The influence of regional traditions on the use of wood in works of contemporary American architects

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Abstract: The article examines the influence of architectural traditions of historical wooden housing construction on wooden structures created by contemporary American architects in three regions of the United States. Architect Charles Moore and his MLTV architecture studio in San Francisco began using wood as the main building material for houses in the experimental ecological and creative community Sea Ranch in the early 1960s. Charles Moore used wooden structures in buildings and developed a general space-planning design of buildings in a classical modernism style. Architect Peter Forbes from Boston, Massachusetts (New England) used wood following the New England tradition of wooden housing construction dating back to the 17th century. Architects Elizabeth Plater-Zyberk and Andres Duany from Miami, Florida (the Deep American South) used the architectural heritage of the American South. On the basis of the southern architectural school of wooden housing construction, which developed under the influence of the hot and humid climate in the 18th-19th centuries, the method of creating small settlements using wood was developed and applied in urban planning. The article concludes that modern American architects consider wood to be a modern building material and use wooden structures in different applications in buildings. Wooden structures are widely used in the regions where original schools of wood construction were created 100-300 years ago.

1. Introduction
The active search for the architectural identity of cities and regions, which has become a feature of the theory and practice of architecture at the beginning of the 21st century, is based on the need of regional and local communities to preserve the architectural originality of their cities and towns in the process of ever accelerating and deepening globalization. The issue of “Image of the City” raised by Kevin Lynch [Lynsh K., 1960] or “Spirit of the Place” as interpreted by Christopher Day continues to be one of the most relevant for the designing practice of modern architects and construction activities of project customers. This trend has been emphasized by modern researchers [Klamer M.K., Glebova N.M., Druzhinina I.E., 2017]. Modern wooden construction represented by the best buildings has reflected the architects’ solutions and customers’ requirements based on the historical and cultural construction traditions. The experience and achievements of the best American architects who have sought to match new wooden buildings with the historical architectural traditions and the “Spirit of the Place” are of great value and importance for Russian architects.

2. Methods
The research materials have been collected for more than twenty years. The generalization and analysis of the materials were carried out in 2020, when Irkutsk National Research University was developing the Research Program "Wooden house building in the Baikal region in the digital era". This applied program is aimed at improving and developing the timber housing industry in Eastern Siberia. An analysis of the best world wooden housing construction has become an integral part of this research program. The materials were also collected during the author's internship at Stevens & Wilkinson architecture company (South Carolina) in 1998 and while working as a visiting researcher at the University of California (Berkeley) in 2003. The following material collection forms were used: a content analysis of the architectural press and booklets of architectural companies; materials of the websites of architectural workshops; expert surveys of architects; an analysis of scientific literature on architecture; field studies of modern wooden architecture in Northern California and southern US states.

The theoretical analysis of stylistics of architectural works is based on the methodology developed by Moscow School of History of Architecture in the works by Andrei Ikonnikov, Maria Nashchokina, and Elena Scheboleva.

3. Charles Moore and Pacific Coast
Regional diversity in the United States of America is a natural phenomenon. There are enough reasons for original images of the regions: geographical and climatic characteristics, the historical development and changes in national cultural models during the development of the US territory by Europeans, the state of agriculture and industrial production, the level of urbanization and large areas of untouched lands that remain in a natural state.

Currently, the entire territory of the USA - from the Atlantic coast in the East to the Pacific Ocean in the West, from the hot rocky deserts on the border with Mexico to the snow-covered plains bordering Canada in the North – is divided into nine large regions [The contemporary USA, 1988]. Each of the regions has its own unique cultural, historical, natural, climatic and industrial features, and lifestyles of the inhabitants. The article is aimed at analyzing features of new wooden architecture in terms of architectural, historical and cultural traditions on the example of three regions - New England in the North, the Deep American South and the Pacific Coast in the West. In each region, new wooden architecture is presented through the works by architects, whose workshops are located in one of the cities of these regions, and who argue that they consciously follow regional cultural and historical traditions.

The MLTW is an architectural company owned by Charles Moore that is among the first firms that began to use wood as a building material. In 1960, this architectural studio was founded by four young architects – Charles Moore, Donlin Lyndon, William Turnbull and Richard Whittaker – in San Francisco, California. Charles Moore was a recognized leader of the group due to his scientific and journalistic activities and popularity at the University of California at Berkeley, where he lectured.

In the early 1960s, California was rapidly changing and rebuilding. In the 1960s, the industrial and economic development of the state intensified during the Second World War raised a widespread interest in everything new in culture, art, and science. To be ahead of other states, conduct experiments was a motto of California. It was a tradition to follow everything new. The artistic principles of modernism, the dominant style of post-war America were perceived with enthusiasm by architects and artists. The modernist concepts of art and belief in power of science entered into symbiosis, creative and harmonious interaction with one of the earliest and strongest cultural traditions of California - respectful and careful attitude to nature. In 1868, the first specially protected natural area Mariposa Grove was created in California. For California's creative and financial elites, technical inventions, social experiments and traditions of funding scientific institutions were dominant areas.

In line with these socio-cultural trends of the early 1960s, the project aimed at creating a new ecological and creative settlement in Northern California was launched.

In 1960, the architect and developer Al Boke, who had extensive experience in the Pacific, bought Sea Ranch (the former sheep ranch) located 100 kilometers from San Francisco. He aimed to create a modern, economically independent settlement for people who value nature, contemporary art and
communication with neighbors. Boke involved a large team of consultants - foresters, engineers, lawyers, hydrologists, climatologists, geologists, graphic artists, and public relations experts – in the project implementation. The Ranch was designed by the MLTW company. Lawrence Halprin designed the master plan in line with his vision of social and environmental processes [Huber David. 2019].

In accordance with the concept of this settlement, half of the land area was to remain common, most of the meadows was to be preserved, and buildings were to be located in dense groups, rather than along the ocean. All team members agreed that the landscape was more important than the architecture. At the first project implementation stage, the landscape was reconstructed and a series of six single-family "demonstration" houses were built. In the architectural spatial composition of Sea Ranch, the dominant position was occupied by Condominium No. 1 designed by Charles Moore. The building design allowed a magnificent view of the Pacific coast.

The building material – wood – combined the architectural volumes with the landscape. The use of wooden structures for the Sea Ranch buildings established several relationships with the landscape – by color, material texture, parts size and scale, and comparability of architecture with natural elements (trees, bushes, large stones). In addition, when developing space-planning solutions, the architects relied on the general Anglo-Saxon architectural traditions of rural architecture, expressed in wooden walls, roof slopes, and pediment proportions. The architects used building techniques of the American vernacular rural architecture (e.g., wall casting with wooden shingles). Seeking to achieve environmental goals and using elements of traditional American rural architecture, the creators did not abandon their modernist commitment. The image of the Sea Ranch settlement and each building remained modernist [Ketcham Diana. 2019].

In the 1980s and 1990s, architects Stephen Ehrlich and Joan Holberg continued to combine wooden structures with the architectural techniques of modernism in the residential cottage construction of California [Jodidio Ph., 1995]. The architectural forms that are similar to the ones designed by Charles Moore were created by San Francisco architecture firm Tarnbull, Griffin & Hazlupp. They designed individual cottages in the natural environment of the early 21st century [Jodidio Ph., 2011].

4. Peter Forbes and New England

In the 1980s and the first half of the 1990s, the Boston architect Peter Forbes combined the regional architectural traditions and architectural principles of modernism. Forbes designed a series of large detached single-family houses on the North Atlantic coast of the United States. Most buildings were made of wood. The houses were built in Maine and Massachusetts. Both states belong to New England, a region that has developed a distinctive architectural tradition of rural wood architecture dating back to the 17th century.

The architectural theorist Andrei Ikonnikov described the architectural features of this region as follows: “Together with the forms of social life imported from Europe, the colonists retained the European types of buildings. The severity of uninhabited places, as well as the puritanical thinking of New England settlers were embodied in ordered, well-balanced building schemes developed by artisans. The English architecture acquired new features, marked by isolation and emphasized decency. The rigidity of the composition excluded a variety of options, and its stereotypes acquired stability, reminiscent of the standards of industrial construction. The massive wooden structure was composed of low-ceilinged rooms; the simple volume of this house was limited by continuous surfaces devoid of any decorations” [Ikonnikov, 1979, p. 6].

The dominant influence of English architectural designs on rural houses of New England was emphasized by David Larkin: “New England cities often took the names of places in Southeast England, where most of the New England settlers were born. Westerfield [in New England] has also retained the style of cottages - log houses that are typical of this region” [Larkin, 1996. P. 14]. The architectural identity of New England, which has developed over 300 years, influenced Peter Forbes, the recognized master of architecture of this region. The author of the book on modern residential buildings designed by Peter Forbes says that “New England has influenced Peter Forbes’ aesthetics and worldview. Each summer, he spends many days in his house on the Maine coast” [Oscar Riera Ojeda, 1995, P.8].
Forbes’ creative views are based on modernism. Forbes respects Mies van der Rohe. During his studies at Yale University, his teacher was Louis Kahn. He prefers solid, clear and abstract shapes. He uses building materials of pure modernism - wood, steel, stone, glass and concrete [Jodidio Philip, 1996]. Each building is characterized by perfect site features and landscape beauty. The New England tradition manifests itself in the volume proportions and roof shapes. Forbes’ buildings are often located between dense forest lines and rocky ocean shores. It is enough to give a glance at Forbes' architectural works to see that he strives to reveal the best views and minimize the physical impact on the landscape. The house located on Grand Cranberry Island near Bar Harbor that was designed in 1987 and the house in Sarri designed in 1993 are examples of this approach. All houses designed by Forbes feature tall gable roofs, planked or shingled wooden walls, and massive stone chimneys – the elements that connect modern buildings with the tercentenary New England architectural tradition.

5. Elizabeth Plater-Zyberk, Andres Duany and American South

In the 1980s, the theory of New Urbanism was popular among the American architects. The authors are architects Elizabeth Plater-Zyberk and Andres Duany from Miami, Florida. They obtained their Master’s Degree in Architecture in 1974. At Yale School of Architecture, their teacher was Charles Moore. He was teaching there from 1967 to 1975. American architectural theorists consider Elizabeth Plater-Zyberk and Andreas Duany to be the most successful students of Charles Moore.

In 1980, the architectural firm Duany, Plater-Zyberk & Co designed a new settlement on the coast of the Gulf of Mexico in Florida. It was a small resort town Seaside. In accordance with the theory of "New Urbanism", Duany and Plater-Zyberk developed a clear settlement scheme: a center where a temple, a post office, a school, a town administration office, a police station and other communal buildings are located; residential quarters are located around it. Everything has been arranged in such a way that the center can be reached in less than 10-15 minutes from any point.

The town planning composition is characterized by clear features and unity of design. The town center with a large square and public buildings (a church, a city hall, a post office, banks, shops and restaurants) around it is opened to the south towards the ocean. Ocean Beach stretches from east to west, forming a water façade of the town. Streets converge radially to the center. Single-family houses - two- and three-storey cottages - are evenly located on almost identical land plots. Most of the residential buildings are made of wood following the regional tradition of the American South, which developed in the 18th - 19th centuries (the volumetric planning solution, decorative design, structure details and façade coloring). The population of Seaside is about six thousand inhabitants.

Andres Duany and Elizabeth Plater-Zyberk managed to represent the unified architectural ensemble and compositional image due to the support provided by project customer Robert Davis who owned the land plot.

In 1979, Davis decided to build a town that would be comfortable for residents. He agreed general design principles with Elisabeth Plater-Zyberk and Andreas Duany and gave them full creative freedom. The architects aimed to give their ideal town a picturesque and old-fashioned look. They created a clear system of urban planning guidelines following the principles of urban development of the past. The streets were not wide, and the axes of streets led either to the center or to the ocean beach.

For residential development, architects have found examples in the architectural heritage of the American South. They took regional types of wooden houses built in the American South in the second half of the 18th - first half of the 19th century as a pattern. Architectural historians describe the most popular type of southern houses in the following way: “The ends of the houses face the street, the rooms look out on both sides, providing through ventilation. On both long sides there are "piazzettas". These are one-story wooden balconies protruding far forward ["Universal ..., p. 573]. Historians of architecture say that the artistic style of classicism dominated in the decorative design of traditional southern houses. “Order architecture is typical of the southern states - the house in Charleston with its two-story veranda, the Oakeley house in Louisiana with a colonnade around the house, the Deering’s house in Georgia with its large order of columns are examples of the correct use of conventional forms of classicism in these
climatic conditions. "[Universal ..., p.581]. All the features of the traditional historical regional types of wooden houses were represented in the Seaside residential buildings.

It should be noted that the design program included a master plan, exemplary facades, style requirements, town planning regulations and zoning rules. This was unusual and new for the 1980s. Elisabeth Plater-Zyberk and Andres Duany summarized their views on urban planning and Seaside development experience in Suburban Nation: The Rise of Sprawl and the Decline of the American Dream (2000) and The New Civic Art: Elements of town planning "(2003) [Duany Andres, Plater-Zyberk Elizabeth and Alminana Robert. 2003].

Seaside became an exemplary town built on the principles of "new urbanism". In the 1990s and early 2000s, following his example and likeness, many new beautiful and comfortable towns were created.

In terms of the use of wooden structures, the works by Miami architects Elizabeth Plater-Zyberk and Andrés Duany give a new dimension to long-standing wooden structures and multiply the scope of wood applications. In their projects, wood is considered to be the main building material.

### 6. Results

The research was aimed to study the creative design practices of more than 10 contemporary American architects and architectural workshops that use wooden structures in buildings located in three regions of the United States that preserve local architectural traditions. The architects use wood in their design projects following the historical tradition of wooden housing construction. The architects, their clients and residents of the regions recognize the significance of the architectural tradition for regional culture. Contemporary architectural projects that continue the historical architectural tradition are widely supported and approved by residents.

### 7. Conclusion

The analysis of the collected materials allowed for the following conclusions.

In three regions of the United States, there are architectural traditions of wooden housing construction recognized by historians of architecture. Stable signs of local architectural traditions and schools exist in all three sample regions — the Pacific West Coast, New England, and the Deep American South. These traditions are an important element of the creative self-awareness and identity of architects, builders, real estate entrepreneurs and residents. Having analyzed the works by famous American architects, we can conclude that regional architectural traditions are a source of modern creativity.

The American architects consider wood to be a modern building material and widely use wooden structures in different applications in buildings. Wooden structures are widely used in the regions where original schools of wood construction were created 100 - 300 years ago.

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