

A circular glass building with a curved roof, surrounded by lush greenery and a pond with reeds. The building's glass facade reflects the surrounding environment. The pond in the foreground is filled with water, reeds, and lily pads, creating a naturalistic setting.

Biodiversity-friendly Design in the era of globalisation

Towards Biodiversinesque style

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Global urban landscapes



Globalisation: routine modernism of skyscrapers



One of the **most powerful symbols** of success and prosperity of **market economy** in urban landscapes

Multifaced globalisation

Western visual realm- towards global culture and landscape:
consumer oriented and non-sustainable



The most powerful cliché of western culture: “Mall”, “McDonalds”, “Christmas” and “White wedding



Ecological globalisation

Contribution of *Modern landscape architecture to the ecological globalisation*

and is linking to environmental problems:

- climate change
- water and air pollution
- spread of invasive species (especially acute in Australia and New Zealand).



Lawn as symbol of globalisation

- **Modern time:** main type of open space design in ALL types of green areas
- **21st century:** symbol of global urban landscape (compulsory attributes of social status and success of market economy)



Unification of urban environments: globalisation of plant material

- *Global exchanging of plant material*



Nursery in
Seattle, USA,
2007



St.Petersburg,
Russia,2007

Unification of urban environments: plant material

- Creation of the *Western “tropical paradise”*
- Started in *Victorian England*
- Botanical gardens and greenhouse:s
‘appropriate’ beautiful and *unusual* tropical and subtropical plants
- *Local, indigenous versions* of natural plant communities are largely suppressed



Western domination of the visual realm becoming globalized

- Global *homogeneous landscape* (picturesque-gardenesque-modernistic)
- Creation of *similar* urban biotopes
- *Loss* of biodiversity and *identity* of place
- *Expensive* management and maintenance



Biodiversinesque landscape architecture style

- *Respect, mimic* and make **visible** ecological processes in urban landscapes.
- Instead of combining trees, shrubs and flowers at random only based on their **appearance** and design qualities, the **biodiversinesque** style will be flexible, **based on ecological knowledge** and adjusted to local climatic and biotic conditions.
- **Biodiversity** as a tool for returning nature into the city



- Using biodiversity as a new *design language*
- Support important **ecosystem services** (*provisioning, regulating, supporting and cultural*)
- **But: needs to translation ecological patterns into cultural language**



Urban biodiversity

- Native component of biodiversity (native flora and fauna) as one of the most important “tools” for *urban ecological and cultural identity*



Design with native plants

- Very *acute necessity* in the **Southern hemisphere** countries (New Zealand, Australia, Pacific Islands, South Africa, South America)
- Problem: *exotic naturalised* plants
- Loss of *native species*
- **New Zealand**: last 30 years - clear emphasis to the design with native plants
- Association of native plants (and biodiversity) with local *indigenous culture*
- **Australia**



Native biodiversity as national identity: New Zealand, Christchurch



Northern Hemisphere: biodiversity as a main design tool: lawn alternatives



UK: design of “naturalistic herbaceous” plant communities for urban neighbourhoods

- *Mimics* the spatial and structural form of *semi-natural vegetation*
- ‘Utilises *visual and functional characteristics* that are absent in the native flora’
- Argument: importance to *balance* different value of biodiversity and attractiveness for humans
- *Seed mixes* of native and non-native bright coloured species
- *Wildlife-friendly* and cost-effective replacement for traditional *lawns*



Olympic Park in London



Urban biodiversity and design approaches : “Go Spontaneous”

- Spontaneous : vegetation which *“occurs by chance, without conscious design intent”*
- ***New approach in planting design:*** “make spontaneous vegetation more attractive” and “alternative to ornamental plantings in the city” (Kuhn, 2006)
- Very important point: increase ***diversity of species***
- Use of ***native or combination of native and non-native species***
- Big potentials for redesign of wastelands and industrial zones



Germany: Erfurt

- "Flowering" parking lots (using seed mixtures from local brownfields)



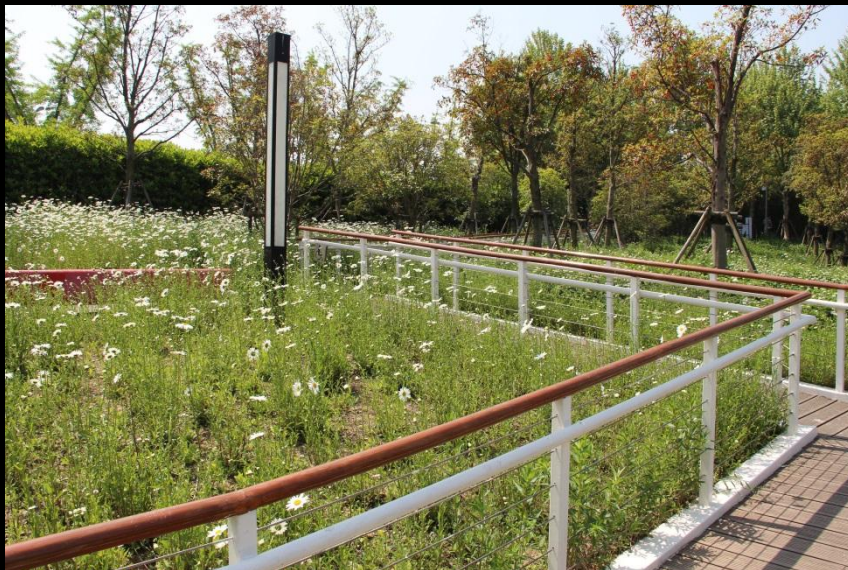
Kongjian Yu ecological design

- The ancient tradition of **foot binding in China** sacrificed the function of rustic **'big feet'** in the name of gentrification and beauty.
- Yu approach: celebrate the aesthetic of **high-performing, low-cost, healthy feet.**
- Low and High Chinese culture
- *Place will sustain its identity when design is adaptive*
- **Adaptive landscapes** based on farming techniques and ecological design - it can provide an environment with a self-sustaining identity.



Shanghai Houtan Park / Turenscape

Shanghai 2010 Expo Houtan Park. Towards ecological design and ecosystem services



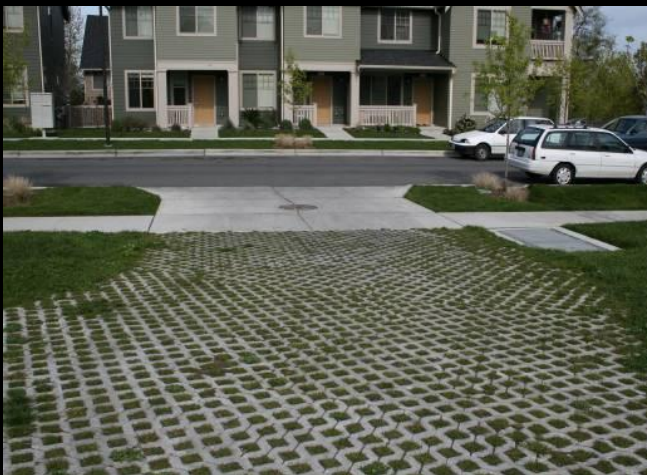
Waterstorm management: design with ecological processes and biodiversity

- **Low impact development** is a key piece in overall approach to *managing stormwater*
- Originated in the USA, then UK, and other European countries; Australia and New Zealand
- Similar concepts: Sustainable Urban Drainage Systems (**SUDS**), Water Sensitive Urban Design (**WSUD**)
- Main goal: to manage stormwater *locally*, imitating *natural water-cycles*, providing multiple ecosystem services including **biodiversity** enhancement.



Key Elements of LID

- **Bioretention** (rain gardens, swales, detention ponds): shallow, landscaped areas composed of soil and variety of plants
- **Permeable pavement**
- **Vegetated roofs**

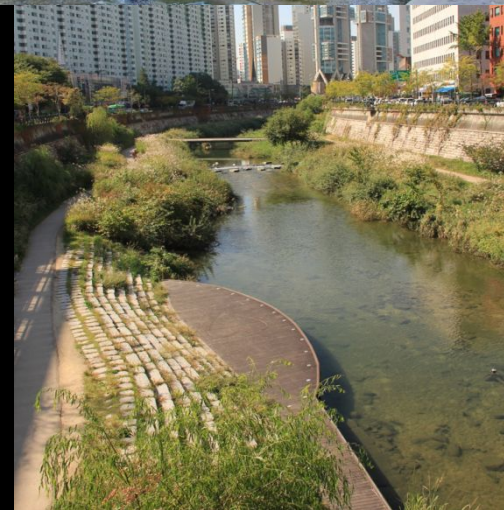


The New Zealand variation of LID- LUIDD in particular emphasis to urban biodiversity design aspects.



Developing of ecological aesthetics: biodiversinesque heterogenous urban landscapes as an opposition to the global gomogenised modernistic view

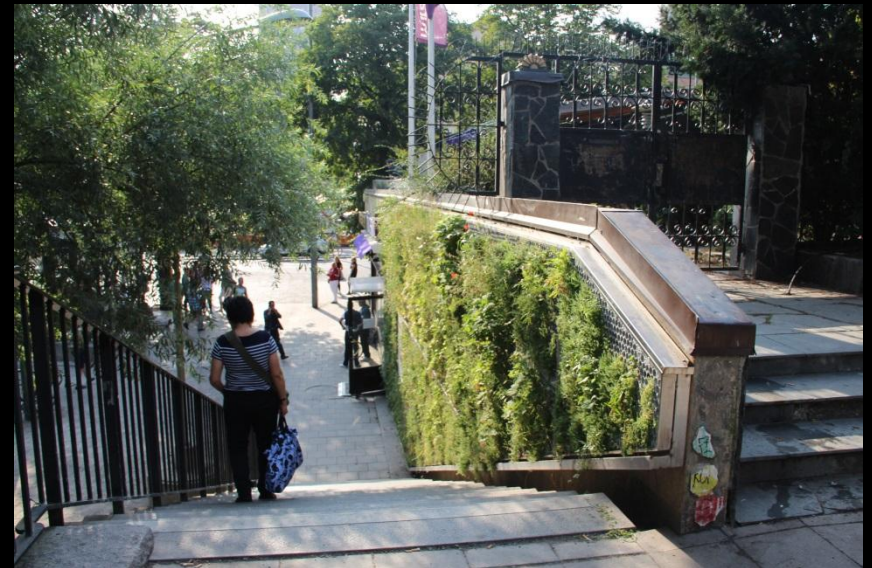
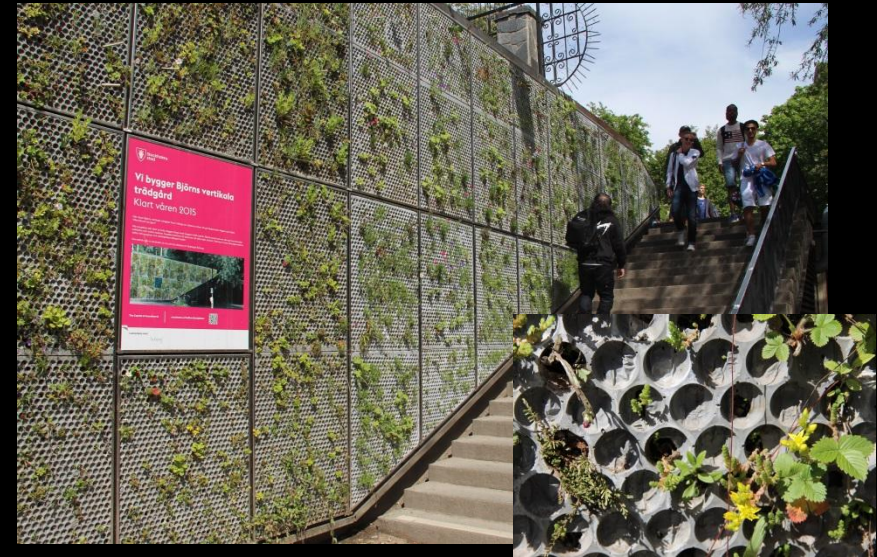
- Design with biodiversity should be **complex**
- Developing of **new aesthetics** and **ecological wisdom** of using nature as **inspiration for good design**
- Should look **beyond tidiness and smoothness** of landscapes
- Identifying new **ethics of landscape maintenance**
- **Take time** for acceptance from public and administrations.
- **Urban biodiversity** should be included as a **strategy** in all scale documents: master plan, districts and local communities (parks, residential areas etc.).



Cheonggyecheon , Seoul

How to promote and use biodiversity as an important design language: transdisciplinary approach

- *Cooperation between scientists, professionals* (landscape architects, architects, horticulturists, nurserymen, engineers, constructors), stakeholders (citizens) and decision makers (administration, politicians)
- Moving from *top-down to bottom-up approach* involving people in planning, designing and implementing new biodiverse landscape designs.



Thank you!

