

Urban Deindustrialization and the Emergence of Landscapes of Adaptation and Resiliency

Case Study Analysis for Dissertation Research

Student poster abstract prepared for the 2015 Appalachian Energy Summit

Laura Schoenthaler | Author

PhD Design Student | College of Design

North Carolina State University

+1. 941.626.6141 | lschoen2@ncsu.edu

Haig Khachatoorian | Advisor

Professor of Industrial Design | College of Design

North Carolina State University

+1. 919.515.8331 | haig_khachatoorian@ncsu.edu

Introduction

In a global transition from hand production to machined production processes during the first 'industrial' revolution of 1760, industrial manufacturing sites were methodically planned and situated to effectively make use of a region's natural climate and landscape. In concert to the growth of the industrial infrastructure was the formulation of dense urban areas that emerged around hubs of activity. These industrial cities were situated in close proximity to a variety of natural resources such as quarries, coastlines, and forests, with access to transportation via canals, roads, and railways. In a mode of expansion, the second industrial 'technological' revolution of 1860 led to the electrification of factories, amplifying mechanized production methods, therefore increasing the capacity for mass production via the production line. In progression, the third 'digital' revolution of the 1950s initiated a transition from the analog mechanical processes and electric technologies towards a digital industry. These digital technologies fostered a network between the manufacturing and service sectors, and the evolution of a knowledge-oriented economy where digital services, systems, and platforms to increase operational efficiency. In the present day information era, these concepts have only progressed to a global scale.

The unwavering knowledge-oriented economy marked by digital industry comes with the consequence of urban deindustrialization phenomena. Decades of economic globalization, overseas outsourcing, and decentralization have forced these industrialized sites to discontinue activity. Deindustrialization phenomena imperils urban form and infrastructure caused by the acute alteration of topographies that are vulnerable to ecological, economic, and social decline. Interwoven within the built urban periphery, these sites are often misunderstood as 'waste landscapes', and frequently perceived as deteriorated, hazardous, and unusable. The remains of these built environments are static, as the planning and development strategies relied on at their inception frequently omitted comprehensive consideration for the end of use. It is a growing cross-cultural problem that continues to grow on an international scale exponentially in both size and complexity as the global economy becomes more reliant on services and data.

Approach/Method/Scheme

It is widely acknowledged that the reclamation and conservation of these types of post-industrial urban landscapes represent an important sustainable objective. Often situated in advantageous and valuable central locations, there is an urgency to transform these landscapes from environmentally impaired assets for productive uses, and reintegration into the surrounding urban locations. While deindustrialization and waste landscape phenomena has been extensively researched and documented, little is known about the broader emergent (macro and micro) patterns of post-industrial urbanist landscapes, nor the reciprocal design methods integrated in the feedback loop of spatial, infrastructural, and narrative interventions.

Preliminary Results/Evaluation

Through a formal analysis of select case studies, a combination of inverted translational research and applied case study research methods are used to address the urgent need to reclaim these landscapes, identifying the two distinct phenomenas associated with post-industrial urbanism—reclamation charged by economic development and policy, and the other with environmental stewardship and historic preservation. This applied methodology will provide a critical review of cross-cultural and international post-industrial urban landscapes in order to establish sustainable design principles for the remediation and revitalization of similar deindustrialized landscapes.

Conclusion/Future Work

Through a variety of qualitative and quantitative data, preliminary findings indicate that the strategies applied in the redevelopment of post-industrial urbanism landscapes are distinctly omitting principles of adaptation and resiliency, thus having an average cross-rate that will require maintenance within 10 - 15 years after initial project completion. As such, it is possible to conclude that design for sustainability must be implemented in the remediation and reuse of post-industrial landscape, considering multiple lifecycle and usage scenarios.

References

Berger, A. (2006). "The Production of Waste Landscape." *Drosscape: Wasting Land in Urban America*. Princeton Architectural Press.

Berger, A. (2008). *Designing the reclaimed landscape*. London: Taylor & Francis.

Cowie, J., & Heathcott, J. (2003). *Beyond the ruins: The meanings of deindustrialization*. Ithaca: ILR Press.

Loures, L. (2006). "(Re)-developing Post-industrial Landscapes: Applying Inverted Translational Research Coupled with the Case Study Research Method". IPP - Politechnic Institute of Portalegre - ES AE; CIEO - Centre of Spatial Research and Organizations – UALG.

Mehrotra, R. (2011). The static and the kinetic. In Burdett, R., Sudjic, D., London School of Economics and Political Science., & Alfred Herrhausen Gesellschaft für Internationalen Dialog. (Eds.), *Living in the endless city: The urban age*. London: Phaidon Press Ltd.