

**Saturday, 16 June**  
**9.00-11.45**

Track: Roundtable  
Room: *National Library, Small Conference Hall*

**ROUNDTABLE: BEYOND INSTRUMENTALITY: ENVIRONMENTAL HISTORIES OF ARCHITECTURE**

**Chair:** Daniel A. Barber, University of Pennsylvania,  
**Respondent:** Sophie Hochhäusl, University of Pennsylvania

Against the backdrop of contemporary environmental challenges, Anthropocene debates have prompted interdisciplinary and transdisciplinary forms of scholarly inquiry, giving rise to the environmental humanities. Insights from this capacious field have informed architectural scholarship methodologically, thematically, and discursively, and have encouraged understanding the past and envisioning environmental futures that exceed the familiar trope of the technological fix.

Architectural history has produced fruitful modes of inquiry that are specific to the historical and theoretical study of the built environment. Scholarship has focused on, for example, material and immaterial resource histories and landscapes of extraction (Di Palma, Ferng, Massey, TenHoor); forms of media generated by scientific disciplinary and institutional formations in biology, geography, climatology, and anthropology (Cheng, Haney, Barber); and their embeddedness in colonial, imperial, and capitalist apparatuses of power (Chang, King, Cupers, Pyla, Scott). Scholars have also engaged how architecture's own modes of production – from its rootedness in the history of art to the production of drawings, models, and computer renderings – have held ramification for environmental thought particularly in the nineteenth and twentieth centuries (Coen, Narath, Lystra). Finally, architectural historians have gestured at the relationship between the history of environmental ideas in spatial disciplines and the contemporary challenges we face today (Graham et al., Martin, Sickells).

In this roundtable, we aim to discuss the methodological challenges faced by the environmental history of architecture. We seek contributions that focus on methodological developments in architectural history that are sensitive to contemporary environmental pressures, and which foster new directions and potentials for research in the field. In keeping with the interdisciplinary nature of this inquiry, we are interested in proposals that implement and rethink concepts in science and technology studies and environmental history and/or introduce them to architectural history. Moreover, we welcome essays that engage previous revisionist impulses, in particular relative to post-colonial and gender studies. We equally encourage proposals that re-interrogate architectural history's own disciplinary fascination with formal and aesthetic analysis. We are particularly concerned with architectural history's use of drawings, images, and multiple media as forms of conveying environmental knowledge. Finally, we are also interested in methodological approaches that examine the political histories of environment in architecture that have been engaged in both enclosing and opening up spaces of engagement for activists, experts, and citizens.

**PAPERS:**

**Narrating Modern Architecture and Economic Growth**

Manuel Shvartzberg Carrió, Columbia University

What is the most appropriate political-philosophical framework for historicizing 'environment' in modern architecture? In the context of anthropogenic climate change, this question must be framed around the problem of resource-intensive growth paradigmatic of modernity. How should the modern imperative of economic growth be explained, analyzed, narrated—and how can architecture aid in this task?

We might distinguish three key approaches for tackling this problem: the critique of ideology, of geopolitics, and of biopolitics. Ideology concerns how a determinate structure of production mystifies its own violence and expropriation, widening class distinctions. Geopolitics suggests there is an inherent disjunction between nation-state jurisdiction and the global dynamics of capital, generating disruptive crises, nationalisms, wars, and other power-political asymmetries. Biopolitics offers a framework for thinking power-knowledge in terms of discourses over the government of life, from the conduct of conduct to the configuration of the managerial sciences of the state.

In this paper, I would like to suggest that critical histories of environment must necessarily narrate the connection between economic growth and modern architecture through a combination of the above approaches, qualified as follows. First, architecture must be understood as a managerial technology for mechanizing and automating labor-power. Second, it must be framed in the context of modern jurisdictional competition and warfare, not only between classes, social groups, and professions, but between political-economic units at all scales (persons, corporations, regions, states, sectors, etc). And third, it must be understood as a techno-discursive apparatus essential for upholding the modern distinction between work and leisure (or utility and culture, necessity and freedom, civilization and barbarism, etc).

Yet, attempting to understand the cultural and material effects of modern economic growth—re-examining structural accounts of global capitalism and imperialism since the early twentieth century, from Hobson to Arrighi—also necessarily requires attempting to translate them through the situated ecological histories, legal frameworks, and onto-epistemologies of indigenous, decolonial movements. As an example, I propose to consider the modern architecture of Palm Springs, California—quintessential environment of the work-leisure and national growth imaginaries, and built in the desert through the displacement and dispossession of a Native American tribe.

### **Architects and the Circular Economy: Knud Lönberg-Holm, Buckminster Fuller, and the Structural Study Associates**

Suzanne Strum, American University of Sharjah

This position considers the role played by architects in theorizing regenerative fabrication—a critical concern for building in the Anthropocene. The idea of Spaceship Earth, popularized by Fuller and the economist Kenneth E. Boulding in the 1960s, inspired the fields of industrial metabolism, energy accounting, and cradle-to-cradle, or what is now called the circular economy. But Boulding's contemplation of the input and output of energy, matter, and information within the ecosphere was already essential to the SSA, a coalition of architects allied to Fuller during the Depression. Their unique cybernetic, ecological, and systemic vision of buildings as transformers of energy and transmitters of information allied them to Lewis Mumford, the economist Stuart Chase, and to other technocratic thinkers, who scrutinized the impact of machine production on labor and natural systems. By introducing resource chart-making that took into account the energy cost of fabrication and the problems of waste and obsolescence, these groups prophesized a vital standard for the consumer as producer. Moreover, Lönberg-Holm—a pioneering figure of the new objectivity and an SSA member—translated the biological functionalism and energetics of international constructivism to the question of performative shelter, by working in unrecognized spheres of practice at F. W. Dodge Corporation and as a CIAM delegate.

These sources of sustainable architecture—which have been obscured by prevailing ecological paradigms, received histories of the international style, and scholarship on Fuller—can be uncovered through a deep reading of concepts that emerged in technocratic circles in the 1930s when environmentalism, rather than challenging large-scale industrialization as in the 1960s, sought a confluence of the natural and technological. Social theories of technology offer tools for looking beyond conventional notions of design practice, by considering the role of micro-actors and day-to-day work in

modifying practice, rather than great paradigm shifts. In formulating novel inscriptional methodologies for design cycles from research to renewal, Lönberg-Holm's vision of building as a form of environmental control transcends its apparently instrumental origins to offer a historic case of architects in the circular economy.

### **How Did It Fail? Considering the Decline of Environmental Experiments**

Paul Bouet, École nationale supérieure d'Architecture de Marne-la-Vallée

A growing amount of research underlies the way environmental concerns have proceeded through architectural history in various manners and epochs. They show renewable energy experiments in buildings and methods of design concerned with climate. But current environmental alerts forcefully highlighted by the Anthropocene concept should also lead us to consider the reasons why these experiments didn't succeed and managed to impose themselves, thus contributing to the present situation. By which mechanisms did they decline and often sink into oblivion (before being sometimes rediscovered)? And how can we integrate such considerations on failure and marginalization in the way we compose architectural history?

Answers can be found in the fields of the history and sociology of science and technology, which have addressed such issues and contributed to place them within the scope of environmental humanities. In his in-depth analysis of a technological failure, *Aramis, or the Love of Technology*, Bruno Latour invites us to be aware of simplistic frameworks focused on the efficiency of a given experiment, and instead to investigate the dynamics of social actors and cultural factors which tie around innovations and make their success or failure. Enlarging the perspective, Jean-Baptiste Fressoz proposes to consider how the rise of environmental awareness has been bound to its opposite throughout modernity: a symmetrical process of 'disinhibition' by which forms of government chose to marginalize and bypass the alerts (*L'Apocalypse joyeuse*).

But if these frameworks can help us to analyse key moments of environmental concerns—especially the 1970s 'turn'—methodological obstacles also emerge when considering failure within architectural history: the importance of positive models in the history of art, the lack of archives documenting decline, the writing of narratives underpinned by success, etc. Nonetheless, overcoming such obstacles seems of primary importance to understand not only how environmental awareness emerged within architecture, but also how it failed to fulfill itself.

### **Why We Must Destroy the Environment**

Ingrid Halland, University of Oslo

At the 1970 International Design Conference in Aspen, sociologist Jean Baudrillard warned about the concept of environmental protection. The theme of the conference—Environment and Design—had brought together environmental collectives and radical architects, and a French delegation of designers and sociologists. In the conference postscript, Baudrillard wrote a striking criticism of the discourse on the 'environment', which he believed was a symptom of late-capitalist forces. 'This holy union created in the name of environment', he wrote, 'is nothing but the holy union of the ruling classes of rich nations.' He called for an alternative way of thinking about ecology and the environment. Environmental protection, he wrote, was an indicator of control of the ecological system, and further, it transported natural resources like air and water into the 'field of value'—that is, into the late-capitalist market circulation. 'Aspen is the Disneyland of Environment and Design', Baudrillard concluded, 'but the real problem is far beyond Aspen—it is the entire theory of Design and Environment itself, which constitutes a generalized Utopia; Utopia produced by a Capitalist system.'

Recent radical developments in the humanities, especially within environmental history and continental philosophy, argue that we must rethink the concept of 'the environment'. If this term is understood as today's totality of our present conditions, it might be clear

that our present conditions are not really something we must strive to protect. Scholars such as Timothy Morton and Catherine Malabou argue that global warming and capitalist globalization has created an environment that we cannot escape, that we cannot change. They argue that we need to rethink how we can ‘think outside’ global warming and capitalist globalization—that is, how we can think outside the inescapable environment. What these scholars suggest we must do in order to escape the inescapable environment is to conceptually destroy it.

This paper aims to critically rethink the concept of ‘the environment’, starting with Baudrillard’s criticism of the 1970 Aspen conference. Further, the aim is to show that there is a conceptual genealogy between his criticism and the present-day radical methodologies within the fields of environmental history and continental philosophy. This approach will highlight the architectural discourse’s multifaceted engagement with the concept of ‘the environment’ and introduce an alternative way of thinking about it.

### **Oil Spaces: The Global Petroleumscape in the Rotterdam/The Hague Area**

Carola Hein, TU Delft

Architectural and urban history have a unique opportunity to investigate the spatial impact of petroleum and its products. To gain insights into the ways in which petroleum has shaped the built environment through its physical and financial flows, as well as through its depiction in corporate, public, and independent media in globally interconnected ways, I have proposed the concept of the *palimpsestic global petroleumscape*. The feedback loop between diverse spaces of oil, their selective representation, and the ways in which these uses influence the minds of citizens in their everyday lives, has links to Henri Lefebvre’s theory of everyday life and his understanding of space as socially produced and then appropriated by the powerful as a tool.

This contribution will expand on the methodological approach of the petroleumscape and its implications for cross-cultural, networked, and balanced research. To illustrate the concept and the feedback loops in the petroleumscape, the second part of the article uses the Rotterdam/The Hague area, part of Amsterdam-Rotterdam-Antwerp (ARA) (the biggest petrochemical hub after Houston), as a case study. To better understand the ways in which the concept of the petroleumscape elucidates themes of power, class, and space relationship, the contribution finally discusses opportunities to engage the general public in visualizing the role of oil in creating our built environment through an open access webpage ([oilscapes.nl](http://oilscapes.nl)) and an interactive augmented reality tool (AR Black Gold).

In conclusion, the contribution argues that only in appreciating the power and extent of oil in shaping the built environment can we engage with the complex challenges of sustainable architectural and urban design and policymaking, develop heritage concepts, and meaningfully imagine future-built environments beyond oil.

### **The Air-Conditioning Complex: Toward a Global Historiography of Environmental Technology, Architecture, and Society**

Jiat-Hwee Chang, National University of Singapore

This paper posits that the history of air-conditioning and the built environment in Singapore and Doha—exemplifying cases of the hot and humid tropical climate of Southeast Asia, and the hot and dry desert climate of the Arabian Gulf region—challenges certain underlying assumptions in global environmental and architectural histories. First, this history does not fall neatly into what Ramachandra Guha and Joan Martinez-Alier characterize as bourgeois environmentalism or environmentalism of the poor. Not only do Singapore and Qatar defy easy categorization as either developed or developing countries, air-conditioning blurs the boundary between luxury and necessity in an age of climate change. Second, actually existing designs and practices of air-conditioning and the built environment in these two places problematize two prevailing theories in architectural history: a technophobic theory of air-conditioning as a universal

technique that produces placelessness and an optimistic theory of air-conditioning as a form of techno-fix in geographies and climatic conditions that purportedly inhibit capitalist development.

Against such constructions of the developed/developing and global/local binaries, and assumptions about causality and correlation between environmental technology, architecture, and society, this paper puts forward an alternative framework with its attendant methodology for understanding the environmental history of air-conditioning and the built environment in the global South. Through examples drawn from Singapore and Doha during the key historical moments of transiting between the various phases of air-conditioning dependency, I argue that air-conditioning and the built environment should be understood as a socio-technical and material assemblage I call the 'air-conditioning complex'. I argue that that the relationships between environmental technology, architecture, and society should best be understood as convergence and divergence, territorialization and deterritorialization of heterogeneous components through which hybrid formations—beyond the binary of air-conditioning or non-air-conditioning—have previously coalesced, and similar alternative futures of post-air-conditioning could still emerge.