

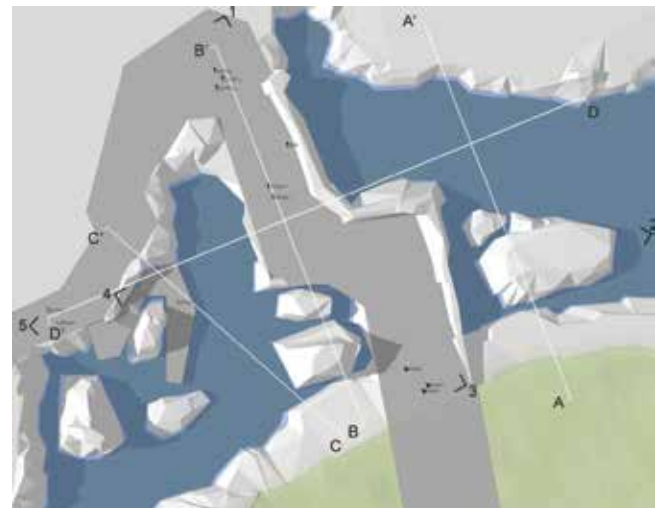
21st Century



A sumptuous rendering of the Pangaea archipelago layout of the St Petersburg Zoo project.

Zoo

text: **Susanne Kennedy** renderings: **Artefactory + TN Plus**
The modern zoo is a complex beast – St Petersburg is the latest city to embrace a new vision in which habitat and biodiversity are much more than just a setting for the animals.



top Detailed renderings of the Arctic Circle and proposed outside and enclosed visitor circuits.

top Rendered helicopter view of the Arctic Circle component of the new zoo, which will be populated with simulated icebergs and water transport for visitors. **bottom** An example of zoos of old where animals were kept like prisoners.



Zoological gardens represent a very particular branch of garden history and reflect humans' changing relationship with other species, and to design and ecology.

The Leningrad Zoo in Saint Petersburg was built in 1865 in the heart of the city and is the oldest zoo in Russia. Since its construction, and particularly since the end of the twentieth century, there has been a trend, in tandem with the growing environmental movement, towards reducing the perceived and real barriers between humans and other animals. Thus, judged by today's standards this zoo is a bleak, alienating and overcrowded specimen. It will, however, soon be replaced by a new and progressive zoo that will be located on a 300-hectare marshland site in the northern suburbs of Saint Petersburg.

TN Plus's Andras Jambor, Project Leader of the French design team for the new Russian gardens, has some interesting ideas on the ethics and design principles of modern-day zoos. He and his associates, Bruno Tanant and Jean-Christophe Nani, strongly believe that in order to justify their existence, contemporary zoos must achieve two fundamental goals. "Even if we accept that zoos are largely recreational," says Jambor, "they only become ethically justified if they go far beyond simple entertainment and, unlike zoos of old, see animal comfort as primary."

The first of these fundamental goals is direct and involves the

conservation of endangered species. The second, less overt, aim relates to education and awakening visitors to the ecological situation, humans' part in it and the risks of non-action, through "positive stimulation" rather than finger pointing.

Today's zoos contribute very actively to the conservation of biodiversity through in- and ex-situ conservation activities, which are often interrelated, for example by protecting the animal in its natural habitat or assuring species survival through the management of populations living in the zoo. International breeding programs and re-introduction to the wild are other examples.

"The status of an animal in today's zoo should be that of ambassador for an endangered 'country' rather than as captive," says Jambor. "Zoos must also make the public sensitive to the alarming state of natural habitats and biodiversity all over the world."

Social science research reveals that these messages are transmitted most effectively when a zoo visit is immersive and has an emotional component. "The pedagogical message passes more easily when visitors are immersed physically in an unknown context. A wildlife film, as good as it might be, can never compete with a real eye-to-eye experience of the animal in nature-like surroundings, in terms of provoking emotion," says Jambor. Further, an emotional dimension is more likely to enhance interest in the natural environment and the direct relationship between human activity and biodiversity. →



The current Leningrad Zoo in St Petersburg, to be replaced in 2014 with the winning design by French landscape architects, TN Plus, and architects, Beckman n'Thépé.

Rock, water and plants are the ever-returning actors in the contemporary zoo landscape, where the architecture, which includes fencing, despite its obvious technical importance, must effectively disappear to create the illusion of “the wild”. Like theatre sets, quality twenty-first century zoo design must employ the deft use of tromp l’oeil, trick of the eye, to create the desired immersive effect.

“The designer has to accept the concepts of the ‘fake’, ‘illusion’ and ‘trompe l’oeil,’” says Jambor. “We found this difficult in the beginning, but realised that the theatrical and the historical garden concept of ‘scenery’ were necessary for achieving the most important goals.”

Immersive experience is partly achieved by the fact that zoos are generally closed spaces, introverted microcosms, or islands, either in the middle or the outskirts of a city. According to Jambor, this will be particularly true of the Saint Petersburg Zoo which will be on a pioneer site and which will be modelled on Pangaea, the supercontinent that existed millions of years ago.

“The creation of separateness is not simply a nostalgic device,” says Jambor. “Behind the apparently timeless surface, the contemporary sciences will be hard at work transforming the zoo into an embassy for the ecological cause, and revealing the fragility of biodiversity.”

TN Plus’s zoological projects, which include the Helsinki, Paris-Vincennes, Wuhan and now the Saint Petersburg zoos, are strongly inspired by their context or the “host territory”. In the case of Saint Petersburg, where winters descend into the negative 20s, climate was probably the strongest territorial characteristic and challenge for the design team to accommodate; finding botanical varieties to

depict tropical Africa or the South American pampas, which can also survive these icy conditions, was their biggest challenge. Strong insulation in each building is also an essential design element for energy saving in these conditions.

“Some winter resistant plants can recall the tropics by the shape of their leaves, the structure of their branches or scent of their flowers,” says Jambor. Where possible the team used plants of the same genus as those being mimicked. “We had an amazing botanist who is an expert in living fossils, species that have been in existence since the time of Pangaea.”

The wetlands site is also subject to frequent flooding and the design team decided to use this potentially problematic feature to its advantage by creating an artificial archipelago with islands representing the continents of Pangaea.

The French philosopher, Michel Foucault considered zoological gardens to be places that recall thousands of other places and which inspire the imagination and spirit to travel. It is not surprising then that contemporary zoo design is a complex task that must master science and the theatrical to achieve its vital conservation and education roles while also providing delight and a measure of escapism.



Landscape Architects/Designers, TN Plus: **Andras Jambor** (also Project Manager), **Bruno Tanant** and **Jean-Christophe Nani**
Principal Russian Architect, Intarsia: **Alexander Mironov**
Zoological Expert: **Eric Plouzeau**
Zoo Expert: **Monika Fiby**
Botanical Expert: **Albert Tourrette**



Clockwise from top left *Nothofagus pumilio*, originally found in Patagonia millions of years ago will be mimicked by the species *Cercocarpus montanus*, which is endemic to North America today; *Diospyros virginiana* (also from North America) will cope with St Petersburg’s harsh climactic conditions while mimicking *Diospyros heterotricha* and evoking Equatorial Africa; *Acacia Karroo*, found at the time of Pangaea in Africa and Australia, will be represented by *Gleditsia triacanthos* from North America; *Nauclea latifolia* (originally found in Equatorial Africa) will be represented by *Cephalanthus occidentalis*; and *Calla palustris* (found in Eurasia) will thrive in the icy Russian climate while mimicking *Zantedeschia aethiopica*, originally found in Pangaea’s Africa/Australia.

