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## ARCHITECTURE FOLLOWS CLIMATE TRADITIONAL ARCHITECTURE IN THE FIVE CLIMATE ZONES

ARHITEKTURA SLIJEDI KLIMU  
TRADICIONALNA ARHITEKTURA  
U PET KLIMATSKIH ZONA

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Climate-neutral, energy-efficient, and circular building design is an area of expertise for Aleksandros V. E. Ioannou-Naoum, a research associate at TU Wien and the Institute of High-Rise and Industrial Construction. He develops solutions to reduce resource usage, CO<sub>2</sub> emissions, and energy consumption with an emphasis on sustainable enhancement and smart technologies like artificial intelligence and machine learning.

His first book, *Architecture Follows Climate – Traditional Architecture in the Five Climate Zones*, structured according to five climate zones (tropical, arid, temperate, continental, polar), explores traditional architecture through the lens of climatic conditions. The focus of this research endeavour is to point out traditional vernacular techniques across all five climate zones. These techniques have enabled humans to live or survive in extreme climatic conditions by recognising, understanding, and using the natural energies and materials that are specific to their surroundings. Although traditional architectures are often attributed to past and outdated societies, they embody the common heritage of architectural knowledge that has been accumulated, tested and continuously developed over generations.

However, Ioannou-Naoum is not alone in this line of thought. Bernard Rudofsky and Viktor Papanek worked in different fields – the former in architecture and the latter in industrial design – their perspectives converged in their critique of the modernist, technologically dependent approach to building and design. In 1964, in *Architecture Without Architects* Rudofsky emphasised the value of vernacular architecture, shaped by collective experience, in harmony with natural conditions, and without reliance on industrial infrastructure.

In his pamphlet *Form Follows Climate* (1967), Charles Correa redefined the well-known modernist principle form follows function into a new maxim, emphasising climate-responsive architectural form. Correa argued that architecture cannot be universal but must derive from local climatic, cultural, and social conditions. For him, a building's form – its section, plan, orientation, and mass – is

not an aesthetic decision but a response to the sun, wind, humidity, and temperature.

A few years later, in *Design for the Real World* (1971), Papanek voiced a similar concern in the field of design, urging design that meets actual human needs rather than the consumer market and cautioning against the social and ecological irresponsibility of modern industry. Rudofsky, Correa, and Papanek's theories gained particular significance during the 1973 energy crisis, which exposed the vulnerability of fossil fuel-based systems and sparked a renewed interest in sustainability, energy efficiency, and local resources.

Glenn Murcutt, active in the early 21<sup>st</sup> century, exemplified the effective implementation of these principles by creating climate-sensitive buildings that integrate traditional knowledge and environmental responsiveness. His architecture demonstrates that climate control is not merely a technical matter of shading or ventilation but an integral part of the building's form, section, and essence.

While Ioannou-Naoum does not directly cite these prior intellectuals, his research can be seen as belonging to the same continuum. His book bridges the theoretical and practical issues explored by Rudofsky, Correa, Papanek, and Murcutt, reaffirming the enduring principles of climate-responsive architecture and providing a methodological framework for future projects. The book examines traditional architecture across all climate zones, analysing key parameters that shape buildings in harmony with their environment. It demonstrates that attentiveness to materials, site conditions, and climatic factors – as emphasised by the earlier authors – remains essential for creating sustainable and comfortable spaces.

During periods of significant turmoil – regardless of whether climate change is the immediate concern – the book shows how traditional architecture has long adapted to local conditions, serving as a reminder that every site and location has its own rules to which architecture must respond. Materials, climate, and design solutions strongly influence planning, making this work not only a reference for a specialised study but also a universal guide for teaching traditional construction and sus-

tainable design principles. The author urges us to become *global architects*, capable of designing anywhere – in tropical, arid, temperate, polar, or continental zones – creating comfort for people rather than debating whether climate change is real.

Although the book offers concrete recommendations, it lacks an overall conclusion and a diagram summarising how similar or different techniques can be applied. Nevertheless, the primary strategy remains clear: observe traditional construction, be present, and experience the site firsthand.

Ioannou-Naoum's book has significant educational and pedagogical value. Offering traditional architectural building techniques as a framework for low-tech, climate-responsive planning, it provides students and practitioners with practical tools to design sustainably. The book covers all five climatic zones of the Earth, illustrating techniques from diverse, often non-European or historical societies. Its low-tech approaches are explained in clear texts and schematic drawings, offering inspiration for energy-autonomous and environmentally sensitive buildings. The comprehensive overview of centuries-tested passive techniques, combined with insights on building solutions, spatial concepts, materials, structural physics, design elements, and urban planning, makes the book a valuable resource for both teaching and practice – bridging historical knowledge with modern sustainable design principles.

As Vitruvius himself emphasised: “Just as the universe is organised by nature with regard to the Earth, in terms of the inclination of the zodiac as well as the orbit of the sun and its diversity, a building must be aligned with particular climatic conditions in different regions.”

In this way, Ioannou-Naoum's work connects centuries of traditional knowledge with modern design practice, completing the conceptual continuum initiated by Rudofsky, Correa, Papanek, and Murcutt. With the constant shifts and changes to which we are continuously exposed, the zones themselves might one day exchange places. However, with this handbook, we can design *from any point on the planet – for any point on the planet.*