

Liquid Era

New spatial concepts for the city of the future, Kazan, Russia



Main author

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Project data

Project group: Landscape, urban design, transportation infrastructure and public utilities
 Project background: Research project

Summary and appraisal of the project by the jury

The project for a possible future of the city opens with a provocative question. "How could we, architects, be so confident that sustainability in the future will still lie in the field of bricks and mortar?" Learning from nature's regulating processes, the author explores a set of fluid morphologies to derive an understanding of architecture in sync with the environment. Architecture, according to the project's designer, can digitally reproduce the mechanisms at work in nature to produce architectural structures that can sustain themselves, while in symbiosis with nature. These forms and spaces (made of "digital multi-materials, nano-composites, natural vegetation, and holographic lasers"), are subsequently tested in a real context – in the city of Kazan. Here, the new structures are superimposing onto the heterogeneous city fabric to create a hybrid amalgam of entropic quality.

The jury enthusiastically endorsed the design's bold visionary stance. The exploration – a research project in its own right – offers a discourse on possible forms of relationship between the built and the natural environment, offering strategies for perceiving architecture as a form of action in symbiotic relation with nature. While the project might benefit from some careful editing, the jury nonetheless commended the notion of design as a research platform to explore and discover yet uncharted terrain. The investigation furthermore calls for potentially new understandings of materials in construction, combining natural and digitally fabricated elements, while pushing the envelope of the discipline of architecture beyond established convention.

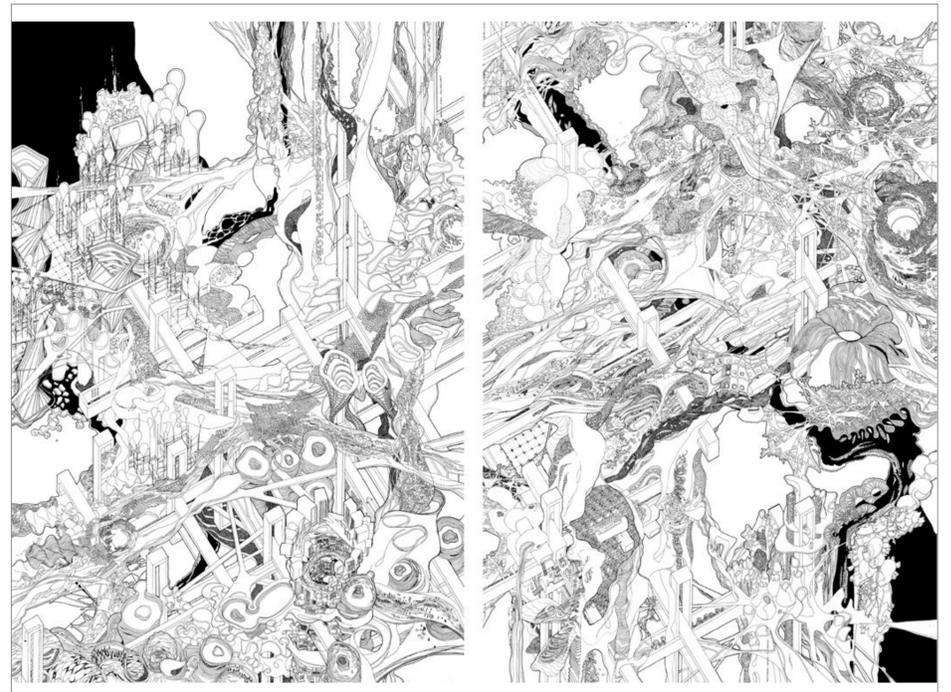


Image 1: Complex model of the hybrid urban space.

Statements on the sustainability of the project by the author

Innovation and transferability: Mindful city
 Author's concept is the transformation of a "smart" city into a "mindful" city. Mindfulness of a city is combined from two main parts: automation and interconnection of its infrastructural systems and socio-emotional intelligence of its citizens. New digital logic results in new spatial organization models, where the urban context is reimagined, by transforming it into condensed, clever, but flexible space. Typological matrix of city structural elements (point, line, surface, volume) introduces time notion into the rich functional programming, so that hybrid landscape is made. Absolute communication and coordination of infrastructural systems turns a city to a super-organism.

themselves with clean and free energy, but also apply biological methods of preserving it. A city realizes which fabrics does it require at the moment, and rams them up.

Ethical standards and social inclusion: Creative city
 Production is spread and ubiquitous, yet at the same time localized and personalized. Labor equals education, equals artistic activity and equals entertainment. Value of exchange, trust and cooperation are emphasized by the network infrastructure. Space in a city acts a creative thought catalyst. With the augmented reality technologies a digital modeling of real physical laws, glowing, refraction, tactile feelings, smells reach the highest excellence level. On the other side, virtual objects may contradict to perspective laws or gravitation. Moreover, it is possible to work and interact with that wonderspace. The city becomes an interface for self-expression.

Resource and environmental performance: Healthy city
 Healthy environment provides citizens with the best food, water, air, lifestyle and mental comfort. Alive city introduces new creatures – digital citizens, who maintain the whole urbo-ecosystem. Thanks to programmed biotic materials and elements, energy for the lightning and heating is no longer delivered, but rather executed inside buildings. In the same manner, goods and food are not collected from external global world but instead crafted locally. Moreover, a city has its own calendar, which allows using advantages of each year, season, month, week, and even day in a maximally efficient way. Cities would not only provide

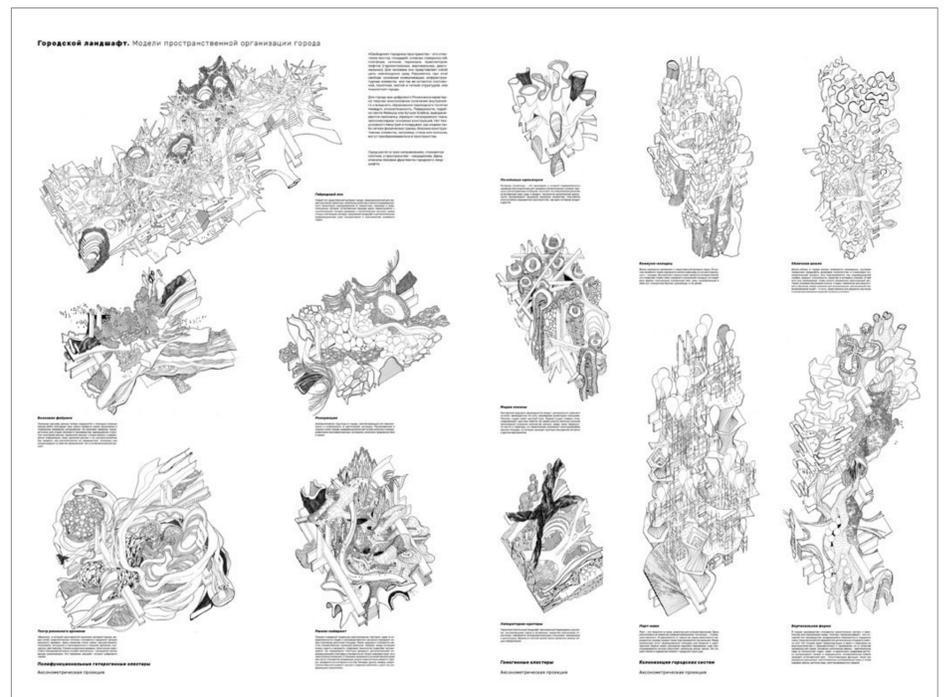


Image 2: Urban landscapes. Models of city spatial organization.

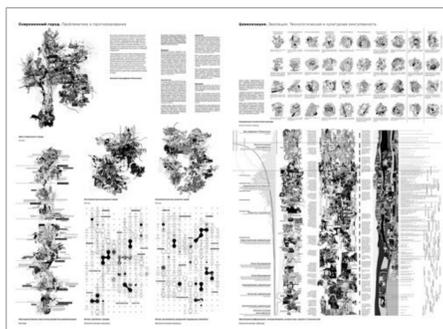


Image 3: Evolution of technology and culture cross-research.

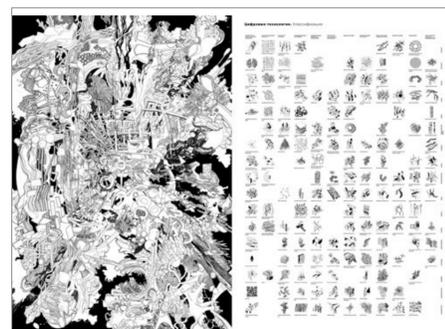


Image 4: Future city dream. Digital technologies matrix.

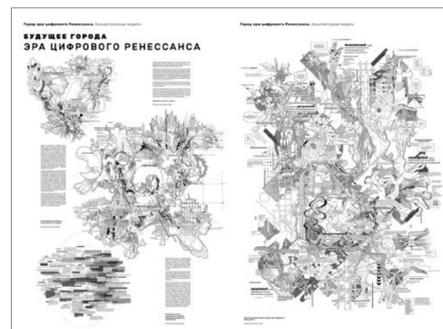


Image 5: Digital city basic principles.

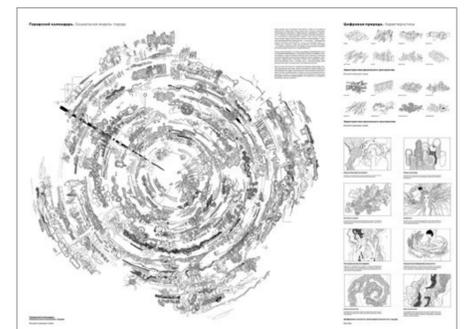


Image 6: Digital city calendar.

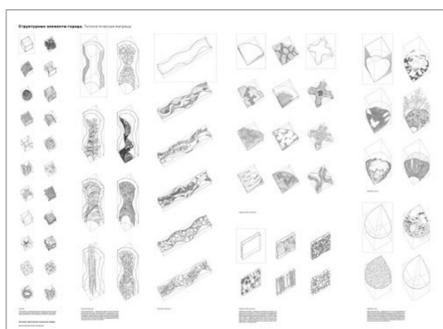


Image 7: Urban structural elements matrix (point, line, surface, volume).

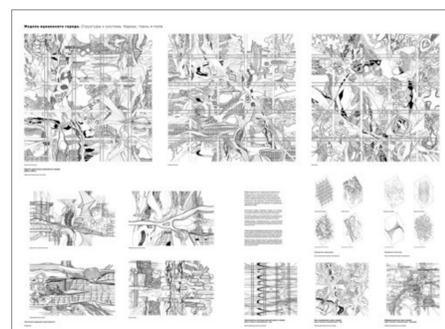


Image 8: Perfect cube city model. Transportational frame, biosocial fabric and digital flows.

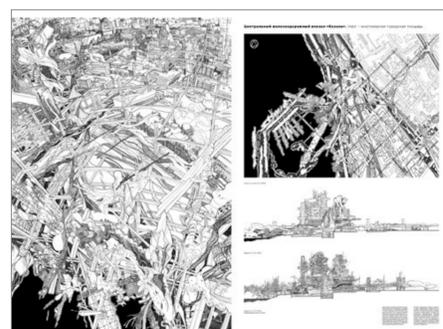


Image 9: Hybrid Hub: Kazan central railway station.

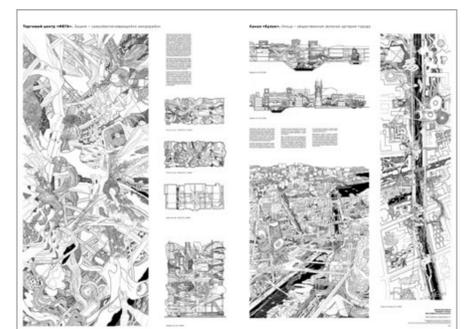


Image 10: Augmented market: «MEGA» shopping mall. Urban mirages: Bulak channel.