CLIMATE CHANGE
WHOLENESS AND SUSTAINABILITY

A Research Agenda for Urban Architecture and Urban Design

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Sustainable Projects in Architecture and Urban Design in Portland

A Research Agenda for Wholeness and Sustainability in Architecture and Urban Design at the PUARL (Portland Urban Architecture Research Lab)
Wholeness and Sustainability
Wholeness and Sustainability in Architecture and Urban Design

“When we look at the most beautiful towns and cities of the past, we are always impressed by a feeling that they are somehow organic. The feeling of “organicness,” is not a vague feeling of relationship with biological forms. It is not an analogy. It is instead an accurate vision of a specific structural quality which these old towns had … and have. Namely: Each of these towns grew as a whole, under its own laws of wholeness, … and we can feel this wholeness, not only at the largest scale, but in every detail: in the restaurants, in the sidewalks, in the houses, shops markets, roads, parks, gardens and walls. Even in the balconies and ornaments.”

From “A New Theory of Urban Design.”
<table>
<thead>
<tr>
<th>Logic</th>
<th>Image of Space</th>
<th>Source of Environmental Knowledge</th>
<th>Building Image</th>
<th>Technologies</th>
<th>Idealized Concept of Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eco-technic</td>
<td>global context macrophysical</td>
<td>technorational scientific</td>
<td>commercial modern future oriented</td>
<td>integrated energy efficient high-tech intelligent</td>
<td>Integration of global environmental concerns into conventional building design strategies. Urban vision of the compact and dense city.</td>
</tr>
<tr>
<td>Eco-centric</td>
<td>fragile microbiotic</td>
<td>systemic ecology metaphysical holism</td>
<td>polluter parasitic consumer</td>
<td>autonomous renewable recycled intermediate</td>
<td>Harmony with nature through decentralized, autonomous buildings with limited ecological footprints. Ensuring the stability, integrity, and &quot;flourishing&quot; of local and global biodiversity.</td>
</tr>
<tr>
<td>Eco-aesthetic</td>
<td>alienating anthropocentric</td>
<td>sensual postmodern science</td>
<td>iconic architectural New Age</td>
<td>pragmatic new nonlinear organic</td>
<td>Universally reconstructed in the light of new ecological knowledge and transforming our consciousness of nature.</td>
</tr>
<tr>
<td>Eco-cultural</td>
<td>cultural context regional</td>
<td>phenomenology cultural ecology</td>
<td>authentic harmonious typological</td>
<td>local low-tech commonplace vernacular</td>
<td>Learning to &quot;dwell&quot; through buildings adapted to local and bioregional physical and cultural characteristics.</td>
</tr>
<tr>
<td>Eco-medical</td>
<td>polluted hazardous</td>
<td>medical clinical ecology</td>
<td>healthy living caring</td>
<td>passive nontoxic natural tactile</td>
<td>A natural and tactile environment which ensures the health, well-being, and quality of life for individuals.</td>
</tr>
<tr>
<td>Eco-social</td>
<td>social context hierarchical</td>
<td>sociology social ecology</td>
<td>democratic home individual</td>
<td>flexible participatory appropriate locally managed</td>
<td>Reconciliation of individual and community in socially cohesive manner through decentralized &quot;organic,&quot; nonhierarchical, and participatory communities.</td>
</tr>
</tbody>
</table>
San Francisco Golden Gate Park - Piano and Herzog De Meuron
THE NATURE OF ORDER
An Essay on the Art of Building and The Nature of the Universe
THE PROCESS OF CREATING LIFE
THE PHENOMENON OF LIFE
Meta-Principles
Wholeness in the Structure of the City
The City as a Growing Whole

Primary Principles
Organic Order
Piecemeal Growth
Participation
Patterns and Pattern Languages
Structure Preserving Transformations
Formation of Centers and Fields of Centers
Formation of Larger Wholes
Formation of Positive Urban Open Space
Application of Geometrical Properties
Application of Color Properties
Generative Design and Building Sequences
Integrated Design and Construction

Other Principles and Techniques
Analysis and Diagnosis
Working Directly with the Building or Urban Area
Staking out the Site
Being responsible to the Building
Innovation through Building
e tc
Eishin Campus Japan - CES
Student Family Housing University of Oregon - CES
Julian Inn Homeless Shelter in San Jose - CES
House with a Garden in the Berkeley Hills - CES
Eugene Kiln Shelter
Stephen Duff and Students
Sustainable Projects in Urban Architecture and Urban Design in the City of Portland

Metro Plan 2040

Portland’s Urban Growth Boundary both sets the limits on urbanization and causes densification within the already urbanized area.
New White Stag Urban Campus - University of Oregon Portland
New Portland Patterns:
Abundant Natural Light
An Atrium for Architecture and Allied Arts
Prominent Main Entry
A Street Presence
Galleries, Event Rooms, and a Cafe
Studios as Social Classrooms
Generous Hallways and Lobbies

university of oregon design procedures
The University of Oregon’s new Portland facility is part of the city’s plan for revitalizing a historic neighborhood on the south waterfront, which also includes Portland Saturday Market, the Portland Chinese Classical Garden, and the Japanese American Historical Plaza.
Ecotrust Building
Brewery Blocks, Portland Oregon
The Armory in Portland transformed into a Contemporary Theatre
South Waterfront Development - Portland
South Waterfront  
Oregon Health and Science University OHSU Center for Health and Healing CHH
PORTLAND URBAN ARCHITECTURE RESEARCH LABORATORY - PUARL

The Portland Urban Architecture Research Lab attempts to “integrate sustainability into the urban design process by conducting basic and applied research throughout the region in urban morphology, urban building typologies, and urban processes for civic groups, public agencies, professional firms, and development interests. Urban Morphology: We investigate patterns that enhance sustainability at the urban scale, including street networks, block and neighborhood layouts, transportation and land use systems, and urban landscapes. Urban Building Typologies: We investigate building types that contribute to greater densities and decreased vehicle use with a focus on urban housing, mixed-use buildings, and other typologies located in the central city, inner city neighborhoods, and at the urban/rural boundary. Urban Processes: We investigate processes that enhance our understanding of the emerging structure of the city and help us create urban places in an incremental and participatory manner in support of urban sustainability.”
SIXTEEN DECADES OF THE SQUARE GRID: URBAN MORPHOLOGY AND BUILDING TYPOLOGY IN PORTLAND, OREGON

Howard Davis and Hajo Neis
University of Oregon

ISUF/NNUM Conference, Stockholm, September 2006
View looking north along Naito Parkway from Morrison Bridge. Showing the three block step down to the river.

Birds eye view looking northwest at Skidmore Fountain/Old Town Historic District. Showing height set back to protect the character of the Historic district.

note how:
Daily Life, Building, and Sustainability in a German Town

Prof. Dr. Hajo Neis, Director of Architecture Programs in Portland and Anna Wilhelmine Amelie Hilgenberg

Borken
PUARL
Current Research Projects in Urban Architecture and Urban Design

The Urban Architecture Atlas of Portland
Tigard Inner City Vision Project
Life and Sustainability in a German Town
Courtyard Housing in Portland (City)
Green Housing in Portland (Metro)

Upcoming Research Projects

The Tigard City Urban Corridor Project
The Iron Precast Housing Preservation Project
Zoning and Form of Buildings
Sustainable Building Materials

New Projects

More Projects on Processes and Integrated Design and Construction
The Urban Neighborhood of 20 Minutes

What do you suggest?
Thank You

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Portland's urban growth boundary

Portland’s Urban Growth Boundary both sets the limits on urbanization and causes densification within the already urbanized area.

Metro 2040 Plan