

Planning contexts

Bureaucracy and rule relations in French urbanism

Jenny Lindblad

Abstract

This thesis examines practices of contextualization in urban planning in Bordeaux. While planning theorists have established the importance of attending to the diverse contexts that shape urban planning, few studies have inquired about the ways urban planning activities shape contexts. When the Bordeaux Métropole intercommunal organization set out to revise its land-use plan, a document positing the regulations applicable for building permit applications, the resulting plan was intended to be less bureaucratic and more “adapted to context.” I explore the implications of this claim based on fieldwork on rule relations among planners, permit reviewers, metropolitan officials, local politicians, and planning documents. Beginning with the assumption that what is important to plans may be external to their content, I follow the land-use plan from preparation to implementation in the permit review. The activities in Bordeaux are framed through theories on the role of bureaucracy and flexibility in contemporary urban planning, while the issue of context is analyzed through an anthropological lens that understands contexts as never pre-existing, but produced through practices. The study shows how urban planning in Bordeaux unfolded amidst clashing contexts and overlapping temporalities, including national reforms of local government in favor of intercommunal planning and enhancement of shared long-term plans with flexible modalities, planners working for a regulatory framework adaptable to diverse settings, permit reviewers concerned with ensuring the legal accuracy of permit decisions, and municipal election cycles. The permit review became a strategically important activity in which modalities of flexibility were used to ensure municipal authority in response to a shifting political landscape that empowered the intercommunal government. The revision of the plan to be “adapted to context” came to imply a municipal concern to influence permits in a continuous present, in opposition of the longer-term temporality imposed by a common land-use plan among municipalities within the metropole. In this situation, local planning actors grappled with the distribution of the capacity to define which contexts mattered, at what moment, and by whom those definitions were made. By showing how urban actors selectively deployed divergent views on the notion of context, this study underlines the importance of attending to the politics of contextualization in urban planning.

Ice Formwork

The Rationale and Potential of Ice-Based Moulding Systems for the Production of Complex-Geometry Precast Concrete

Vasily Sitnikov

Abstract

This doctoral thesis analyses and makes proposals about adapting the potential of digital means of production to the needs of the concrete industry. More precisely, it aims at fostering the development of sustainable material cycles and the innovation in manufacturing methods in the field of architectural and structural design of ultra-high performance fibre-reinforced concrete (UHPRC). The first part of the thesis approaches this intertwined technical problem of digital innovation in the production of concrete with an analysis of the current state of affairs in the concrete industry. As such, this analysis spans from the material science of concrete to life-cycle assessment to architectural and structural design development discourse and computer-aided manufacturing. These analytical cogitations in turn lead to the experimental programme of the second part of the thesis. In the course of these research activities, a non-conventional material system based on robotically-processed ice moulds for non-standard cast concrete parts was found to support a highly economical, sustainable and automated production process, as well as to promote the advancement of concrete design in architecture and structural engineering.

The Ice Formwork system is a digital fabrication method proposed, studied and tested in the course of this doctoral research. The method enables production of bespoke design geometry using artificially frozen water as the moulding material in lieu of the petrochemical or engineered wood products conventionally used for the moulding. Water replaces the conventional non-recyclable moulding materials and can be continuously reused, forming an optimal closed-loop material flow in the production process.

It has been identified that the Ice Formwork method can significantly reduce the embodied energy and carbon footprint of the derivative concrete products and allows reduced cement consumption as it is compatible with UHPC, and that it fully supports the production of complex and mass-optimized concrete structures. In addition, a unique practical advantage of Ice Formwork is the rapid and autonomous demoulding process facilitated by simple melting of the ice moulds. The method thus allows the robotic fabrication of design geometry that would be unfeasible with other production methods.

The research work has resulted in a fundamental study of the new material configuration of ice-based concrete production. The technological system has been examined in three scientific areas: the material science of concrete, the robotic mechanical processing of ice with consideration of the challenges posed by architectural design geometry, and the environmental assessment of the proposed system. These disciplinary studies have been published through peer-reviewed sources and are appended to this thesis.

Interruption

Writing a Dissident Architecture

Sepideh Karami

Abstract

Interruption: Writing a Dissident Architecture makes a contribution to the fields of writing architecture and dissident architecture. Concerned with developing an ethos of criticality from within, it presents a series of performative writing experiments that are situated in politically charged architectural sites, from public spaces, to institutions, to domestic spaces. My aim is to ask how a dissident architecture could be produced through the practice of writing, specifically by offering an account of the performative acts of various characters who are introduced in the thesis, and who *critically inhabit* existing architectural sites, *interrupt* the spatial power relations of those sites, and who thereby construct '*performing grounds*'.

Writing architecture is developed in this thesis not as writing about architecture, but aims instead to write it, to *make* it. Writing dissident architecture writes with multiple voices, with many authors, not all of whom are welcomed. It offers significant approaches to a political and critical understanding of architecture. Where architecture in this thesis is understood both as a material structure and as a disciplinary framework in which power can become oppressive, writing architecture, on the other hand, is developed as a 'minor' practice that can act upon existing sites, interrupting their 'major' power relations. Interruption, developed as a tactic, is what activates architecture to become a performing ground for the act of dissidence.

Formulated as a journey the three main parts of the thesis deal with three interrupting tactics: Pause, Cut and Fo(o)l+d, which are applied in relation to three different kinds of political site: 1) spaces of appearance or the spectacle; 2) disciplined spaces understood as sites of impossibility; 3) domestic spaces as displaced loci of subversive political actions. The Pause uses stillness and refusal as a mode of interruption. The Cut interrupts the material and structural continuity of established institutions and creates cracks in those systems. The Fo(o)l+d interrupts surveillance and control by folding in and out of private and public spaces. By introducing a quasi-fictional character to each site, who performs through one of the three tactics of interruption, a performing ground is constructed. Writing architecture forwards this journey across specific sites through which the figure of the dissident emerges.