative visual and hearing solutions. The Teatro Regio therefore became a paradigm in the context of contemporary European theatrical achievements. If we do investigate where the carpentry's timber came from, the history of the architecture expands beyond the time of construction and brings out new points of view. How did a forest work in the 18th century? What kind of manpower was required? How has centuries-old knowledge around the forest changed? Which human and non-human species were affected by the logging? Which local communities' forms of resistance against the process of extraction? Studying architecture through the forest' events therefore means to uncover the relation between the natural and the man-made. The events of construction bear witness to being intertwined with the physical environment and its exploitation, revealing a history of architecture that cannot be separated from the environmental one.

KINGDOM OF SARDINIA'S CONSTRUCTION. THE LACK OF WOOD

For the Kingdom of Sardinia and Piedmont, the first half of the 18th century represented a period of great transformations in the field of construction and urban planning, both civil and military. The great wars started by Vittorio Amedeo II[1] involved an enormous consumption of timber. Beams, poles, bundles, but also timber for lime kiln fuel, served to power the military infrastructure: peripheral fortresses, such as Fenestrelle, Brunetta, and Exilles, on the Franco-Piedmontese border[2], and urban fortifications, such as the system of bastions and military quarters in Turin, the Kingdom's capital. The model of the city-fortress was indeed consolidated, in defense of both the capital and the Alpine passes.

Important non-military construction sites also started. In 1713, the Messinese architect Filippo Juvarra was called to Court as the First Royal Architect and we owe to him the design of all major interventions of the following two decades[3]. Within thirty years, most sites of the Savoy court were either renewed or built from scratch, such as Palazzo Reale, the royal secretariats, the court archives, Teatro Regio Cavallerizza Reale and the military academy. At the same time, the system of suburban residences,

Cutting the forest, in H.L. Duhamel du Monceau, *De l'exploitation des bois, ou, Moyens de tirer un parti avantageux des taillis, demi-futaies et hautes-futaies, et d'en faire une juste estimation*, Chez H.L. Guérin et L.F. Delatour, Paris 1764, pl. III, p. 250. Private collection.



the so-called "crown of delights" was extended in the Turin belt, to celebrate the prestige of the royal dynasty and its capital city.

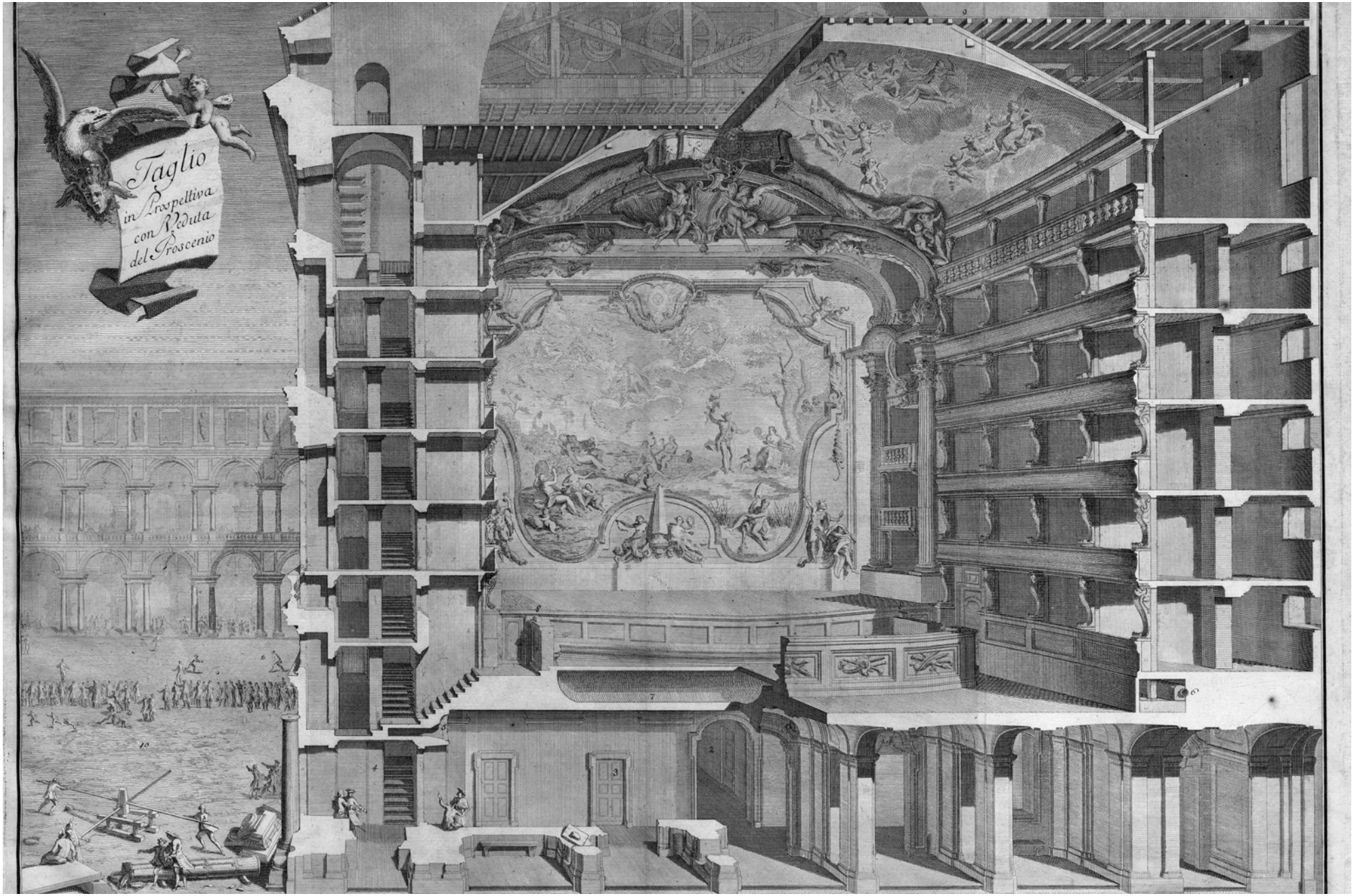
Alongside the absolutism's political design program, the state's population grew quickly. Turin was growing very fast compared to the local availability of basic resources, and firewood scarcity increased towards the end of the century. At the root of the problem was the exhaustion of the nearby woods. Urged by the Azienda Generale di Fabbriche e Fortificazioni, to which the jurisdiction and competencies on the construction sites belonged, the king Vittorio Amedeo II promoted a legal reform in the matter of forest in 1729. The *Regie Costituzioni* included a new section entitled *De' Boschi e Selve*, which established the rules and the relative penalties in case of abuse, to apply to all the kingdom's forests.

The application of the new laws on forestry imposed harsh changes on the centuries-old customs of local communities. Grazing was forbidden in many woods, together with collecting small wood and twigs. The inhabitants could cut wood only twice a year, in limited quantities and only for their own subsistence. The royal invigilators were obliged to control that no young high-trunk plants were cut, but only dry ones, and trees with defects. The common lands' wood could not be sold. In case of theft or fines, private homes could be inspected by the authority. Tanners were prohibited from peeling any type of tree for the resins. Also, the environmental practices embedded in the ancient bans were at risk and led to natural phenomena such as erosion, flooding. We actually have records of flooding and landslides probably caused or aggravated by deforestation. A further A further verification is to compare the wood used in the carpentry with the kind of forest on Alpine territories at the time. We saw in the construction site's documentation the larch tree mentioned several times, together with the oak and the fir, both for the roof that provisional structures like scaffolding or lifting machines.

THE TEATRO REGIO

The Teatro Regio is located in Piazza Castello, in Turin's city center. Inaugurated on 10 April 1973, the project is signed by Carlo Mollino, who designed together with a team of excellent engineers one of the most celebrated modern buildings in the history of architecture. A volume stands out from the 18th-century architectural complex and connects to it through two elevated passageways. The large hyperbolic paraboloid solution for the roof allows Mollino to create an "egg" , a whole overall concrete structure that includes the stalls, the walls and roof. The building

Spaccato prospettico della sala, dell'atrio ec. con veduta del proscenio, e dietro il medesimo la tela abbassata, in B. Alfieri, *Il nuovo Regio Teatro di Torino apertosi nell'anno MDCCXL*, Torino, Stamperia Reale 1761, tav. XI.
Archivio Storico del Teatro Regio, Torino.



View of Teatro Regio from Piazza Castello. Photo by Ramella & Giannese. Archivio Storico del Teatro Regio, Torino.

we see today is however the result of various transformations that have occurred over the past three centuries. A fire that broke out on the night of February 8, 1936 totally destroyed the pre-existing theater. During the nineteenth and early twentieth centuries, numerous structural, stylistic and technical updates were added to the original architecture, designed by the First Royal Architect Benedetto Alfieri in 1737. The Teatro Regio was built by the will of the Kingdom of Sardinia's new king Vittorio Amedeo II, in order to replace the ancient court theater. Following the transition from ducal rank to royal, a renovated dimension of representation became necessary. The theater played a strategic role for producing culture and entertainment, and for attracting international figures to the city. The project was also part of the aforementioned general functional and urban reorganization of the so-called "command area" in the north-eastern side of Piazza Castello. The building was completed in a short time: we can assume the start of works at the end of 1737 and the theater was inaugurated on December 26, 1740.

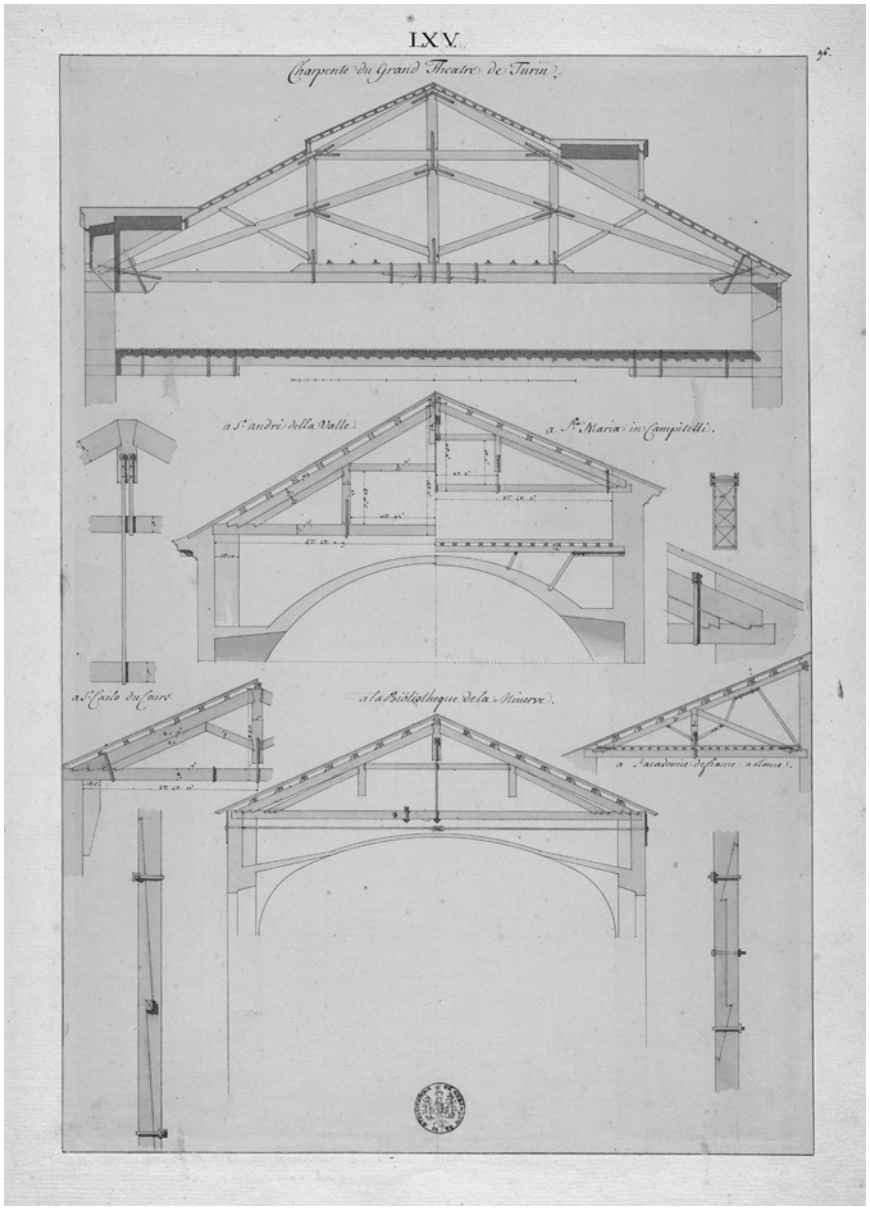
Among the most avant-garde aspects of the Teatro Regio is the main hall, which enabled the theater to be included in *Encyclopédie* by Diderot and d'Alembert. The capacity of the building was extraordinary, and carefully studied in terms of acoustics and visibility: five tiers of boxes, of which the upper one was called "heaven", to hold up to 2.500 spectators, a considerable number for a city of 70,000 inhabitants like Turin at that time. By comparison between coeval theaters, the San Carlo Theater in Naples hosted a 538 square meters hall, 23.50 meters wide and 29 meters long; the Teatro Regio Hall was 345 square meters, 16.50 meters wide and 23 meters long. By doing the calculations, the Teatro Regio's construction site employed 2,137.95 square meters of timber for the roof structure. From documentary sources we know that the following wood was used: 42 *malegine* beams of excellent quality between 4 and 6 meters long; 2,220 red oak joists, at least 3 meters long; 1,440 *assi d'albera* about 30 centimeters long and 3 cm thick; 24 oak *reme* between 4 and 5 meters long; and 18 *sappino* trees, between 9 and 13 meters, whose intended use is not specified. Where did this extraordinary amount of timber come from?

ARCHIVAL DOCUMENTARY SOURCES IN A FOREST PERSPECTIVE

In order to trace the timber's origin, it is necessary to study different archival documentations.

As regards the institutional sources related to the construction site, the instructions and contracts, which are collected in the

P.-A. Pâris, *Charpentes de divers édifices à Rome et à Turin: coupes*.
Collection Pierre-Adrien Pâris, 1700-1800, vol. 482, n. 96.
Bibliothèque municipale de Besançon.



fund *Azienda Generale Fabbriche e Fortificazioni* are essential. The most appropriate way to guarantee the desired quality of the building was to define where to obtain construction materials in the construction site regulations, whether it was wood, quarry or furnace. Therefore, we find cited operations of *"provisione e condotta"*.

We read the contract of Michele Antonio Perrone and Gio Battista Coletto for "cutting and handling of woods for the Teatro Regio" dated 3 June 1739. At the end of the document it is written: "If they obtained permission to cut Salbertrand and the surrounding forests by Intendant of Susa". We know that following the new *Regie Costituzioni*, an intendant was placed to control the royal woods, and before proceeding with the logging, anyone – primarily the inhabitants of the communities – had to ask him for permission.

The documentation related to infrastructure is a useful source to trace the timber's path. In order to perform the Savoyard administration's organizational capabilities, a well-performing transport network was essential. So, we have numerous reports of road repair works in order to provide the construction sites materials. There is a contract about "the maintenance of roads for the passage of timber to be used in the theater's roof". A note concerns "the reparation of the bridge over the Dora river for the passage of sand wagons for the construction sites of the royal secretaries, Teatro Regio and the new timber warehouse". The passage of a large transport of timber for the theater demolished a house's arcades in Bussoleno, in Susa Valley, and therefore, the community demanded the king a remuneration.

To reconstruct the work of the "forest keeper" assigned to those territories helps us to add many useful information to the discussion. He has been a key figure in the field of forest "maintenance". The forest keeper was sent on site as a supervisor of quality and quantity of trees in the Kingdom of Sardinia's forests. We have a track of a first appointment in 1738 – in exactly the same years of Teatro Regio's construction site. This is the castellan Pietro Francesco Syord, from an ancient family of notaries in Oulx, who was awarded the title "Keeper of Forests and Woods in the vicinity of Exilles", as "endowed with commendable qualities to fulfill duties with that zeal, attention, and vigilance that are more convenient". From the *Contratti* fund, we have a record of a payment dated 11 September 1738 made to Syord "for a visit he did in the forests of Exilles, Salbertrand, Oulx and Beaulard to recognize suitable wood for the construction of the theater's".

Juxtaposing local sources, we find various payments to the communities for the supply of timber for the theater's construction site. In particular, the municipal archive of Salbertrand

cntains many traces around the year 1740 For example, we know that "the price of the common woods", the price of the forest cut in Salbertrand to be used for the Teatro Regio has to be fixed according to Castellan Syord's evaluation"[12].

A further verification is to compare the wood used in the carpentry with the kind of forest on Alpine territories at the time. We saw in the construction site's documentation the larch tree mentioned several times, together with the oak and the fir, both for the roof that provisional structures like scaffolding or lifting machines.

In the 18th century, Upper Susa Valley's woods were rich in all these species, in particular the larch. To reconstruct this information, it was necessary to draw on additional archival documentation, such as the *Caccia e boschi* collection in *Materie Economiche* fund, in Archivio di Stato di Torino. In the first half of the century, numerous descriptions and censuses of the woods were drawn up in order to register the new territories acquired following the Treaty of Utrecht[13]. The declaration of intend is clear, that is "to supply Turin with timber"[14]. In the 50 wooded areas surveyed in the 1740s in Upper Susa Valley, about 400.000 larches were counted (of which over 41% on the territory of Oulx, 9% Savoulx, 19% Beaulard, while Salbertrand and Exilles account for about 15% and 16% of the total), against 16.210 firs, 75.500 pines, 300 beeches, and just under 3,450 chestnut trees[15]. In the *Description des Bois de haute futaje qui sont dans les vallées en decu du Montgenevre. État et discription des Bois de haute futaje de divers endroits qui ont été cédés par la France ensuite du Traité d'Utrecht en 1713*, we read about Salbertrand the following sentence: "Of all the valleys' forests no one is more beautiful than Salbertrand, which is called *sapée*, and it's surrounded by larches"[16]. The abundance of woods, the proximity to Turin and an active network of connections to the Piedmontese plain by land with the Royal Road or Strada di Francia, and by river with the Dora Riparia, justify why Upper Susa Valley was of great interest to the state in the matter of extraction.

The disputes between local communities and the state reveal to be a very important aspect, too. In addition to providing us with valuable information on places, materials, actors and economic factors affected, they offer a measure of the possible tensions around the construction site's events.

From the sources, we know about some entrepreneurs of Teatro Regio's construction site which were involved in rather controversial matters of wood. Lorenzo Giacinto Teppa, who was paid "for provision of nails for Teatro Regio"[17], was mentioned regarding possible incidents of "woods destruction" in Pinerolo area, in Chisone Valley. He was accused of logging "extra 700 tall

Firefighters on the roof of the theater, the day after the fire, 1936. Photo by Luigi Bertazzini. Archivio Storico del Teatro Regio, Torino.

trees from the common forest out of the contract"[32]. Twenty years later, Gio Blanchet was hired to transport 180 larch beams for the renovation of the theatre's roof. Once he got the money, he carried only a small part of the load, blaming the state for the crumbling roads. The expert reports did not reveal any damage, so he was housed under military guard and prohibited from leaving the country[33].

CONCLUSIONS

This contribution represents my position in comparison to the traditional historiography of architecture. The tendency to reduce architectural studies to the spectrum of their spatial connotations is all too common. The chronology of the construction site itself is usually set by the erection of the first stone, and closes with the building's inauguration. What happened before? What will happen later? To shed light on the provenience and transfer – and eventually on the disposal – of raw materials means interpreting the construction site as the materialization of the Earth's resources acquired through extraction[34] and relocation. Because of the unequal access to nature, architecture plays the role of building the world as much as destroying it, with the great construction sites of the Savoy that become an archetype or a pre-industrial model of extractive relationships towards the territory.

This perspective, moreover, unveils the construction site as "network"[35]. It is an infrastructure made of a complex net of hybrid, human and non-human agents, which through their action produces those thickenings of institutions, practices, behaviours, values and meanings, but also material stratifications, which are the construction site itself.

Actors, processes and territories, which are usually excluded from the traditional narrative of the architectural artifact, become protagonists as well. There is not only the building and not even the tree, but also the stump, who collects the branches or the pasture from which the undergrowth is deprived; the transport of the product, the money exchange or the disputes over the forest; the city is worth as much as the village. Once the theoretical framework has been defined, at the center of the investigation of architecture there is no longer the building, but the forest: a theater of confrontation between different visions, a place of conflict between the state and local communities, a space for environmental modifications. A question emerges, that of the overturning of the perspective, which is totally urgent.

Larch woods in valle Argentera, in Upper Susa Valley, 2021.
Photo by Martina Motta.

Vittorio Amedeo II took part in the War against France (1690-1696) and in the War of the Spanish Succession (1700-1713). For further study about 18th-century Piedmont in history, see: A. Barbero, *Storia del Piemonte*, Einaudi, Torino 2022; azinchè: G. Ricuperati, Lo Stato sabaudo nel *Settecento: dal trionfo delle burocrazie alla crisi d'antico regime*, UTET, Torino 2001.

For the Piedmontese military forts, M. Minola, *Fortificazioni nell'arco Alpino*, Priuli & Verlucca, Pavone Canavese 1998; M. Viglino Davico, *Fortezze alla moderna e ingegneri militari del ducato sabaudo*, CELID, Torino 2005; F. Barrera, *I Sette Forti di Exilles. Metamorfosi architettonica di un complesso fortificato*, Museo Nazionale della Montagna Duca degli Abruzzi, Torino 2002.

Among the many books on Filippo Juvarra in Turin, see: Comoli Mandracci (ed.), *Itinerari juvarriani*, CELID, Torino 1995; G. Griseri, A. Romano (eds.), *Filippo Juvarra a Torino. Nuovi progetti per la città*, Cassa Risparmio Torino, Torino 1989; V. Comoli Mandracci, A. Griseri (eds.), *Filippo Juvarra: architetto delle capitali da Torino a Madrid 1714-1736*, Fabbri, Milano 1995.

"Crown of delights" is the name given to the series of royal residences for leisure and entertainment built between the 16th and 18th century around Turin: G. Sgarzini, *Residenze sabaude: Corona di delizie*, Istituto poligrafico e Zecca dello Stato, Libreria dello Stato, Roma 2008.

The *Regie Costituzioni* is a collection of royal laws by Vittorio Amedeo II and his predecessors which has been published first in 1723. Archivio di Stato di Torino (ASTO), Corte, Materie giuridiche, Testi legislativi, Regie Costituzioni.

The medieval bans, *bandi campestri*, gave guidance on how to manage nature according to specific environmental conditions related to the seasons, in order to prevent natural disasters. About this topic, M. Riberi, *Il Trattato di Utrecht e le autonomie locali nelle Alpi occidentali: il caso della République des Escartons*, in "Utrecht 1713. I trattati che aprirono le porte d'Italia ai Savoia. Studi per il terzo centenario," Centro Studi Piemontesi, Torino 2014; W. Ferrari, D. Pepino, *"Escartoun". La federazione delle libertà. Itinerari di autonomia, eresia e resistenza nelle Alpi Occidentali*, Tabor, Valle di Susa 2013.

When Carlo Mollino illustrated the theater project to the public, he showed up with an egg in his hand. He used this form to explain the dominant symbolic form that linked the different spatial enclosures together.
About Mollino's project, among the wider bibliography, see: AA.VV., *Il nuovo Teatro Regio di Torino*, in "Atti e rassegna tecnica della Società degli Ingegneri e degli Architetti in Torino," anno XXVII, n. 9-10, settembre-ottobre 1973, Stamperia Artistica Nazionale, Torino; P.G. Bardelli, E. Garda, M. Mangosio (eds.), *Il teatro regio di Torino da Carlo Mollino ad oggi*, Flaccovio Editore, Palermo 2011; N. Ferrari, M. Sabatino (eds.), *Carlo Mollino, architetto e storyteller*, Park Books, Zurigo 2022.

On the 18th-century project of the Teatro Regio see: A. Cavallari Murat, L. Carluccio, M. Viale Ferrero, V. Mazzonis (eds.), *Il Teatro Regio*, Edizioni Aeda, Torino 1970; A. Bellini, *Benedetto Alfieri*, Electa, Milano 1958; G. Gritella, *Juvarra: l'architettura*, Panini, Modena 1992; L. Tamburini, *L'Architettura. Dalle origini al 1936*. *Storia del Teatro Regio di Torino*, vol.4, Cassa di Risparmio, Torino 1983.

We have a record of payment of Pietro Antonio Benedetto,who assisted in the tracing of the theater area. L. Tamburini, *L'Architettura, op.* cit.

Encyclopédie ou Dictionnaire raisonné des sciences, des arts et des métiers par un société de gens de lettres. Mis en ordre et publié par M. Diderot … et quant à la Partie Mathématique par M. D'Alembert, Livourne, Impr. De la Société, 1770-1778.

This term, which appeared even before the construction of the Teatro Regio, was used to indicate the sentries' position during the shows.

A. Cavallari Murat, L. Carluccio, M. Viale Ferrero, V. Mazzonis (eds.), *Il Teatro Regio*, *cit.*

The unit of measurement is trebuchet, with 1 square trebuchet corresponding to 9.502 square meters, and 1 trabuchet to 0.342 meters. The quote is taken from a contract to the forest master Giuseppe Cantone who was supposed to take care of the supply of timber: ASTO, Corte, Miscellanee, Miscellanea Quirinale, Materie Militari, m. 54.

The Piedmontese word *malegine* comes from the French *mélèze*, that means larch. The source is Michele Antonio Perrone and Gio Battista Coletto's contract signed on 3 June 1739. *Ibid.*

Ibid.

The Piedmontese word *albera* means poplar, so wooden planks. *Ibid.*

Reme means beams.

From the instructions to build the roof, *Ibid*.

Sappino comes from the Occitan word *sapé*, that means spruce.

In Coletto's contract., *Ibid*.

Supply and transport.

ASTO, Riunite, Camera dei conti, Camera dei conti di Piemonte, Fabbriche di Sua Altezza (Articoli 179-187), Articolo 183-Conti dei tesorieri delle fabbriche e fortificazioni, m. 5.

ASTO, Riunite, Camera dei conti, Camera dei conti di Piemonte, Fabbriche di Sua Altezza (Articoli 179-187), Articolo 183-Conti dei tesorieri delle fabbriche e fortificazioni, m. 6.

This term, which appeared even before the construction of the Teatro Regio, was used to indicate the sentries' position during the shows.

ASTO, Riunite, Camera dei conti, Camera dei conti di Piemonte, Fabbriche di Sua Altezza (Articoli 179-187), Articolo 183-Conti dei tesorieri delle fabbriche e fortificazioni, m. 5.

ASTO, Camera dei Conti, Patenti Controllo Finanze, reg. 14, f. 37.

Following the Utrecht Treaty in 1713, the French valleys on the Piedmontese side (the *Escartons* of Oulx, Pragelato and Casteldelfino) passed to the newborn Kingdom of Sardinia.

ASTO, Corte, Materie economiche, Materie economiche per categorie, Caccia e boschi, m. 3.

P. Sereno, *Una carta inedita settecentesca dei boschi d'Exilles (Alta Valle di Susa)*, in P. Caroli, P. Corti, C. Pischedda (eds.), *L'agricoltura nel Piemonte dell'800. Atti del seminario in memoria di Alfonso Bogge (Torino 2 dicembre 1989)*, Centro Studi Piemontesi, Torino 1989.

"De toutes les forets des vallées il n'en est point sans contradir de plus belle que celle de Salbertrand appelée sapée elle est fermée de Melezes". ASTO, Corte, Materie economiche, Materie economiche per categorie, Caccia e boschi, m. 1.

ASTO, Corte, Miscellanee, Miscellanea Quirinale, Miscellanea Quirinale, primo versamento, Materie Militari, m. 54.

ASTO, Corte, Materie economiche, Materie economiche per categoria, Caccia e boschi, m. 1.

ASTO, Riunite, Intendenza Susa, Periodo riguardante i secoli XVI - XVIII, Corrispondenza, Lettere provenineti dall'azienda Regie Finanze e indirizzate all'Intendente di Susa, m. 46.

On the notion of "extractivism," the reference literature is on neoliberal policies in Latin America that led to the launch of development programs focused on re-primarization and export of raw materials. Among the main theorists, Maristella Svampa, Alberto Acosta and Eduardo Gudynas. On the relationship between extractivism as a model of organization of work and territory, see in particular J. Moore, *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism*, PM Press/Kairos, 2016.

The reference is to the actor-network or ANT theoretical model, formulated by some French sociologists, including Bruno Latour and Michel Callon and the anthropologist John Law in the early 1980s. ANT is a formulation that thematizes the role of objects in determining social situations.

UNPREDICTABLE SPACES. FOR A NON-DOMESTICATED USE OF WOOD

FRANCESCA ZANOTTO

In recent years, wood has been the object of revived attention devoted by the architecture industry as a climate-friendly construction solution: a renewable resource, a sustainable material, with a low carbon impact and low embodied energy. Moreover, wood is light, cheap, and easily accessible: timber construction systems are adaptable and simple to design and realize. This double message conveyed by wood – sustainability and accessibility – is clear and easily marketed by the architectural industry, which exploits in a broad range of projects wood's physical features channeling its use, into productive, repetitive paths, shaped by building regulations. This recurring use of wood interests building systems as well as the codified meanings timber can convey: warmth, simplicity, practicality, and a simplistic reference to "nature" as a salvific counterpart to the unsustainability of urban lifestyles and industrial production. However, the use of wood in the construction domain bears broader meanings. The choice of wood, as well as how wood is employed, is often, more or less explicitly, referred to its potential to evoke the primeval forest and its many implications: an archaic refuge, a primigenial accord to nature that is, the original environment of human stock and many of most valued social concepts, but also "a space for non-normative relationships, not informed in cultural terms and therefore anarchic, without (human) law", where non-accepted behaviours and inner pulsions are expressible.

Outside the market, where architecture is considered "an expert's art", wood is the primary means of individual expression through the act of building: a cheap, omnipresent resource, easy to manage and use by "untutored builders". Indeed, wood is the chosen material for primigenial huts, pioneers' log cabins, children's treehouses, and homeless' shelters: enclaves that accommodate alternatives rules to the environment, time to time the hostile nature, the codified world of adults, the civil society. In many cases, this outsiders' architecture – makeshift dwellings, individual "forts," hideaways – comes from the necessity for a shelter; in others, it is the answer to an expressive urgency of creation and self-definition, the obsession for an alternative, personal ordering principle that finds a way out through architecture. Sometimes, these conditions coincide, and architecture becomes a metaphor for aversion to societal rules, in the form of works that are "too unclassifiable to leave the margins of the classical history of architecture": huts, megastructures, gardens in between architecture and playgrounds, "environments" taking shape day by day, following the evolution of builder's life and mind, in a never-ending accumulation and form-shaping project diverging from the original design–when existing. Builders fol-

low creative paths led by personal obsessions for shapes, materials, never appeased manias, dreams and childish reminiscences of fairy tales. These environments often propose a non-domesticated use of wood, employed in unexpected, casual, unorthodox systems, on which the action of natural elements, water and wind, intertwines with human work, giving life to "unpredictable interactions between nature and architecture". Over time, the limit between architecture and nature blurs: human creation handles natural bodies and forms, and nature digests artefacts. This blend is especially evident whenever the builders realize these environments in forests, where they find isolation and can recreate the archetypical hut in the woods as a refuge from society and control, as identification as part of the wild nature in opposition to the hostile city. Through the different use of building materials they make, and the out-of-ordinary creative paths they follow, these builders overlook construction regulations and the rules of cohabitation, in a proclamation of their right to exercise control over their life; consequently, they usually undergo similar patterns of rejection and, time after time, are labeled as fools, weirdos, witches – despite being often rehabilitated after their death. Their artefacts raise mistrust among neighbours and are targeted, damaged or destroyed by vandals; the law opposes them as dangerous or illegal; they are forcefully abandoned as a result of injunctions, or left in decay after the death of the master, being slowly reabsorbed by nature. At the same time, these "minor" architectures, as well as their creators, are often surrounded by a mythical aura and attract visitors who, seduced by the forms of an alternative world conceived and built by an "undisciplined" individual, recognise these environments as free areas, where the suspension of control allows "freer action, as well as free mental reconstruction".

Over the last years, the architectural domain, too, has been recognising some of these environments, praising the space they give to latent needs through the alternative uses of materials such as wood. The local architectural industry is showing growing interest for *Pilpalossi*, a complex of three constructions made of scrap wood and other reclaimed items built by Vaike Lubi in the Estonian forest near Suure-Jaani, starting from the Seventies. In the Fifties, Lubi – an eccentric woman suspected of having healing powers, and suffering from a mental condition – moved along the Navesti river on the site of the abandoned Lepakos sawmill, in one of the preserved buildings. A couple of decades later, she started to build her *pilbasmaja*, "junk houses", by herself, from scraps and materials she found in the surroundings. Existing trees were used as structural elements, around which

Pilpalossi, built by Vaike Lubi near Suure-Jaani in Viljandi County, Estonia, 1980s. EAM Fk 3729, Estonian Architecture Museum, http://www.muis.ee/museaalview/2632585 (CC0 1.0).

she bundled up, up to eight meters, wood logs, planks, caissons, rods, cartwheels as rose windows, wooden ladders and scraps in an ensemble anything but casual: each of the towers "was intended as living spaces and bore a semblance of an architectural style. One looked like a contemporary barn; the other, a functionalist summerhouse; the third, a chalet". Existing pictures document Pilpalossi in the Eighties, and, regarding the taller tower, they convey an evident study of the elevations, divided in vertical canvases from the ground to the roof; the identification of a recurring rhythm in the division of such canvases, evoking the façade of a multistorey building; the manufacturing of portions of cladding, in the form of weaved panels of branches; fine control of the proportions of the construction, which plays on different orders in a compact, tall object that looks out of scale but reveals, in the details of the façade, a constant reference to the human size. This allusion to a double proportion seems to refer to a bigger order, a greater system understood just by Lubi and coherent with her "folk deity" aura, to which she gave shape employing wood and the space of the forest according to personal, indecipherable paths. Thermal performances were a special interest of Lubi, who named her projects *Kalorifeerkütte* (calorific heating) project and Thermospudel (thermos bottle) project and is reported mentioning her houses had thermal heating, despite the sparse walls of alder. Furthermore, she employed a butterfly roof – made of a tin sheet – particularly suitable in cold climates, as it allows daylight and heat to penetrate the building better. These features,and her knowledge of construction terminology, corroborate the rumor that Lubi studied Architecture at the University of Riga. The local community was highly interested in Pilpalossi, often visiting Lubi's for social gatherings. She had opponents too: in the Eighties, the local fire department and foresters wanted to tear down the building as a potential fire hazard, but the then renowned forestry minister H. Teder understood the importance of Pilpalossi as a tourist attraction and saved the place from destruction. Later, the municipality issued an injunction to Lubi, forcing her to liquidate Pilpalossi as dangerous for people and polluting the environment. After being accommodated by the municipality in a social apartment – from which she constantly left, going back to the forest, escaping "normalization", – living a homeless life and, eventually, returning to Suure-Jaani to live with her relatives, Lubi died in 2019. After her death, Pilpalossi was left in decay and is now destroyed, laying in the forest as a pile of wood and scraps, slowly digested by the soil, the winds, and the rain.

Lubi is a local character slowly getting recognition from the

Pilpalossi, built by Vaike Lubi near Suure-Jaani in Viljandi County, Estonia, 1980s. EAM Fk 3729, Estonian Architecture Museum, http://www.muis.ee/museaalview/2632585 (CC0 1.0).

architectural domain as a valuable representative of the opposition to the so-called "trained thinking" and as part of the Estonian postmodernist architecture, reconciling the new and the old in a "paradoxical, surprising and interesting way"[12]. The Kreisi Foundation – an Estonian family foundation supporting architecture – issues a yearly award devoted to "acknowledge noteworthy phenomena, alternative practices and versatile creators who have remained on the margin of the mainstream Estonian architecture"[13]; in an interview called "Acknowledging unnoticed architecture", the board of the Foundation states how built architecture has become "primitive", in the sense that contemporary buildings follow market rules and therefore are all identical: "posts, boards and something around them". "Nutcases" such as Vaike Lubi, whom they consider a hypothetically eligible recipient of their award, are relevant to stress architecture as an intellectual activity: they deviate from the mainstream and practice innovation and divergence in thinking[14].

Different from Lubi's posthumous recognition has been the reception of Elemér Zalotay's self-built house in Switzerland, which obtained appreciation from the architectural community well before the Hungarian architect's death, in 2020. The house was a "certified" architecture, realized by a professional based on a building permit; these characteristics have played an essential role in this recognition, which is being renewed in recent years. Elemér Zalotay fled his country in 1973 and started to build his house in Ziegelried, near Bern, in 1978, developing it until 2017, when he moved to a retirement home. Zalotay's house project integrates many of the ideas on which the architect had been working since the beginning of his career in Hungary: he had mainly focused on elaborating experimental solutions to the housing crisis that arose in Hungary after the Second World War. He devised an ambitious plan for a one-kilometer-long, 30-50 stories-high strip house system, based on Le Corbusier's Unité with an "environmentalist spin"[15], to concentrate an entire neighborhood in a single housing structure. The strip house would have been located along the Danube, surrounded by woods and hills so that people would benefit from both urban and "wild" living conditions. In Zalotay's words: "one can enjoy the advantages of urban living – if he wishes – but he can also withdraw when he needs quiet as all inhabitants would feel as if their flats were a single unit on a wooded hilltop of the Pilis"[16]. The structural principle is a dwelling suspended on a high-strength but lightweight frame, cost-effective and conceived to have future inhabitants restore or set apartments up by themselves. A successive version of the strip house was equipped with a green façade: "a curtain of

Pilpalossi, built by Vaike Lubi near Suure-Jaani in Viljandi County, Estonia, 1980s. EAM Fk 3729, Estonian Architecture Museum, http://www.muis.ee/museaalview/2632585 (CC0 1.0).

creeper plants hanging in front of the balconies and functioning as a *brise-soleil*, climate control"[11]. When in Switzerland, where no housing crisis was ongoing, Zalotay developed his ideas in the projects of his own home. The lightweight module system on which the house's structure is based is strictly related to the strip house's[12], and the overall process was conducted following a self-building process; a single person could easily transport all the components employed in the house. The two-storey villa is made of a living room, two bedrooms, a kitchen/dining room, two bathrooms, a roof terrace overlooking Jura massif, and an atelier. The living room can be separated into two additional bedrooms, with beds built into the ceiling and can be lowered through a mechanical device[13].

The construction of Zalotay's house was never really concluded: after the realization, the villa entered an "open-ended process"[14] due to the need to solve several weak points of the building, which the architect, lacking finance, tackled employing scrap materials and unorthodox techniques, in a continuously evolving recycling operation, embracing "accident" and "dissonances"[15]. He built an unauthorized[16] glass shield on two sides of the house to protect it from overheating and heavy rains; "sewed" breakages with pebbles and cement; included copper and wood additions: "the character of the house slowly but steadily shifted"[17]. The outer concretions started to cover the house's interior, following Zalotay's imagination, in an "apparent anarchy and fragmentation"[18]: a landscape of small stones, *objet trouvé*, debris recreating inside the house the randomness of the densely overgrown vegetation outside. The architect let this vegetal layer blend with his work, an unplanned synthesis of living wood and architecture enabling the profound need for retirement in the wilderness.

The precarious character of the house, and the several breaches of norms carried out in its realization brought the neighbors to issue a petition to tear it down[19]. Despite the local opposition, the house became much appreciated in the professional circle; Zalotay was mentioned in 1986 in "Architectural Review" in a piece on the death of post-modernism[20], counted among those architects showing of a

> resurgent spirit of enquiry, a renewed interest in space and movement, in the use of real materials – steel, concrete, timber, stone, even plastic, appearing as itself – in a stripping-back towards the essentials of architecture and, most importantly of all, in the dynamism of asymmetry, the very genesis of freedom.[21]

In 1992, Zalotay's house in Ziegelried was placed under protection for forty years, for its "architectural uniqueness and special approach to material recycling"[22]; since August 2022, the house is not under protection anymore, in a state of decay and with an uncertain destiny.

Zalotay's name is raising renewed interest thanks to the work of valorization carried on through research and exhibitions by Bálint Nagy, Júlia Őry, Lóránt Perényi and Elemér Nagy at the FUGA center in Budapest, as well as to the efforts by Tibor Joanelly, who curated the exhibition *Elemér Zalotay: Manic Modern* at BALTSprojects gallery in Zurich in 2021 and at f'ar - forum d'architecture in Lausanne in 2022[23]. The same scholars are also looking for viable solutions for the preservation of the house in Ziegelried; the latest opportunity has been presented by the Denkmalpflege des Kantons Bern, which is planning to deconstruct the house and rebuild it in another location, possibly at the Collection de l'Art Brut in Lausanne or at the Fachhochschule in Biel[24].

The cautious recognition accorded in the last years by the architectural community to these works and less controllable, less predictable uses of wood is a sign of needed attention to the formless, the uncertain, the unexpected. In the framework of the environmental crisis, wood is looked at with renewed attention as a sustainable material, able to respond to contemporary instances in a sharper way than heavier materials. In the current condition of instability, however, the idea of sustainability – always intended as environmental, economic, social, and cultural – should involve diversity and flexibility, in order to adapt systems, products, and processes to unknown future conditions and guarantee a complex vision, inclusive of different perspectives, hidden urgencies, alternative lifestyles to a failing *status quo*. Works such as Lubi's towers or Zalotay's house show how a non-domesticated use of wood in architecture can enable unforeseen ways to inhabit the city and the wilderness, establishing new balances between cohabitation and isolation, weaving new relationships between humans and nature, embracing new temporal dimensions for shelter. Even in mainstream architecture, through the mesh of market and building regulations, some works go beyond the norms ruling the use of wood, giving space to latent needs and potential, uncontrollable deviations from the original design. The 95 Degrees Restaurant by Alexander Brodsky in Pirogovo, near Moscow, stands on a wooden grid with columns slightly inclined – 5 degrees above the vertical – following the pattern of the surrounding trees, in a formal intuition of the author[25]. Slabs serve as terraces and, here and there, closed volumes appear in a disordered arrangement. Wooden pillars main-

tain their appearance as tree trunks; knots, scratches, and gnarls are visible in the columns, left raw and untreated as if they were found in the surroundings and put together by a resident, realizing their rickety jetty above the water of the Kljaz'ma, in the Klyazminskoye Nature Reserve. The reference of this project is a kind of structure widespread in Russia[ᛗᚳ]: temporary, hybrid waterfront structures, with an unclear purpose. When these structures are not used anymore, they are left in decay, decay that Brodsky froze in time in this building in the 5-degree inclination of the load-bearing columns, giving shape to a precarious, but familiar building. A hybrid, referring to the forest and the water, a refuge alluding to an archetype. Like many of Brodsky's works the restaurant was temporary, conceived to last a couple of summers[ᛗᛈ]; however, it is still standing and in use. Recent pictures show an entirely different visual character from the ephemeral images of the restaurant widespread in the media. An imperfect, low-key, unpolished use of wood allowed a temporary architecture to last, creating the space for it to be light-heartedly adjusted to changing needs, free from the rules of the architectural establishment. In the framework of the contemporary global crisis, in front of the inadequacy of fixed norms to the current unstable conditions, a non-domesticated use of wood in architecture can create the space for the unpredictable, for "the first weak forms of some new thing, a new religion, a new politics"[ᛗᛇ], protected by the rigid borders of total control.

Pilpalossi, built by Vaike Lubi near Suure-Jaani in Viljandi County, Estonia, 1980s. EAM Fk 12908, Estonian Museum of Architecture, http://www.muis.ee/museaalview/2638539 (CC BY-SA 4.0).

See R. Banham, *Is There a Substitute for Wood Grain Plastic?*, in E.A. Anderson, G.F. Earle (eds.), Design and Aesthetics in Wood, State University of New York, New York 1972, reprinted and published in "GAM 17: *Wood. Rethinking Material*," 2021, p. 58. In this article, Banham writes that "the use and experience of wood is an essential and basic part of the cultural inheritance of all northern, non-Mediterranean peoples" (p. 60) referring to North-Americans as well as to North-Europeans. Due to globalization and the free circulation of ideas and cultural products, the experience of wood is a cultural trait than, even if not shared, is understood also by those referring to a culture "carved in stone […], the dominant material of the Mediterranean basin – poor in wood in all historic time – from which our conscious culture derives" (p. 58).

PRIN Sylva, *Project*, 2017, available at: https://sites.google.com/iuav.it/iuav-prin-sylva/sylva?pli=1.

B. Rudofsky, *Architecture Without Architects: A Short Introduction to Non-Pedigreed Architecture*, The Museum of Modern Art; Doubleday, Garden City NY 1964, p. 6.

Ibid.

J. Choppin, N. Delon, *Indisciplinés*, in Id., *Matière Grise. Matériau, réemploi, architecture*, Pavillon de l'Arsenal, Paris 2014, p. 111 (my translation).

The word "environments" is commonly employed to define these works, as stated in H. van Es (ed.), *Outsider Environments Europe*, blog, available at: https://outsider-environments.blogspot.com, meticulously collecting outsider environments case studies in Europe and former USSR countries.

These works fall into different definitions: *art brut, outsider art, outsider environment, outsider architecture*. Many well-known examples exist, such as the Ideal Palace by Postman Cheval, a rural postman living in Hauterives, in the South of France, who in 1879, on the wave of curiosity for the sculptural skills of nature, started to collect "odd or fanciful" stones in the surroundings of Hauterives and building, using just rudimentary tools and along thirty years, a complex architecture, 26 meters-long, and 10 meters-high. A "peasant's handiwork," the palace has an encyclopedic character, "a fantasmagorical world of plant and animal life." M. Thévoz, *Art Brut*, Rizzoli International, New York 1976, p. 25.

Postman Cheval wrote in his autobiography about his obsession for stones and the struggles of re-use architecture: "As for the plans and figures to be adopted, they have at the same time absorbed my attention and disturbed my sleep," J.-P. Jouve, C. Prévost, C. Prévost, *Le Palais idéal du facteur Cheval. Quand le songe deviant la réalité*, Arie éditions, Hédouville 1994, quoted in J. Choppin, N. Delon, *op. cit.*, p. 111, (my translation). The forms of Cheval's palace stem from his memories, reminiscences, and dreams, "not governed by the same principles of affiliated forms as architecture in general. […] They stem from the same mechanism of association and condensation as dreams do." M. Thévoz, *op. cit.*, p. 25. Similarly, *anarchitect* Richard Greaves' work is described as "a dream that never ends," S. Lombardi, V. Rousseau, *Richard Greaves: architect of the possible*, in Id. (ed.), *Richard Greaves. Anarchitecte / Anarchitect*, 5 continents, Milan 2005, p. 78, and he declared, about his work: "Everything I do here is to sleep better," in Id. (ed.), *Richard Greaves, op. cit.*, p. 93.

Some works by Richard Greaves have names inspired by tales, such as The Sugar Hut or The Three Little Pigs' House; see Id. (ed.), *Richard Greaves. op. cit.* Vaike Lubi's wooden castles, described ahead in the text, were called "witch houses;" see https://foorum.perekool.ee/teema/kas-keegi-oskab-maletuse-jargi-oelda-miskohaga-tegu/ (my translation).

J. Wines, *L'architecture verte*, Taschen, Cologne 2000, p. 64, quoted in S. Lombardi, V. Rousseau, *op. cit.*, p. 79.

Throughout the building of his Ideal Palace, Cheval was labeled "just a poor fool who fills his garden with stones." M. Thévoz, *op. cit.*, p. 25. About the postman, it is stated: "it was not, he says, because he was crazy that he built his Palace; it was because he built his Palace that he was called crazy." Ivi, p. 26. The Palace found later recognition and was praised by Breton and Picasso, before being classified as a historical monument by André Malraux in 1969, see J. Choppin, N. Delon, *op. cit.*, p. 111 (my translation).

J. Choppin, N. Delon, *op. cit.*

K. Lynch, *Wasting Away*, Sierra Club Books, San Francisco 1991, p. 25.

See M.D. Shrayer, *Leaving Russia: A Jewish Story*, Syracuse University Press, Syracuse 2013, pp. 72-74.

See M. Jürgen, *Visiit külageeniuse juurde*, in "Eesti Ekspress," March 15, 2015, available at: https://ekspress.delfi.ee/artikkel/73945125/visiit-kulageeniuse-juurde, accessed December 22, 2022.

See A.-M. Rannamäe, *Mälestuskilde Lubi Vaikest*, in "Leole," n. 8 (233), August 2019, p. 9, available at: https://dea.digar.ee/article/leole/2019/08/01/32, accessed December 22, 2022.

M.D. Shrayer, *op. cit.*, pp. 72-73.

Ivi, p. 73.

T. Kukk, *Pilpalossi perenaine*, in "Leole," vol. 14, 5, May 2001, p. 6, available at: https://dea.digar.ee/page/leole/2001/05/01/6.

See *Ibid*.

See *Ibid*.

See A.-M. Rannamäe, *op. cit.*

See T. Kukk, *op. cit.*

S. Saarep, *Kui süsti asemel antakse pintsel ja värvid*, in "Sirp," July 27, 2018, available at: https://sirp.ee/s1-artiklid/c6-kunst/kui-susti-asemel-antakse-pintsel-ja-varvid/ (my translation).

T. Kukk, *op. cit.* (my translation).

Kreisi Fond, in M. Karro-Kalberg, *Acknowledging unnoticed architecture. The foundation of the Kreisi family*, in "MAJA," n. 98, autumn 2019, available at: https://ajakirimaja.ee/en/acknowledging-unnoticed-architecture/.

E. Urbel, in M. Karro-Kalberg, *op cit.*

V. Molnarr, *From Constructivism to "Routinized Modernism": The Zigzag Trajectory of Radical Utopianism in Postwar Central Europe*, in "Laboratorium," vol. 1, 8, 2016, p. 21.

E. Zalotay, *A difficult man*, letter to Károly Valentiny published in "Új Írás," 6, 1965, in M. Major, J. Osskó (eds.), *New architecture, new society: 1945-1978. A selection of the architectural debates and documents of the past decades*, Corvina, Budapest 1981, p. 252, in Z. Fehérvári, J. Őry, *"…not talking to the wind, even if I'd like to build on them" – portrait of Elemér Zalotay (1932-2020)*, on FUGA website, December 22, 2020, available at: http://en.fuga.org.hu/not-talking-to-the-wind-even-if-id-like-to-build-on-them-portrait-of-elemer-zalotay-1932-2020/.

V. Molnarr, *op. cit.*, p. 21.

See Z. Fehérvári, J. Őry, *op. cit.*

See A. Krafft, *Villa 3054 Schüpfen/Ziegelried/BE*, in "Schweizer Architektur," 79, October 1987, p. 79.29 (my translation).

Z. Fehérvári, J. Őry, *op. cit.*

E.M. Farrelly, *The New Spirit*, in "Architectural Review," vol. 180, 1074, August 1986, p. 11.

See Z. Fehérvári, J. Őry, *op. cit.*

Ibid.

E.M. Farrelly, *op. cit.*, p. 11.

See F. Principe, L. Ambrosi, *Save the house!*, in "Domus," 656, 1984, p. 31.

See E.M. Farrelly, *op. cit.*, pp. 7-16; Zalotay is mentioned here alongside Moser and Goodwin, Coop Himmelb(l)au, Itsuko Hasegawa, Richard Leplastrier, Eduard Samsó, Alfredo Vidal among others.

Ivi, p. 10.

M. Andina, *A home made of recycled materials*, in SwissInfo website, June 3, 2012, available at: https://www.swissinfo.ch/eng/not-wasted_a-home-made-of-recycled-materials/32796812.

A careful record of the valorization activities carried on to promote Zalotay's work has been drafted and updated until 2020 by Júlia Őry. See: J. Őry, *The Zalotay story. Status report and plans*, in Epitesz Forum website, November 3rd, 2020, available at: https://epiteszforum.hu/a-zalotay-sztori-helyzetjelentes-es-tervek.

See *Ibid.*

See F. Moral Andrés, *Alexander Brodsky: del papel al desvanecimiento*, in M.Á. Chaves Martín (ed.), Arquitectura, Patrimonio y Ciudad, Universidad Complutense de Madrid, Madrid 2015, p. 262.

See A. Brodsky, *Everything is Temporary*, in "Digital Architectural Papers. *After Crisis*," 1, July 2012, available at: https://www.architecturalpapers.ch/docf723.pdf?ID=10.

See *Ibid*.

K. Lynch, *op. cit.*, p. 135.