Digital Materiality

From Landscape to Metascape

Author: Vadim Smakhtin

Supervisor: Prof. Claudia Pasquero

Keywords: Metaverse, XR, Hybridity

ABSTRACT: The intensive process of global datafication(Viljoen 2021) created two separate realms—the realm of physical objects and their relationships and the realm of their digital counterparts stored on a remote and distributed set of machines which we call the internet. Once considered global and completely virtual, the data space is starting to gain its locality(Loukissas 2019). This locality is visible from the structural nature of the acquired datasets. Becoming virtualized, our systems and processes carry structures and flows of our physical routines into the digital realm. This information is already completely intertwined with the material layer, changing with it synchronously at the speed and discretization of the datafication process.

Datafication is done by technological bridges—a set of technologies capturing properties of physical objects or interactions and transferring these properties into a digital space. Such technologies can include various methods of scanning, sensing, data recording et cetera. While initially slow, the modern datafication process can be fast and precise, storing objects properties in databases in microseconds intervals with medical-grade precision.

Those achievements in speed and exactness of informational storage create an illusion of the "materiality" of digitized objects. Their properties and representation look almost real, so real that a completely digitized city can be observed as a model of a real one. However, the so-called digital twins are not exactly twins at all—by carrying internal processes and errors of digital infrastructures they can seem real, but they are still virtual. Moreover, while being virtual they are intertwined with their physical counterpart—the processes or routines which virtual city is encoding are still the datafication of the processes happening in its physical counterpart, taken with an accessible technological precision and temporality. The picture becomes increasingly complex if we observe that the physical structure of the city is not only a data source for its digital twin—it also depends on its digital twin to function. In this case, the digital city becomes a cybernetic organism, not physical and not virtual anymore. Its digital layer becomes so deeply integrated into its physical structure that separation of both will immediately break its living ecosystem.

The Metascape is one of the representations of such hybrid systems. It is the landscape of information flows. Not a digital twin, not a separate entity—it is the living tissue of a digitized physical environment. While resembling the physical structure of its carrier, the Metascape is always in between physical and digital topologies. Contrary to its material source, the Metascape is always dynamic, connected to the information flows of the post-digital environment. Detached from its initial physical self, it can blend with other physical or digital objects, becoming at the same time an environment and an agency of itself.

REFERENCES:

Loukissas, Yanni A. 2019. All Data Are Local: Thinking Critically in a Data-Driven Society. Cambridge, Massachusetts: The MIT Press.
Viljoen, Salomé. 2021. "Data Relations." Logic Magazine. May 17, 2021.
https://logicmag.io/distribution/data-relations/.